

TEACHING METHODS AND DISCIPLINE STRATEGIES IN SINGLE GENDER AND
COEDUCATION CLASSROOMS AS PERCEIVED BY TEACHERS AND
ADMINISTRATORS

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Abstract

The purpose of this qualitative study was to investigate single gender and coeducation institutions through educators' perceptions of teaching methods and discipline strategies. Data were gathered from four participants that worked in the same all-male boarding and day school, but all had coeducation teaching experience. The data utilized in the study were collected through surveys, interviews, and a focus group. The findings of the study resulted in several themes from which connections were made to answer the research question: What are teacher and administrator perceptions on single gender education versus coeducation regarding teaching strategies and discipline techniques? Participant perceptions included teaching strategies that were delineated into techniques that were used to meet the needs of male and female students individually. Discipline strategies were described as varied according to the environment and the gender of the student. The data also provided information regarding student learning tendencies as teachers discussed how teaching methods were driven by how students learn. The participants discussed the benefits and challenges of both single gender and coeducation classrooms according to the gender of students.

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Dedication

I would first like to dedicate this work to my students-past, present, and future. I started this journey to make myself the best educator I could be for my students. Students, I hope you continue to pursue education no matter how old you get. I hope my hard work inspires my students to be the best they can possibly be at whatever passions they choose to pursue. As an educator, I want to provide the best teaching possible and meet the educational needs of each student. This includes not only helping students learn the topic I teach, but also how to be life-long educators and how to be valuable citizens in this world.

Secondly, I would like to dedicate this study to my fellow educators. Thank you for your hard work every single day to improve the education system and help mold the young minds of tomorrow. I have asked a lot from many of you through this process and your time, knowledge, and expertise are priceless. I pursued research in this area to help other teachers pursuing knowledge to be the best educators they can be for their students. I hope the content of this research helps teachers become better with teaching methods and discipline strategies.

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CHAPTER ONE

Introduction and Background of the Study

“Advocates of single-sex classrooms also believe that coeducational classrooms reinforce stereotypes through ‘gender intensification,’ as the pressure to act in gender appropriate ways intensifies during adolescence” (NASSPE. 2006, p.4). As boys and girls grow and learn how to fit into society, students are told who to be and how to act. However, many times students are not given the freedom to be who God created them to be. Coeducation places children in a mold and tries to make the students fit the system instead of the system changing to meet the needs of the students. Segregated classrooms allow for collaboration with students of various learning styles and gender all while saving money due to the elimination of resources. However, when students leave school, they will have to work with individuals that are different genders, races, socioeconomic status, background, and sexual preference. Therefore, coeducation was implemented to allow students to learn to work with others and teach children collaborative skills earlier in life. Single gender education, on the other hand, provides students with the opportunity to step outside what society deems as proper action for boys and girls and pursue their dreams that may be impeded in coeducation.

Piechura-Couture, Tichenor, and Heins (2007) researched tests scores of elementary schools in Florida. The data indicated that only 37% of boys and 59% of girls in coeducation classes scored proficiently on state exams. In comparison, 86% of boys and 75% of girls in single gender classes scored proficient. The growth in scores was remarkable in that it not only closed the achievement gap, but there was also significant growth for both genders. When considering educational modification, achievement and motivation are major factors. Students are not performing to their full potential as they are obtaining lower scores than ever and show

no motivation to improve. Therefore, teachers and administrators must consider alternative education styles that are proven to increase growth and achievement. Single gender education has shown that scores are increasing, and students are more motivated to improve. Student success is paramount when considering changes in education.

The National Education Association (NEA) (2017) found that in coeducation classrooms, boys were called out eight times more than girls. Boys that yelled out an answer were usually praised for contributions to the class, whereas girls who spoke without being called on were reminded of the classroom rule to raise their hand and wait to be called on. Boys were encouraged to solve problems independently while girls were aided by their teacher when they were challenged by problems. The NEA found distinct differences in how teachers treated boys and girls in a coeducation classroom. Boys tend to be more vocal and want to be active while learning. Girls, on the other hand, are quieter and want to please the teacher and work collaboratively. Single gender classrooms allow for individualized education as teachers are given the freedom to teach to a learning style and motivate students. Teachers may also promote students to become learners of all kinds by promoting equity and teaching students that failure is a learning experience. Students do not want to fail in a coeducation classroom as they do not want to open themselves up to possible criticism. However, students are more apt to revealing their identity in a single gender environment which promotes learning overall (Dickey, 2014).

Single gender classrooms have become a topic of conversation due to the research conducted by Leonard Sax, who founded the National Association for Single-Sex Public Education (NASSPE). Sax (n.d.) found that male and female brains develop at different rates and that they do not reach the same level of maturity until 30 years of age. Brain imaging showed that the areas of the brain responsible for language and fine motor skills developed four years

earlier in girls than it did in boys. However, the areas of the brain involved in spatial reasoning and geometry matured four years earlier in boys than in girls.

Brains of boys and girls are wired differently. Emotion and language are processed in the same area in girls, while they are processed in separate areas in the brains of boys. Therefore, it is much easier for girls to communicate emotions and involve their feelings in everything they do. Girls are more sensitive to hearing and interpret sounds up to seven times easier than boys. Females can be distracted by noise much more than boys. This is important knowing that boys are usually more boisterous in class. The actions of males tend to create distractions for females in coeducation classrooms.

Sax (n.d.) found that stress had a major influence on how males and females learn. Stress can enhance learning in males; however, stress can impair learning in females. Girls thrive in environments that are less stressful, non-competitive, and promote collaborative learning. On the other hand, boys learn best in competitive and stressful situations in which they are asked to perform under pressure. Girls are more likely to set goals for themselves and seek consultation for assistance (NASSPE, 2016). The classroom environment and pedagogy used in the classroom may impact how students react to the material presented. Teachers can reach a wider range of students when they understand that boys and girls have different learning styles/learn in different ways. The competitive, kinesthetic classroom is beneficial for boys, as they learn more by doing. Girls, on the other hand, prefer to work collaboratively and enjoy a teacher presenting lectures, as that pedagogy is formatted for female students who are more inclined to be visual and auditory learners.

Sax (2002) contended that the issue with boys in education generally dealt with evaluation for attention deficit disorder (ADD) or attention deficit hyperactive disorder (ADHD).

Sax believed that the large number of diagnosis for males was a failure of the schools to recognize differences in brain development and auditory differences that could lead to varied learning styles. The developmental timetable is not synchronized between boys and girls which should lead to differentiated education. Coeducation assumes that students are at the same levels in the developmental process and can perform similar tasks as those of the same age. Boys continue to be diagnosed with ADD and ADHD because they have more energy than girls. The higher energy level has a direct correlation with their learning styles of moving around and creating by doing. The response has been medication; the real answer is to modify pedagogy.

Statement of the Problem

Schools continue to be modified and essential needs are eliminated due to budget cuts. As a result of budget cuts, schools changed from single gender environments to coeducation. However, coeducation hinders teachers from presenting material to the strengths of both boys and girls, thus disrupting the learning process (Dickey, 2014). Districts have continued to sacrifice quality education in exchange for saving expenses. Some districts have suggested that returning to single gender schools could be the only solution to save the failing educational environment and provide equal learning opportunities. Others have tried to save money while attempting to close the achievement gap by offering single gender classes inside a coeducational school. The various styles of single gender education have shown growth and a closure in the achievement gap. However, single gender schools have shown longevity in growth, whereas schools who implement single gender classrooms within a coeducation environment have seen smaller achievement measures over time (Ogden, 2011).

Achievement gaps between males and females indicate that brain development and learning styles are vastly different. Experts are suggesting that males and females learn in

opposite ways which requires teachers to present information in multiple formats. However, transitioning classrooms to single gender settings is not enough to close the achievement gap. Varying methods of teaching must be used to reach boys and girls (Jackson, 2010). Students have different learning styles and respond to correction in various ways. This study sought to determine which methods of teaching and discipline teachers utilize in single gender and coeducation classrooms. This information provided teachers with an understanding of the methods that are effective and ineffective, so they can implement the teaching strategies and increase student achievement.

Purpose and Significance of Study

The purpose of this study was to obtain an understanding of learning environments and whether there is a difference in the way material is presented in schools. Teachers develop lesson plans and prepare to teach students in various subjects. Through this research, participants provided perceptions of single gender and coeducational schools and how education can and should be modified to meet the needs of all students. The goal of the study was to further understand single gender education and determine whether different teaching and discipline methods are being implemented. Cable and Spradlin (2008) stated that, “currently, reports indicating achievement gaps for both boys and girls alternately, legal changes, and successful single-sex schools have renewed a public dialogue and interest in single-sex schools” (p. 2). The interest in single gender education and what it can provide for educating students has been renewed because of continued research of teaching methods and learning styles.

Single gender education has been around for many years but mainly in religious, private, and preparatory schools. There have been few single gender schools in the United States compared to the larger amount in other parts of the world. Most of the research in the United

States has involved private girls' schools or Catholic schools. There has not been as much research regarding single gender education since the 1970s (Cable & Spradlin, 2008). Males have become the concern in education as there is now a "boys' crisis" where boys are showing decline in all areas of academics (Mead, 2006). Current research focuses on the ways in which educators may close the achievement gap of males and females regarding learning styles. Teachers must be able to adapt and learn from others that are excelling in the educational field. The goal of research on single gender and coeducational schools is to provide clear steps for educators to teach both boys and girls in a single gender or coeducational environment and see achievement.

Theoretical Foundation

Gender theory was used as the theoretical foundation of the study as gender was considered when studying education. Theorists began to study gender in the 1960s as a wave of feminism began to question the social and educational constructs and question if what was occurring in schools was fair and equal. Women's studies and feminist politics began to indicate inequalities of men and women in society and how rights and opportunities were not equally provided. In the 1980s, masculinity was studied to provide further research focused on men. Masculine studies relied upon the theories of feminists to analyze the way gender and power operate. The data collected from feminist and masculine studies illustrated strengths and weaknesses of men and women which led to further research on how the brain functions. The human brain was studied to show that the male and female brain work differently, which combined with the strengths and weaknesses, allowed for learning styles to be categorized. The data from many areas pointed to the fact that males and females need different forms of education to meet developmental needs (IASSCS, n.d.).

The study of gender led to a discussion about whether single gender or coeducation classrooms were most beneficial. As brain chemistry and learning styles were further developed into accepted knowledge, research began to reveal that males and females learn in different formats and that gender in education was a critical issue that has impacted how students are learning and developing. Teachers and administrators have relied upon the data from various studies to further understand how students develop and learn and what pedagogy is best suited for their classrooms. Gender plays a major role in how classrooms are structured as different subjects can either be an area of strength or challenge for boys and girls. Discipline issues arise in any educational setting, but how those issues are dealt with determines the outcome on education. The environment may also be a contributing factor to which discipline issues occur. Teaching methods and discipline techniques were studied to determine whether there was a difference according to teachers that have experience in the single gender and coeducation setting.

Research Question

1. What are teacher and administrator perceptions on single gender education versus coeducation regarding teaching strategies and discipline techniques?

Limitations and Delimitations

One of the limitations to this study was the sample selection, as there were only four participants. These individuals are from private schools but had experience in both single gender and coeducation environments. Teachers and administrators from various backgrounds and experience levels was also be a delimitation. The viewpoints that were provided from teachers that have had varied amounts of experience and have different backgrounds were insightful. Participants also had varied levels of degrees which provided for other levels of input.

Research Positionality Statement

The researcher, who has a B.S. in Chemistry and Secondary Education, and a M.Ed. and Ed.S. in Education, had seven years of classroom instruction experience. The first 5 years of teaching experience were obtained while teaching various levels of Chemistry, Bioethics, and Computer courses in a public coeducation school. During the last two years, the researcher has taught Chemistry and Life Science in an all-boys independent college preparatory school. Over the past seven years, the researcher has taught in middle and high school classrooms. Work experience teaching in both single gender and coeducation schools has given the researcher opportunities to experience and study various teaching methods and discipline strategies used in both settings. The researcher's role in the study was to conduct surveys, a focus group, and individual interviews to gather information and analyze data. Teachers and administrators shared their teaching methods and discipline strategies. These responses were coded, and body language was monitored for further data collection. The researcher has been involved in single gender and coeducation environments which has led to the pursuit of information on whether teachers are using various methods of delivering information. Discipline techniques were also discussed, as issues that arise in the classroom can affect the overall learning environment if not handled appropriately.

Definition of Terms

1. *Coeducation* refers to classroom education being presented to males and females at the same time. Students must collaborate and work with students of the opposite sex (Cambridge Dictionary, 2018).
2. *Discipline* comes from the Latin word *disciplina*, meaning to provide instruction or teaching someone how to act through correction with the goal to strengthen or perfect

actions or skills. Some parents interpret discipline as correcting unacceptable or reoccurring behavior using punishment and boundaries (Sailor, 2010).

3. *Gender Theory* was developed during the 1970s and 1980s as a set of ideas to be researched regarding historical changes in education and how information was presented. American and British researchers collaborated on the changes in education regarding gender. Gender theory proposed that masculinity and femininity were characteristics that were set by society that shaped actions and choices of men and women. Males and females were instructed by society on how to act, but gender theory caused individuals to question the fixed biological determinates. In education, researchers began to study learning styles as determined by society and question whether males and females learned in different ways. If so, then differentiated teaching should be offered and school classrooms modified to meet the needs of all students (Smith, 2001).
4. *Learning Styles* define how students learn. Males and females may have different learning styles and some individuals may learn in variety of methods (Overview of Learning Styles, 2018).
5. *National Association for Single Sex Public Education (NASSPE)* is a non-profit organization started in Maryland in April 2002. The NASSPE has a mission statement that promotes and supports single gender schooling in both public and private sectors (The National Association for Choice in Education, n.d.).
6. *No Child Left Behind Act (NCLB)* sought to close achievement gaps between minority and socioeconomic disadvantaged students with peers that may have more advantages. The NCLB act came into existence under the Bush administration and had support from individuals in all political parties (Klein, n.d.).

7. *Pedagogy* refers to the theory and continual study of how teachers present information to students (Collins, n.d.).
8. *Single Gender Education* refers to classrooms where only one gender is being taught. Males and females are provided educational experiences in settings that do not contain the opposite gender (Signorella, 2016).
9. *Teaching* refers to a task that educators complete every day. Teachers must be able to present information in various formats to students and be flexible to differentiate lessons to meet the needs of all students (Carnegie Mellon University, 2016).

Organization of the Document

This study is divided into five chapters. Chapter One introduces the study. It includes a background to the study, statement of the problem, and purpose and significance of the study. In addition, the theoretical and conceptual frameworks are explained, research question stated, limitations and delimitations outlined, and terms defined. Chapter One also includes a research positionality statement describing the interest of the researcher to the research question. Chapter Two provides a review of literature. The review of literature is an analysis of literature relating to the topics of learning styles and teaching methods to meet the educational concerns of males and females. Discipline issues were also studied to determine if students were punished differently according to the type of school they attend and their gender. The research methodology is found in Chapter Three. This chapter includes a description of the population and sample, description of instruments, research procedures and time of study, and the way the data were coded. Chapter Four describes the results of the data analysis. The final chapter provides the conclusions that are drawn from the results of the

study. Practical implications are provided and recommendations for future research are provided.

CHAPTER TWO

Professional Literature Review

Anfara and Mertens (2008) reported a change in the academic performance of single gender schools compared to coeducational settings, while other research has shown no change. Data from this study led Anfara and Mertens (2008) to believe that some individuals are critical of single gender education simply because it makes them feel as if it is tied to racial segregation. School characteristics, teaching methods, curriculum, learning styles, and many other factors can also be concerns whether single gender education is beneficial or not. The school mission and vision statements can also be a determining factor. The ways in which teachers adapt to the students and use new teaching methods to reach each student appropriately can play a role as well. The curriculum being offered will make a major impact on how teachers present material and what students learn (Anfara & Mertens, 2008).

National and state data have shown that there is a significant achievement gap between males and females primarily in the subjects of mathematics and reading. Research collected by Dickey (2014) stated that 48% of females outperform males in reading in the elementary and middle grades. When those students move to high school, the percentage is still at 45%. In 18% of the states, females perform better than males in mathematics at the elementary level. When those females move to middle and high school the percentages increase to 23% and 26%. The numbers, especially in reading, are astonishing as researchers continue to seek out the reasons for the achievement gap and methods to close the gap. Public schools are continuing to be scrutinized because of the decrease in academic rigor, the inability to engage students in meaningful work, and the lack of closing the achievement gap. The challenge is to find effective

alternatives or adjustments to education and implement them to meet the needs of students (Dickey, 2014).

Reading and writing must be purposeful to increase academic achievement. When teachers take the time to establish authentic and meaningful relationships with students, the quality of student work increases. When students can make a real-life connection, then the work they produce will be much more meaningful and have a purpose. All students can benefit from solving real-world issues that can be carried over to daily life (King & Gurian, 2016).

Implementation of problem-based learning has caused teachers to begin to relate information to outside sources and provide students with opportunities to solve real-world issues. Outside individuals can be brought in to mentor students in current research and allow the school to improve learning through problem solving. The companies that invest in schools can also benefit, as students may be able to provide an alternative viewpoint to the situation at hand.

Education has made many assumptions about children based on their gender. These actions have denied students the opportunity to experience everything that the education system can offer them. Children are more than gender and they should be allowed to experience and pursue whatever passions and curiosities they may have. Single gender schools strive to change traditional school structures that impede learning while allowing students to develop their interests in a safe and open environment. Coeducation may still be beneficial, but the societal and educational norms that categorize children must be eliminated and children must be allowed to define who they are by their passions and interests, not just their gender (Jackson, 2010). Single gender education was a popular concept in education until equal rights began to be implemented. This caused schools to look for avenues to educate everyone and the most cost-efficient method was to allow coeducation environments.

History of Single Gender Education

Prior to the late 19th century, single gender education was the only avenue to pursue studies. Females were usually taught in the home and were not offered formal schooling. This was preparation to be stay-at-home mothers that took care of the home and the children while their husbands went to school to learn or were gainfully employed to provide for their families. Early education curricula were formed by what the community viewed as necessary knowledge for both males and females. Community members would meet and discuss what students should know from school before getting a job and that is what was taught in early schooling. Many students did not stay in school very long because there was nothing being taught that could not be learned later in life. Often, there was not an opportunity for higher education for many of them. Males were usually more educated than females because males could sometimes have a chance to attend higher education while women were preparing for work at home. Once coeducation began to be implemented, females began formal education (Dickey, 2014).

Coeducation began to slowly enter the educational realm in the late 1800s. As the coeducational concept grew, single gender education was typically only found in the private sector and denominational schools. Public schools wanted to offer education to both males and females so many aspects had to be modified. The curriculum changed to meet the needs of males and females, preparing some for college and others for the work force or working at home. Anfara and Mertens (2008) stated that the move towards coeducation was mainly based on economic factors. Educating boys and girls in the same building was much cheaper than the doubling of expenses for facilities, equipment, and personnel.

In the early 1970s, single gender schools began to disappear due to civil rights legislation that mandated equal educational opportunities for everyone. Only a few private schools held to

their beliefs of single education. In 1996, the United States Supreme Court required the Virginia Military Institute to begin accepting women. Therefore, the school was technically coeducation, but single gender classes were still offered. As education continued to progress, single gender schools were proposed as solutions to the discouraging achievement gap between males and females. Some private institutions have stayed with their core values of single gender education and have thrived off historical evidence and many years of alumni. Others have made the switch to coeducation with the belief that it was best for school culture and the learning environment. Public school districts are continually examining single gender classes as alternatives, and some districts are either piloting it in some schools or allowing single gender charter schools to open their doors. Overall, there has been a resurgence to move back to the roots of education and determine what the single gender model might contain that can be learned from in the 21st century (Dickey, 2014).

In the 1970s, the term gender was accepted and used as a social construct to describe different types of humans. This description helps capture the characteristics of what it means to be masculine or feminine from a socio-cultural context. There has been recent debate on the difference between gender and biological sex and how that affects the school environment. This has led school leaders to study specific classes a student would attend if there were single gender classrooms. Many can agree that there are major differences between males and females. Boys and girls see, hear, draw, act, and use language differently when responding to tasks at hand. Crosswell and Lisahunter (2012) argued that there should be differences in how schools are arranged to meet these differences. The biggest debate is how to meet the needs of students and how to categorize students, so they are in the proper groupings to learn most effectively (Crosswell & Lisahunter, 2012).

Title IX

The women's rights movement was also very influential in the coeducation movement. This led to the passage of Title IX of the Education Amendments of 1972 which was intended to guarantee gender equity in all federally funded schools. Title IX ensures there are equal offerings for boys and girls in the academic and athletic arenas. Schools changed from single gender to coeducation, which began to give women more rights. Additionally, males and females started to be considered equals in the workforce. There are still areas today that are not completely equal and fields that are heavily dominated by either male or female but there is a push for equality in all areas (Anfara & Mertens, 2008).

Title IX prohibited the offering of single gender courses for the sake of equality. This meant that no student could be denied participation in or receive any benefits from an education program. It was not until 2006 that the law was modified to allow for single gender classes in schools, but even then, there must be evaluations every two years to ensure equity and equal opportunities for boys and girls. Hill, Harmon, and Knowles (2012) stated that some students may not benefit from coeducation classes stating that there was a drop in academic and social learning which has hindered child development. Females have difficulty improving and achieving new skills in coeducational environments which is ultimately not providing an equal and fair education. Title IX was enacted with the sole purpose of providing equality in education, but if coeducation is doing the opposite, then alternatives need to be reviewed.

Just after Title IX began to allow single gender education in public schools, the number of single gender schools and classes increased significantly. Between 1995 and 2008 the number of single gender schools went from two to 49. Some schools did not convert entirely but started allowing single gender classes within the coeducational setting. Between 2002 and 2009, the

number of schools offering single gender classes increased from 12 to 518. In America, there continues to be an increase in single gender education offerings. In other parts of the world, some are embracing the single gender movement, while others are moving. In the United Kingdom, the number of single gender schools has fallen from 2500 to 400 over the past 40 years. However, Jackson (2010) stated that this number will reverse itself in Europe and single gender education was the best way to educate young people. The single gender education push promoted the idea that there are differences in learning in males and females and single gender education lends itself to being separate but equal (Jackson, 2010).

Many have thought of single gender schools as difficult to implement or in violation of Title IX or another educational law. However, some states such as South Carolina have found that the implementation was quick and not costly. In fact, South Carolina had over 160 single gender schools which is the highest amount of single gender options in the nation. These classes are offered from kindergarten through 9th grade in various districts. Students from urban, rural, and suburban areas are all benefiting from single gender offerings. The change for South Carolina was a response to school-level data that continued to indicate achievement gaps between males and females. South Carolina offered differentiated instruction to increase achievement to meet expectations. The choice of education was also an avenue to engage more parents in the education of their children. Some states have embraced the emerging research, while others have been hesitant by either doing no implementation or trying only one or two schools. However, observing and learning from others is essential to move forward on any task. South Carolina has decided to be the spearhead that determines the effectiveness of the implementation of single gender public schools (Chadwell, 2018).

Physical education classes have been coeducational since 1972 when Title IX was enacted. In an interview of physical education teachers by Hill, Harmon, and Knowles (2012), teachers stated that all activities except for football and basketball could be offered in a coeducational format. However, many physical education teachers also stated their belief that boys and girls would benefit from single gender environments. The reasons for this include body image and being afraid to do something embarrassing in front of the opposite gender. However, this study stated that coeducation classes may prevent discrimination, exclusion, and inequity based on gender. As allowed by Title IX, boys and girls can and should be separated when they are involved with bodily contact activities such as football, basketball, and soccer.

No Child Left Behind Act

When the *No Child Left Behind Act of 2001 (NCLB)* emerged as a provision for education, community members began to question the structure of schools. The NCLB act allowed parents to choose the best educational opportunity for their children. Attending a failing school in the county qualified a student to be relocated to a school that was thriving. This law allowed many inner-city students to move from a neighborhood school to a school that was more affluent to get an education without as many distractions. *NCLB* was intended to provide a better education for students that wanted to pursue their education and break the cycle of poverty. Young men and woman were provided educational opportunities that were not normally available to them (Dickey, 2014).

The *NCLB* mandated the government to collect massive amounts of state testing and analyze the data which pointed to slight growth in academic achievement. Schools were held accountable as test scores reflected heavily on teachers and administrators. However, if there was a small amount of minority students in a school there was not a determination of whether those

students were receiving the same education and growing academically. The *NCLB* required districts to make sure all teachers met the requirements to be highly qualified. The act did not require teachers to obtain higher degrees, but there was still a surge in educators obtaining master's degrees. With the establishment of the *NCLB* act and mandatory testing, education began to be narrowed as teachers began to focus solely on the material that would be presented on the end of year assessments. Information that taught students about being good citizens were unfortunately left out. Many schools began to modify their schedules to present material in areas that were heavily tested and reducing class time for subjects that were deemed not as significant. The end goal of the *NCLB* act was to increase student achievement in lower poverty students, however, the chosen students ended up being left out as teachers focused their attention to students that could easily show growth and excel in state testing (Ladd, 2017).

National Association for Single Sex Public Education (NASSPE)

In 2002, Dr. Leonard Sax founded the National Association for Single Sex Public Education (NASSPE) that had a mission to promote the benefits of single gender education. He provided research in practices that targeted gender differences and supported gender equality by stating that students were not currently receiving equal education in the current system. Dickey (2014) continued to support single gender education as an idea that could provide alternative strategies and solutions to help students achieve at higher levels and close the achievement gap. NASSPE surmised that single gender classrooms were effective in helping males improve in language arts. The NASSPE research also revealed that females in single gender environments achieve improvement in areas such as math and science. The data indicated that both males and females benefit from single gender classrooms and increased achievement in all areas. (Dickey, 2014).

The NASSPE believed that there were significant differences in the ways boys and girls learn and that learning differences are much more involved than age differences. The learning gaps tended to be greatest with younger children and decrease as students age. NASSPE (2016) studies have continued to find evidence that girls tend to have higher standards for themselves in the classroom and will evaluate their own performance more critically. NASSPE stated that boys were outperformed by girls in every academic subject, no matter the age group. However, girls tend to be very critical of their own work and lack self-confidence and self-esteem. Further, girls and boys experienced academic difficulties differently. Girls tended to generalize failures as they feel they are letting down the adults in their lives and limit their self-worth. Boys categorized their failures only to the subject area and do not care as much about pleasing the adults around them. Girls also tended to view teachers as allies and seek the teacher's help if the classroom was a safe, comfortable, and welcoming place.

Learning Styles

Each student learns in different ways. How a class receives academic material combined with teacher delivery determines what type of learning takes place in the school. Student background, socioeconomic status, type of school, and other school characteristics can provide bias about what effect teaching has and how well students learn. Home experiences the students bring with them into the class changes the learning dynamics and the classroom atmosphere overall (Anfara & Mertens, 2008).

Jackson (2010) stated that he was curious about the nature versus nurture component of students. He found that certain traits show up in adolescents that were less about DNA and more about conforming to gender norms. Males and females, born with genetic differences, assume societal roles and conform to expectations of others. Therefore, stereotypes are powerful

components as individuals want to fit in and have friends, so they behave in certain ways to be accepted. Many of the actions taken by males and females are nurtured as they are learning from others around them what will make them acceptable to society. Proverbs 18:24 in the Bible states that, “a man that has friends must first show himself friendly” (NKJV). Individuals learn from the actions of others what they must do to show themselves friendly, so they can have friends. This points to the fact that, in coeducational settings, it would be very difficult to change cultural norms including males and females act and react in situations (Jackson, 2010).

Michael Gurian (2013) reported learning style differences between males and females. The learning styles are significant in the education of all students. He stated that male brains are heavily dedicated to spatial-mechanical strengths, as females are verbal-emotive learning. Boys can be more impulsive and are being misdiagnosed with learning disabilities. The medications given to boys may not be the issue, as it only calms the behavior instead of teaching them how to use the energy appropriately. The differences in brain function showed that boys need more rest during the day. Boys tend to zone out when they get bored and require rest periods before they can reengage in learning. The male brain prefers to complete one task at a time and will eliminate all other distractions to complete the task at hand. The male brain does not naturally lend itself to multitasking. There is less oxytocin in the male brain which causes males to be more aggressive and playful whereas girls tend to be more cooperative because they have an enhanced level of impulse control. Other variables that could affect learning style are culture, family environment, resilience, and temperament. These traits point to motivation as well as genetics (Schneider, 2013).

Differentiation in the classroom must also be embraced to meet students where they are and teach them in the best possible ways to help them learn. Boys have a higher physical activity

level and lack self-control at younger ages where girls have stronger verbal skills and show empathy sooner in life. Therefore, these attributes should be taught differently, and education should be modified instead of asking student to adjust to the system. The issue with boys in the classroom is mainly based on structure. Boys like to be more physical and need to move around more so how the classroom is set up, how the teachers present material, and how creative they are with discipline issues are essential. Boys prefer more hands-on kinesthetic learning which promotes movement and learn by experiencing it for themselves. The boy's brain is very inquisitive, taking on the role of a scientist and learning about the world around them. This is accomplished by enveloping themselves in the material rather than hearing the information from a teacher (Chadwell, 2018).

Boys are more impulsive, single-task focused, spatial-kinesthetic learning, and physically aggressive towards problems that are given to them. This style of teaching was missing from the classroom and changes had to be made to meet the needs of all students. Assignments where students would rely on worksheets could be modified to allow students to build the sentences on the floor with word cutouts allowing them to be task-oriented and interactive. Assignments could easily be modified for boys to allow physical movement and work towards their neurological strengths. The hardest task with boys in the classroom is to keep them energized and attentive (King & Gurian, 2016).

Girls, on the other hand, desire connection. Females tend to be more relationship driven which led to a different style of teaching that is based on building relationships with teachers and other classmates. Girls want to talk about the information with their teacher and other classmates and learn through discussions and from the knowledge of others. They are not so inclined to the kinesthetic aspects, but rather learn visually and audibly (Chadwell, 2018). King and Gurian

(2016) found that girls were more verbal-emotive, sit-still, take-notes, listen-carefully, and multitasking individuals which also matched what their classrooms looked like (King & Gurian, 2016). It is evident that males and females learn differently which may be based on biological differences. Understanding learning styles should help educators and administrators understand the needs of young men and women and help adapt classroom strategies to benefit all students. Creating environments conducive to learning and helping the student develop and grow is critical to overall achievement (Kombe, Carter, Che, & Bridges, 2016).

Pedagogy

There have been mixed reviews regarding the effectiveness of single gender education. Some argue that it is necessary, while others say it is not worth the effort to change. Crosswell and Lisahunter (2012) stated that the teacher is listed as the critical element in the implementation of single gender educational environments. Teachers must provide differentiation in the curriculum and teaching methods to enhance learning abilities and to meet the needs of all students in the classroom. The teacher must modify the pedagogy to meet the needs of each student's learning style in the classroom. When teachers do not use pedagogy to their advantage, especially in the single gender classroom, then the rates of teacher burnout, student dissatisfaction, and student engagement and achievement decrease. Teachers are the critical factor to making education work and to improve learning opportunities.

Educational leaders must continue to stay up to date with the most innovative practices to promote student achievement. Alternative types of school provide information about various ways to engage students in the 21st century and close the achievement gap between males and females. Boys and girls learn differently and have a plethora of behavioral orientations that warrant teachers to be creative in the classroom and cater lessons to the ever growing and

changing students. Every group of students is different, and a teacher must be able to adapt from class to class. However, there are some commonalities between genders which may make it easier to implement new strategies of pedagogy when there is only one gender in the classroom. The classroom environment, no matter what school, must be geared towards positive learning and helping students achieve at a high level (Dickey, 2014).

Positive teacher-student relationships are also very important in meeting students where they are and providing a quality education. Students learn best from teachers they can trust and have a relationship with. Teachers must gain the trust of their students before there is open conversation about topics in education. Funding is another major aspect as schools should be able to provide training for teachers and equipment and resources for the classroom. This funding can make a major impact for student success regardless of single gender or coeducation. The type of teachers and staff that are in the building are very important for academic achievement (Dickey, 2014).

On an average college campus, about 60% of the population is female. The college graduation gap is even more drastic. The gender achievement gap begins as early as kindergarten and follows students the rest of their lives. In high schools, females are the main ones to sign up for advanced level courses and have the highest graduation rates. Most students who take and pass advanced placement (AP) classes are females. In all AP exams, the lowest scores are consistently African American males. Dwarte (2014) stated that the cause of these differences in performance is because we have taken traditional schooling and feminized it. Some believe that school has become so focused on increasing the achievement of girls that classes have been more geared towards females and now males are beginning to suffer. This strategy is evident in schools from the books the students read to the discipline policies enacted. Classroom techniques

have been slanted to help females succeed. The transition has worked but at the sacrifice of boys scoring lower on every measure of student achievement.

The instructional practices of teaching one gender while abandoning another is not appropriate and is hurting the education of students. This may be a reason to offer single gender schools where teachers can focus on the learning style of the students they have and help meet their needs as individuals that want to learn. Stylized education must start from an early age to make sure students are gaining the skills necessary to be successful outside of school. When African American students were studied by Dwarte (2014) in single gender and coeducational environment, there were significant changes. Males that were measured in reading showed an increase in coeducation classrooms that leveled off after a few years of study. However, the reading levels of African American males in single gender environments steadily increased. The female data indicated that females in single gender schools scored significantly higher than those in coeducation. Overall, the highest achievement growth in males and females was when they were learning in a single gender environment (Dwarte, 2014).

Hill, Harmon, and Knowles (2012) studied physical education classes that pointed out that teachers can present material in various formats in coeducation and single gender classrooms and see different results. These teacher behaviors range from the teaching methods used to how the students are treated. There are many factors that could control how well students do in a course and not just gender divisions. Keller (2011) researched how biological differences of the brain supported different learning pedagogy as males and females learn and develop in completely opposite formats. With the knowledge of opposite brain function, it appears to be nearly impossible to teach in a coeducational environment while providing the necessary learning environment for both males and females. The teacher cannot instruct in two different

modes at once, thus presenting material to one gender more than the other and giving an unfair learning environment. Brain function is very important when considering what is best for students and how teachers can modify pedagogy to meet each student where they currently are and help each student learn to the best of their ability.

A study of teaching styles by Keller (2011) showed that teachers in an all-boys schools stated their classrooms were dynamic, always changing, fast moving, unpredictable, active, and high energy. These teachers stated in an interview that they have high expectations that are reinforced daily and have roles and punishments clearly set for the students. The data described the classes as fun while maintaining respect. This method keeps the boys in suspense as to what is going to happen next while maintaining high expectations. Another response stated the teachers were friendly but authoritative and creative, yet students know expectations. Students must know what is expected of them through guidance and critique while maintaining a competitive atmosphere. The data collected by Keller pointed to boys learning best through experience and learning by doing activities to meet learning targets. Teachers also stated that they included life experiences which the boys could relate to.

Achievement gap. The underperformance of African American students has been a major concern when considering the achievement gap of students. Students that do not perform well in schools limit their future academics, career, and life opportunities. Dwarte (2014) showed that 42% of African American males have failed at least one grade level by the time they reach high school. These boys are also overrepresented in special education and remedial courses and very few are enrolled in gifted or talented programs. The discipline rates of African American males are much higher than any other group. Single gender schools were proposed as an option to meet the needs of African American students. African American females showed major improvement

when in single gender settings in comparison to coeducation. African American males are the largest at-risk group in public education as they represent the bottom rung in every student achievement measure.

Nationally, about 50% of African American males will graduate high school and only an alarming number of 8% will graduate college. The low completion rate of school has a direct correlation with incarceration, unemployment, poor health, and limited quality of life because of decreased opportunities available. In 2005, more than 10% of African American males between 18 and 29 years of age were in jail while another 19.5% were jobless. Therefore, public education has not met the needs of these students. The issue is what can educators do from the beginning to increase student achievement, especially African American males (Dwarte, 2014).

Literacy is a subject that is difficult to engage boys in. Boys want to move around which can become a discipline problem. Males score significantly lower in literacy than girls. National statistics collected by King and Gurian (2016) have shown that boys are not ready to read and write, struggle in school, obtain lower grades, are involved in more discipline problems, have more learning disabilities, and are diagnosed with more behavior disorders than girls. One school decided to implement boy-friendly teaching strategies into the school and in one year saw the gender gap in literacy close. With the program in place, the achievement of girls also improved. On the state exams, students saw major gains and obtained the highest growth in the district. The boys, girls, and special education program all saw major gains.

Coeducation

Anfara and Mertens (2008) stated that coeducation was more developmental as it forced boys and girls to form positive relationships with each other and respect one another for achievements in academics and athletics. The study stated that when boys and girls work and

learn together then it was conducive to happier marriages later in life. Coeducational classrooms improved instruction and discipline as the students kept each other in check and learned from the abilities of each other. Males and females think and work differently. Therefore, coeducation was a good idea because students could learn from one another and be around others that may not think and act like they do. Boys and girls were provided the opportunity to collaborate and communicate with each other and learn different viewpoints and ways of life. This method could possibly allow for students to mentor each other in areas of weakness. A subject of strength for a female could be one in which a male might struggle and vice versa. In addition, the social aspect is critical for the education and development of the entire human being. Learning how to work with others, even when their viewpoints differ, is essential to being able to thrive in the workplace.

Coeducation has been described as a separation of children by gender which has been considered unequal. This notion is supported by the famous court decision of *Brown v. Board of Education*. In this case, the National Women's Law Center classified single gender schools by being an invitation to discriminate. This case and others go on to cite that single gender education does not guarantee school improvement but is guaranteed to limit male and female students from learning how to collaborate and socialize properly. Single gender education would be as bad as segregating by race again in this country. However, the topic of race relation and gender in the classroom is based on two different topics. The debate with gender is not whether it is good or bad but rather if it is necessary to provide the best education possible for the students. This method may then be detrimental in the job force later in life. Other research has shown that students that attended single gender schools tend to get teased and bullied by students at coeducation schools. Many times, they get told by their peers that they are either bad, preppy, or

derogatory terms referring to their sexuality. However, students unfortunately face bullying situations no matter what school they attend (Anfara and Mertens, 2008).

There are potential benefits for coeducational activities. Males have shown an increase in confidence group affiliation and an increase in helping behaviors. In physical education classes, males tend to feel more confident as they assume that they know more and will perform better than the females. This caused the males to seek attention and perform better at the given tasks to impress the girls. There is a certain social aspect that can drive the ability at which students perform. Girls in the same classes feel weaker and lose confidence not wanting to participate in activities which led to lower performance and achievement levels declined (Hill, Harmon, & Knowles, 2012).

Hill, Harmon, and Knowles studied physical education classes and reported that middle school girls spent more time in their target heart rate when they were in coeducational groupings instead of single gender classes. Boys, on the other hand, showed the same levels of physical activity. However, both genders recorded more steps overall when in coeducational settings. The report also mentions that teacher behavior may be an important factor in determining the success of a classroom no matter if it is single gender or coeducation.

Some perceptions of a coeducation classroom were that boys were distracting, and in a difficult course such as math, the atmosphere was more pleasing to not have the boys. Girls also mentioned how boys in a class want to give others their answers and they are attention seeking. The girls pointed out that even if there was just one boy in a class, the whole class time was surrounded around that boy instead of the topic being discussed. The female students mentioned that boys in class yelled out answers which does not allow for others to think about their answer and hurts the overall learning of other students (Datnow & Hubbard, 2013).

Boys tended to be more distracting to girls than beneficial. Males and females need to learn how to work together, but according to Datnow and Hubbard (2013), boys and girls are more distracting to each other in academic environments. When asked more about the behavior of boys, girls could give specific instances where the boys had been distracting in other classes and how it impacted their learning. All the experiences that were remembered were irritating, unpleasant, and negative. The boys stated that girls many times try to not look smart around them due to their perception that boys will not like a smart girl. Other boys stated that they thought girls were not as smart as them academically but were better at socializing and relationships. Some expressed that girls were more focused and better behaved in class. The boys believed that girls were more liked by teachers which caused the boys to act out to gain attention. The learning styles are so different that it can create a toxic environment in the classroom where no one is achieving to their full potential (Datnow & Hubbard, 2013).

When there is a coeducational setting, females do not want to seem inadequate in front of the boys, so they remain silent and do not learn mathematics and visual-spatial abilities with the depth that males do. Therefore, they are not being given equal educational opportunities. Jackson (2010) illustrated that males are much more aggressive. In a coeducational setting, this can be an issue as the males will dominate the class and females will not get the attention, they need to provide for skills to be developed. Education should provide equal opportunities for all students and protect the learning environment along with the social integrity of the students. Children should feel comfortable in the classroom where they will work with others and the teachers are not afraid of asking questions. Students must learn to be advocated for themselves, but also each other when equal opportunities are not being offered.

Single Gender Education

There has been a counterpoint stating that boys are more competitive in nature and this attitude in education overloads the brains of girls and interferes with their overall development. Single gender education saw a resurgence in the 1990s as researchers, advocacy groups, and policymakers had begun to reconsider the historical progress of education. Since 2003, the government has considered the idea of going back to single gender public education and many school districts have investigated what that change would look like. Some single gender public schools are showing up; some as public schools and other as charters. In 2006, there were new regulations given by the U.S. Department of Education that further pushed the move towards single gender education (Anfara & Mertens, 2008). Secretary Spelling stated,

Research shows that some students may learn better in single-sex education environments. The Department of Education is committed to giving communities more choice as to how they go about offering varied learning environments to their students. These final regulations permit communities to establish single-sex schools and classes as another means of meeting the needs of students. (U.S. Department of Education, 2008, p. 52)

As the government continues to investigate education, the concept of returning to the roots of education as a single gender environment is a topic that continues to be widely considered as more research about the advantages and disadvantages emerges.

Teachers that were interviewed in single gender environments stated that there were fewer distractions which led to less discipline problems. Students seemed to be more focused on their work as their same gender counterparts are not as fun to talk to. Discipline issues can cause learning environments to fall apart as one unruly student can cause the entire classroom to lack

focus. If teachers do not have to worry about external issues such as discipline cases, then they will be able to provide a more balanced education. Students will also learn more in environments they feel safe. Studies by Anfara and Mertens (2008) stated that students felt less self-consciousness in single gender environments. This allowed students to be more open and honest to their teacher and classmates about what they were confused about and will seek out help more often without the fear of being ridiculed.

In single gender environments, students can be more focused on academics and do not spend as much time focused on social popularity or extracurricular activities. Instead, students are focused on homework and the desire to make a name for themselves academically. Anfara and Mertens (2008) stated that research indicated that single gender classrooms see boys and girls participating more in class and asking more questions. Educational ambition increased learning as students felt more comfortable to discuss struggles with the teacher and others in the class. This feeling led to further risk taking as students were not as afraid of failure because the social aspect was taken out of the situation. In the single gender environment, students felt free to ask questions they would not ask in mixed company. This freedom helps create relationships with other classmates and the teacher, allowing for bonding over conversations that could not happen in a coeducation classroom. Students can feel more comfortable seeking out knowledge and becoming better individuals.

Surveys provided by Chadwell (2018) indicated that 60% of students reported growth in the areas of self-confidence, participation, and desire to complete hard work when placed in a single gender classroom. In the same study, 20% of students reported no change and the remaining 20% said they noticed a decrease in these attributes. African American students reported the largest increase in character growth. This may be a solution to help close the

achievement gap. Additionally, 75% of teachers and 68% of parents surveyed indicated the presence of an increase in positive traits among students who were enrolled in single gender classrooms. The survey also confirmed increases in other areas. Female scores in mathematics showed an increase in 14 out of the 17 schools tested. Male achievement increased in mathematics in 13 of the 18 schools that data were received. In language arts, girls showed an increase in scores in 14 of the 17 schools and boys showed increase in 11 of the 18 schools surveyed. When schools were asked about discipline issues in the school, 70% of the schools reported a drastic decrease in discipline issues in single gender environments.

The outcomes of the study of single gender classrooms in a public school found multiple outcomes. First, all the students agreed that the single gender environment promoted focus and provided the opportunity to dedicate time and energy to academics. Second, there was a distinct difference in the way students described their experiences. Girls saw boys as a distraction looking for attention and dominated the classroom. Girls also felt embarrassed by their male classmates. Females liked the company of boys outside of school regarding dating and having boyfriends, but all agreed that the best option for academics was to provide single gender environments. Finally, perceptions of the classroom were perceived completely different. Girls perceived the classroom as a place that belonged to them where the boys viewed it as a classroom to get work done (Datnow & Hubbard, 2013).

When boys and girls were interviewed by Datnow and Hubbard regarding their preference for enrollment in more single gender courses, boys stated that they did not want to be in an entirely single gender environment. Further, most of the boys stated that they did not want to take more single gender classes. The boys seemed to get more academic work completed in an all-boys environment and stated that it was enjoyable, but they wanted to be in a coeducation

school. Data indicated that boys will sacrifice focus on academics to spend time with females and be able to talk to them during class. The girls, on the other hand, stated that they wanted more single gender classes and noticed that it made a large impact on their academic performance. Females stated that single gender classes should be offered in every subject to reduce embarrassment and increase the academic learning environment. Girls took ownership of the space and became a family where it was ok to fail and learn from mistakes. The researchers also studied a situation where a boy was accidentally placed in a class of all girls and showed up to the door only to be greeted by girls who did not want him there. The girls were on task until a boy walked in and then they got distracted.

Other studies showed that for single gender environments to make a difference for students, other variables besides gender need to be considered. The school must have a strong organizational structure. This includes the layout of the building, class sizes, bell schedules, and other information that would provide structure to the school. Teachers and students must also have access to resources. Classrooms that have access to outside resources will have better opportunities to achieve at higher levels. Therefore, when students are given technology in the classroom it begins to level the playing field regardless of gender, race, or any other possible factor. A study in Arkansas public elementary schools by Dickey (2014) showed that students in single gender classes, whether in a single gender school or coeducational school, showed academic gains over those in coeducation classes. Teachers, principals, and parents all agreed that single gender classes provided fewer distractions, more leadership opportunities, and a better learning environment overall. Even though there have been issues such as lack of funding, schools must look at the data and make the correct adjustments that will benefit students for years to come (Dickey, 2014).

Gender separate classes in physical education are linked to an increase in learning, more engagement, and increased teacher feedback. Students have also shown an increase in skill development and cognitive learning. Physical education teachers stated that for students to achieve the highest possible level of skill and fitness, they may need to be in single gender environments to provide equality in the learning environment. One of the main themes from coeducation classrooms was that the boys could be harassing to the females, showing domination, and being intimidating to others. This aggressive behavior led to stereotyping, sexism, harassment, and bias from the teacher. When students were interviewed about the physical education classes, the majority preferred single gender classrooms. The boys stated that they were always afraid of hurting a girl while playing and liked to play sports with other boys who they perceived to be better at athletics. Females were not afraid to try new things which lead to increased performance (Hill, Harmon, & Knowles, 2012).

In a single gender school, the culture and belief system can change over time where the attitudes and actions in situations can be modified and males and females can be taught to act differently in their learning environments (Jackson, 2010). One of the other factors mentioned in support of single gender education was the increase in self-esteem. Students must learn how to be comfortable with themselves and have the confidence needed to be successful. In a single gender environment, students are given the freedom to find themselves without fear of embarrassment in front of the opposite gender. Achievement, career goals, and attitude also showed to be major components in the study as benefits of single gender education (Keller, 2011).

Hart (2016) found a key theme of an increase in academic performance. Students and teachers felt as if scores were rising and a deep sense of learning was taking place. The increase

in academic performance may be linked to the increase in focus and engagement in the single gender classroom. Students were quieter in single gender schools and tended to be more engaged. Girls do not ask as many questions in a coeducation environment as they do in single gender classrooms as the males tend to dominate the conversation. Overall, students claimed that the classrooms were not as disruptive and there was less teasing and ridicule. Students respected each other more in a single gender environment and more learning took place because of it. Social constructs have demonstrated what it looks like to be a man or woman in society. This includes how to act which has impacted the learning environment.

Brain Development

Brain development is an ever-growing area of research. Jackson (2010) stated that males have greater spatial ability because they encounter sports at a younger age. As a result, the brain functions at a higher capacity in the spatial recognition areas. Some argue that if girls were introduced to sports at younger ages then their brains may develop in the same format. Cultural expectations that are placed on children at a young age are helping mold their minds into how they will function later in life. Growing up in a society that treats children differently based on their gender can cause different parts of the brain to develop at different rates. Jackson (2010) believed that it is not necessarily an educational issue but rather a societal problem that children are forced to grow up in. Single gender schools may be the answer for children, but only because the brain functions were determined by a society that placed labels on children and told them what was expected of them based on gender. As a result, children today tend to consider themselves different. This could include considering themselves a different gender or exploring various sexual preferences to discover who they really are rather than conforming to the expectations of society.

Socio-cultural differences result from brain function in many ways. Since boys are more spatially inclined, they are more likely to want to play with a toy such as blocks. This method of brain function results in boys desiring to learn kinesthetically. Many boys are mobile learners who perform best when they can physically experience the topic being discussed. Keller (2011) has shown that the most influential factors in cognitive success regarding gender roles are the influences that children receive from teachers and society around them. Some biological differences in the male brain include decreased lateralization, smaller frontal lobe, less sensitized sensory receptors, and increased testosterone. These differences cause males to use the right hemisphere of their brain more. The right hemisphere is intended for problem solving and completing spatial tasks. The smaller frontal lobe in males increases the likelihood of acting out of impulsiveness and a decrease in reasoning. At a young age, boys are bombarded with a rush of testosterone which promotes aggressive and active behaviors. It is beneficial for teachers to know that males learn best from a kinesthetic learning method especially at a young age.

Due to male brains being wired for spatial tasks, boys may get bored quickly with words. Therefore, teachers that give long lectures are decreasing the chances for males to learn, especially if the lecture is at a lower volume and is predictable. Keller (2011) stated that for males to perform best in a classroom, they need to be kept on edge not knowing what is going to happen next. This included brighter light and louder noises with more movement and task-oriented goals. Since the corpus collosum is less dense in males, they are not able to multi-task as well as females. Boys have an increase in testosterone that causes them to thrive off competition in the classroom. Since boys struggle to maintain attention for long periods of time, a class that is fast paced and interactive is critical for learning. However, when a teacher structures the class in an interactive and competitive way, there must also be a clear set of rules

and punishments that the boys are always aware of and high expectations that are reinforced daily. Diagrams, pictures, and various other forms of media can be beneficial.

The female brain is a mirror image of how the male brain works. The young female brain has increased lateralization, denser temporal and occipital lobes, larger hippocampus, more developed left hemisphere, and increase in estrogen. In accordance to these differences, girls are better with language-based tasks. Since their corpus collosum is denser, girls can multi-task. Increased estrogen levels support verbal ability. However, this causes a decrease in testosterone which lowers female ability to perform spatial tasks. Females are more sensitive to light and noise; therefore, they do not need as much of those stimuli for a response. The hippocampus is for memory storage. This is more developed in females and can be beneficial for tasks during learning. This leads to the higher performance of females performing better on memorization tasks where males typically perform better with tasks involving abstract thinking. Since the female frontal lobe is more developed, girls are more deliberate with decisions making. This also has an impact on test taking abilities as girls are able to process thought through language which is easier for them than multiple choice questions (Keller, 2011).

Students, both male and female, can be impacted by biological and socio-cultural differences. Biologically, specific hormones are studied that may directly influence cognitive learning abilities. Keller investigated spatial learning and levels of testosterone to determine whether there was a correlation to cognitive functions and performance. Hormones have a role in language ability which is particularly important for females. Females perform best on verbal tasks during their menstrual cycle when their estrogen levels are highest and best on spatial tasks at the end of the cycle when the estrogen levels are lowest. How the brain is organized also plays a key role in how individuals react in situations. Women usually have an increased corpus

collosum which helps them communicate more with both sides of their brain. Using both sides of the brain increases female performance on language tasks but decreases how well they complete visual tasks. The connection is opposite in males, as they perform much better on spatial tasks than verbal ones.

Magon (2009) has established, through brain development studies and interviews, that a variety of teaching methods are required to meet the individual needs of boys and girls. Neuroscience continues to increase as scientists gather sensitive imaging of the brain to help further understand how the brain functions and develops. These structural and cognitive differences based on gender could help schools determine which pedagogy and format is the best for each student. Brain research has determined that certain skills and tasks are easier for one gender over another. Training and experience have been proven to enhance the performance on a skill. Therefore, a person can become very skilled at something that is not easy for them through repetition and practice which overcomes the deficit present from brain development.

Boy Crisis

In the late 1990's teachers began to notice that males were falling behind in education. This insight prompted the United States Department of Education to begin research into the boy crisis. This crisis revealed that males were consistently receiving lower scores on national exams while the dropout and suspension rates continued to climb drastically. Males were also classified with learning disabilities at alarming rates. This led to studies on brain-based research revealed that male and female brains are "wired" differently which also supported differentiated education. The question became whether boys benefited from single gender environments or whether the coeducational model would still be effective with modifications (Anfara & Mertens, 2008).

Saolmone (2006) asserted:

We know that girls, as a group, enter school with more advanced verbal and fine-motor skills, have longer attention spans, and greater impulse control. This ... puts many young boys at a disadvantage in the lower grades. At the same time, boys tend to have more advanced visual-spatial skills through much of schooling, which puts them at an advantage in math and science. (p. 787)

Single gender classrooms could help boys and girls to know that their brains develop at different times and are more inclined to certain subjects.

Jones (2010) stated that males are not learning in the current environment. Some of the factors suggested for this failure in educating boys are stereotyping, peer pressure, social expectations, and environmental influences that may come from teachers, peers, family members, and media they consume. Boys are faced with many learning challenges from their surroundings trying to mold them into a set standard that males are supposed to be. Boys are bombarded by how a male should act from the movies they watch, music they listen to, and people they relate to. This has led to behavioral differences and the need for special needs services for learning and behavior disorders. Males need a place to find their identity for themselves and grow into young men that will contribute to society. Boys tend to be more successful academically when there is an increased structural environment. Chadwell (2018) stated that the best way to instruct boys is to give them a list of directions that is visually posted and provide specific directions on how to complete tasks and clearly marked due dates. Even when preparing for tests, boys tend to need more direct instructions on how to study and when to begin their preparation. Boys need structure and to be held accountable as they begin to take ownership for their learning.

On the other hand, teachers found boys to be much quieter where they preferred to work on their own. The boys did not show concern for the classroom dynamic and only about getting their work done. There were no discipline issues reported from the all-boys classroom other than a few jokes that were borderline inappropriate. The teacher presented material in different pedagogical styles where material was presented in the beginning and then the students could work (Datnow & Hubbard, 2013). For males who struggled in areas of literacy, one school brought in male mentors who served the community as writers in some capacity. These men volunteered their time to speak about the importance of writing and how it had changed their lives. Getting parents and community members involved in the education of children is beneficial as it provides positive role models for students that could benefit from the guidance (King & Gurian, 2016).

Primary classrooms tend not to practice competition, movement, and graphic abilities which are all skills critical in the development of males. Boys will become disengaged with lessons early on when the material is not presented in ways easy for them to understand. If boys become disengaged and their learning is hindered at an early age, then their motivation and other skills can be greatly affected. Another issue in the classroom was that what used to be perceived as typical boy behavior is now considered disruptive. This has led to a drastic growth in males on medication and placement in special education programs to help control behavior. These actions are harming the self-esteem of boys and impacting the level of achievement in a negative way. Classrooms must be more responsive to the needs of boys and girls teaching material in multiple formats (Dwarte, 2014).

Jackson (2010) reported that boys had a more difficult time with verbal communication and work independently many times when given the opportunity. Second, boys excelled in visual-

spatial ability and mathematics. Males demonstrated the ability to mentally manipulate 2D and 3D images in their mind and perform higher in mathematics. These are tasks that come easy because of how their brain functions (Jackson, 2010). In a well-known study about student progress, Jones (2010) found that males in single gender schools achieved higher scores in reading, mathematics, and writing than those in coeducational schools. The enrollment for mathematics and physical science courses increased over this time which showed the attitude towards education from the students. Single gender schools were benefiting these students not only in academics, but also their attitude towards taking challenging classes and learning. Teachers involved in this process stated that they modified their pedagogy to meet the stereotypical constructions about boys and girls.

Male-Friendly Curriculum

Jones (2010) discussed what makes a boy-friendly curriculum. Males need more explicit teaching which should include being active. This type of teaching lets boys be hands-on during the instruction. Boys prefer for the material to be very detailed so that they do not have to read between the lines and fill in information not presented in class. The information should also be structured towards kinesthetic learners where activities involve movement and taking part in what occurs. The second key method is that should be structured programs where the boys are told what is expected of them and the steps to achieve success are explicitly shown. Giving examples and posting expectations is beneficial for the achievement of boys. Girls will respond to the content, but boys respond more to relationships with their teachers. If boys can build a bond with their teachers and trust them, then they will inherently learn more from them than any other teacher.

The next part of a boy-friendly curriculum is providing activities that will help boys create a rapport with their teacher. Having opportunities outside of the classroom to spend time completing activities with the teacher will help boys further understand what to expect in the classroom and provide role models for life. Boys respond to a teacher that is attuned to a sense of fairness and provide consistency with school and classroom rules. The teacher must be just in decisions and stick to the rules holding each student to the same level of accountability. Boys can thrive in a single gender environment that is focused on helping them develop into men and establish their identity in a healthy environment (Jones, 2010).

Schneider (2013) suggested several tips for schools trying to create a boy-friendly environment. Boys have a lot of energy and want to move during learning. When boys can participate in kinesthetic learning, this type of education supports natural biochemistry while helping students stay engaged and focused on learning. Boys need leaders that will help them focus learning, but at the same time, become independent thinkers. Male learners benefit from having spatial-visual tools such as pictures and graphics. This method is proven to improve literacy. Also, storyboarding helps boys depict images and then use those pictures to translate the story into words. One of the biggest trends that can help children in schools is that of parental assistance with homework accountability.

Keller (2011) conducted research on the International Coalition of Boys Schools and discovered successful trends that helped boys learn. The male brain functions at highest capacity by being active and completing project centered tasks, role-playing, competition, responsibility, and immediacy. The male and female brain develop and function in completely different ways which further led to the belief that there should be different methods of teaching and single gender classroom opportunities to meet the needs of all students. When given a task, boys need

an end goal to achieve. Boys want to identify the reward for their work and what they are working towards as an end goal (Cherney & Campbell, 2011). Problem based learning also offers males opportunities to learn through competition by allowing students to compete to accomplish a task quickly and efficiently. Girls, however, enjoy collaboration and communication which allows them to use other parts of the brain that males do not usually access as much during the school day.

Girls in Education

In the late 1990s, a trend developed for girls to enter fields such as mathematics, science and technology. The basis for the trend was the belief that girls were getting shorted in their education due to the lack of exposure to these fields. This is still a major issue, but the gap is beginning to close as schools have focused their attention on involving girls in science, technology, engineering, and mathematics (STEM) education. Many organizations have begun donating time and money to support the education of females in these areas to provide opportunities to which they would not normally be exposed (Anfara & Mertens, 2008). Many mentors are getting involved in the education of females as science and math tend to typically be the weaker subjects for females according to brain chemistry. However, with proper mentors and a strong work ethic girls can achieve anything and become whatever they desire in the future.

STEM education is a program that continues to grow and be further represented in schools nationwide. Science and engineering still seem to be mainly male dominated fields of study. As the push towards women in STEM fields continues to increase, so does single gender schools that focus on female STEM education. Stereotypes regarding fields males and females should enroll in has kept girls away from quantitative careers such as science and math. Single gender environments allow girls to study in fields that they may be uncomfortable with and study

at a pace which builds self-esteem. When students have a higher confidence and understanding of themselves, then they are more apt to push themselves and sign up to take classes that may be more difficult and are outside of their comfort zone. STEM courses in general may be difficult for females because they typically learn through communication rather than kinesthetics which is key to STEM education. Therefore, girls must work much harder to gather the knowledge necessary to do well in the STEM courses (Cherney & Campbell, 2011).

When studying interests, women preferred people-oriented that includes communication with others and solve tasks through collaboration. Teachers can present material to students in different ways to reach them where they are. Girls want to spend time with others brainstorming and discussing the best conclusion possible. A plan has been developed, the task will be completed (Cherney & Campbell, 2011). For girls, some of the findings stated that in single gender environments that, there was a higher level of self-esteem. This is important for females especially at a young age learning how to be confident and becoming who they are as individuals. Girls also demonstrated higher levels of confidence and leadership skills with openness to try new things and take risks without being made fun of. Due to brain development, females may also be very self-consciousness. Girls want to communicate with others and seek approval which is easier in a group of all girls that are facing the same challenges. For both males and females, single gender classrooms allowed for an increased focus on pedagogy that is based on current brain research (Anfara & Mertens, 2008).

Datnow and Hubbard (2013) collected data about a public high school that allowed a teacher to have a class of all girls followed by a class of all boys. Students were presented with identical lessons by the same teacher and then interviewed afterwards to determine thoughts on the environment. Girls stressed an appreciation for the learning opportunity and believed they got

more work done. The girls expressed feeling more comfortable participating in class and fewer distractions without boys involved. The female students also stated feelings of higher levels of confidence with their abilities to do math and fewer feelings of failure in the single gender environment. The girl-only classes included opportunities for communication as the girls preferred to work in small groups and to solve problems collaboratively.

When studying the skills of males and females, there were key points in Jackson's (2010) research that led him to believe that single gender education was the correct move. There was evidence that supported a higher level of verbal skills in girls. Females are more gifted in communication, so single gender classrooms supported that by allowing the girls to collaborate with each other and talk through what they are learning. Datnow and Hubbard (2013) studied schools moving towards single gender education. The girls-only classroom was described as supportive. When asked to further explain this thought the individuals being interviewed used words such as helpful, trust, and friend. The girls discussed being in an all-girls classroom in which everyone was helpful to each other and loved to collaborate and discuss problems, so everyone understood the question and the process. The girls could also trust each other as they built a bond with others in the classroom. Friendship was important throughout the process as the girls continued to grow closer together and turned the classroom into a family-like atmosphere where they all looked out for one another (Hart, 2016).

Females benefit from being connected to their teacher, others around them, and the content itself. Teachers can help girls learn by allowing them to voice opinions and make comparisons between content and personal experiences. Females tend to learn by methods in which they can compare the content to real-life experiences to help make connections to the real world (Chadwell, 2018). A classroom of all girls is stated to be more positive and in control as

the girls work together. Girls have acknowledged they cheer each other on which makes for an optimal learning environment. (Datnow & Hubbard, 2013).

Girl-Friendly Curriculum

Since females can focus for longer periods of time and thrive off language abilities, lecture style classes are more beneficial for females. Classes surrounded by discussion and shared ideas and opinions are optimal learning environments. A female-only classroom would be one that does not implement as many comparisons and spatial tasks but includes collaborating and communication. The teacher can foster relationships and create high standards rather than competition like in the male-only classroom. Some of the characteristics that describe an all-girls' schools are attitude, achievement, attributions, and activities (Keller, 2011). Female learning environments require each member of the learning community to be prepared every day and have an attitude that they can and will achieve at the highest levels. Learning from others builds confidence and helps students be better prepared for any situation.

Teachers at all girls' schools also stated that their pedagogy matched that of research involving collaboration and language skills. The intent of everything in classrooms was based on language reasoning. Many of the teachers stated that the classroom was centered around the Socratic method which required students to use their language skills to analyze learning and share the outcomes with others. This style of learning is a collaborative method. Teachers implemented group discussion and took on the role of facilitator. The classroom should be learning centered rather than teacher centered. The teachers at the all-girls school described methods of communication as gentle, patient, and encouraging and also utilizing a lower tone of voice to work with students without others being distracting. The teachers at the all-girls school stated that the classroom was still high energy and had high expectations for girls, but the class

was not competitive and focused on being sensitive to the learning styles of each student (Keller, 2011).

Motivation

Motivation is a critical factor for boys and girls to pursue careers that may not be the easiest for them in the beginning. When motivating the learner, the individual is more apt to try new activities, engage at a higher level, and persist even when the task at hand may seem impossible. This motivation can then lead students to achieve higher goals in the academic arena. Motivational was studied by Cherney and Campbell (2001) in an examination of motivation as being intrinsic and extrinsic to determine what affects students the most. Intrinsically motivated individuals will take on challenging tasks and activities for their own benefit and out of interest of the topic at hand. The extrinsically motivated person completes the tasks for other reasons such as receiving an award. Intrinsic motivation can usually have correlation with grades and test scores while extrinsic motivation tends to show a negative correlation with academic achievement. Motivation could be the deciding factor as to which students persist in and the educational domain they pursue. Therefore, teachers and administrators must be aware that motivation can lead a student in the direction of higher test scores and higher grades overall. Students need to be reminded that they are doing well and becoming something great to keep them moving in the right direction.

Jackson (2010) stated that the ability of boys and girls is not the issue, instead we have a motivation problem. There are prejudices and social pressures that steer males toward careers based in math and science while females are pushed towards nurturing professions such as nursing or teaching. Students are being motivated to pursue certain directions instead of opening the whole realm of possibilities and allowing students to make decisions based on their passions.

If a student is passionate about something, they will work as hard as possible to achieve that dream. Jackson (2010) suggested that women are more nurturing in ways not, because they have the potential to be mothers, but they that have been oppressed for so long and fell to the back of conversations in education and that they are more sensitive to the needs of others. Males are motivated to pursue careers which makes them less sensitive to the needs of others due to a heightened sense of personal survival.

Conclusion

Kombre, Carter, Che, and Bridges (2016) continued to show that in single gender environments, there were fewer distractions and students felt more comfortable, which led to increased interactions. Through this process, students demonstrated true interests and were free to explore passions without fear of failure or mockery. In single gender environments, students felt the freedom to try new things in a classroom with individuals that were like them and they felt more comfortable. This study further indicated that coeducational environments are unfair and do not provide equal educational opportunities for all students. Teaching methods are different for students according to gender. The brain of males and females process information differently which has caused increased debate on whether students should be offered alternative education. Single gender education is a model that has demonstrated some validity, as it is one of the oldest forms of education. However, the economy caused the direction of education to change which led to coeducation and the modification in education.

As single gender education continues to be promoted, some researchers are questioning the essential arguments that based single gender education on biology. Neuroscientists are questioned by the amount of research that is based on nature versus nurture and the way the student was raised. Home environment may also play an important factor on how a student acts

and what character traits developed even as a young child. Student DNA, along with home environment, can control actions inside and out of the classroom as well as the amount of learning that occurs. Family and friends can influence how students learn and behave in the classroom. Biological changes in the body can increase chemicals and transformations in the body that promote certain sections of the brain to fire to complete given tasks (Signorella, 2015). However, evidence has shown that the male and female brain function differently, giving each gender certain advantages and disadvantages according to brain chemistry. This has led to single gender education as students are being provided educational opportunities that are strategically organized for brain development.

Education has evolved over time, but many researchers have stated that it may be time to consider historically significant single gender education. Using brain scans, scientists can further understand how male and female brains function and the ways in which teachers can meet the needs of every child. Due to the boy crisis, boys have been neglected in education and are receiving lower scores than their peers. Achieving higher scores and closing the achievement gap are essential for educational specialists. Data continues to point out that coeducation decreases spending and can increase social issues. Single gender schools' level the playing field and create a healthy learning environment resulting in well-rounded students.

Various teaching methods have been used to present information to males and females to meet their needs and accommodate learning styles. Males tend to react at higher levels when the classroom is active and kinesthetic. On the other hand, girls seem to thrive with collaboration and group assignments that allow them to learn from each other. Discipline techniques are also different as females are more emotional, responding to conversations about their actions and correcting the action. Males need to be shown physically what they have done wrong and given

proper consequences. This study seeks to determine the teaching methods and discipline strategies that teachers have used in single gender and coeducation environments and what works best for students overall.

CHAPTER THREE

Research Methodology

The purpose of this study was to determine the differences in teaching strategies and discipline techniques in single gender schools versus coeducation. The inquiry examined four individuals that were presently employed as either teachers or administrators and had worked in the single gender and coeducation environments. At the time of the study, all teachers were employed at an independent all-boys college preparatory school in the southeastern United States. The school had day students from the surrounding area and boarding students who lived on campus and were from various states and countries. Questions were asked to determine the teaching strategies teachers use in the classroom and which discipline techniques were implemented to guide the students in the right direction. The participants also provided information regarding previous schools in which they were employed, and comparisons were made to determine whether different teaching strategies and discipline techniques have been used by the participants according to school and gender.

This research was intended to identify various teaching strategies implemented by educators according to the school in which they are employed and whether there were commonalities in teaching boys and girls. Learning styles were discussed as teachers were confronted with questions pertaining to how they presented information and whether there were modifications made according to the audience. Discipline techniques were discussed as the researcher wanted to determine whether there were differences in discipline issues that occur and whether or not similar steps were implemented to reprimand the male and female students in single gender and coeducation environments. This research provided information about teaching methods and discipline techniques according to gender, which provided validation for research

on brain development and student achievement. Research has been conducted on the boy crisis, where males are not achieving as highly as girls, and whether there is a connection to the teaching methods being presented. This study provided information from four participants regarding classroom experiences to present thoughts on whether different teaching methods were being used according to the audience and whether or not that made a difference in the achievement of students.

Business Dictionary (2018) described research methodology as “the process used to collect information and data for making business decisions. The methodology may include publication research, interviews, surveys, and other research techniques, and could include both present and historical information”. For the purpose of this study, surveys, interviews, and focus groups were used to collect data. Questions asked during data collection were based on empirical research which may be found in Chapter Two. The researcher used a qualitative approach, as the data collected were compared for commonalities. This study will impact education significantly, as it further analyzed teaching methods and discipline techniques by gender, thus impacting classroom methods. Single gender education continues to be studied as the formation of schools was discussed to determine what method of education is most beneficial for the success of all students.

This study utilized the method of phenomenology which analyzed structures of consciousness that have been experienced and shared from a first-person point of view. The study was directed at an area of teaching and discipline and was explained by teachers and administrators through personal experience. Phenomenology is the study of a phenomena and describes how things happen or change (Smith, 2013). Small groups were studied about single gender and coeducation concerning teaching methods and discipline techniques. Therefore,

phenomenology was used to survey, conduct personal interviews, and complete a focus group to gather first-hand experiences from a small group of individuals.

Population and Sample

Population is defined as a group of persons or objects that have common characteristics that the sample is drawn from. The sample is intended to be generalized to the larger population. However, the sample describes the small group of individuals, events, or behaviors chosen from the population to be studied (Populations and Sampling, n.d.). The population for this study was every teacher in the southeast region, as they could all be affected by the research. The information collected from the participants is helpful for all teachers regardless of whether they are working in a single gender or coeducation school. Teaching methods and discipline strategies are beneficial for each gender can be used in any classroom to improve learning and focus. The sample consisted of four individuals that have experience teaching in coeducation and single gender settings. Some of the individuals have previously worked in schools that were all-female. However, at the time of the study, all participants were employed in an all-male setting. Using only four individuals that work at the same independent school provided some continuity to the data collected through the research. The study participants represented diverse ages, races and levels of teaching experience. However, from teaching in single gender and coeducation schools, the individuals provided information that was specific to the study.

Description of Instruments

Three instruments were used in the study of single gender and coeducation environments regarding teaching methods and discipline. The participants were first sent an electronic survey that was generated by the researcher and provided basic information about the thoughts of teachers and administrators involving teaching and discipline. Questions were generated from

previous studies and were open ended to allow the participants to share their ideas and thoughts on education. The survey responses were then used to formulate questions that were asked in the one-on-one interviews. The interviews then provided information that could be further explored in the focus group. The participants were asked more in-depth questions which enhanced conversation among the participants. Individual experiences were shared which allowed for more in-depth discussions to take place between the participants. Data collected from the focus groups were transcribed and analyzed as the meeting was video recorded. Video recordings were used to observe body language along with what was being spoken to determine if the participant really meant what they said.

Data from the survey responses and interviews provided information that needed to be clarified or extended. The researcher then conducted a focus group which allowed for further questioning to obtain a deeper understanding of each participant's personal perspective on teaching methods and discipline strategies while teaching in different schools. The questions asked were individualized according to the responses given in the survey and interviews. All the interviews and focus group were video recorded for transcription and deciphering body language and other cues that may have been missed originally by the researcher.

Video recording from the focus group and interviews was decoded using the body language guide created by Dr. Susan Whitbourne (2012). The head describes many details about the emotional state of the person. Individuals that were stressed may not have groomed their hair which gives off the impression that the person is not completely put together because of some emotional stress. A person with well-groomed hair shows that they are in control of the way their day is developing. The forehead can also give away nonverbal cues such as frowning or the raising of eyebrows that can be for several feelings. The face can give off tiny movements

known to psychologists as micro expressions. The body language can completely contradict the impression a person is intending to portray. When a person is fearful, the muscles around the mouth begin to pull back. These micro expressions also show heavily when an individual is lying.

Dr. Whitbourne (2012) described how the eyes communicate information about the inner state. If someone is not looking at the person talking, then they tend to be disinterested. The rolling of the eyes or sharp glances also reveal what a person is thinking. A jutted chin can reveal the individual to be obstinate while the angle of the neck can portray confidence. Good posture shows confidence and that the individual is in control of their feelings. Poor posture indicated that the individual does not feel good about themselves and may need assistance. Anxiety and boredom are communicated through hand fidgeting and anger when the arms are crossed. The hands make many gestures while talking which can indicate various expressions.

When someone sits or stands with their legs tightly crossed, they are displaying a closed view of themselves and others. If the legs are spread far apart it reveals just the opposite that the person is too open. Anxiety is often displayed with leg shaking or foot tapping. If an individual is tapping their toes, they are communicating either they are in a hurry or are anxious to get moving. This action can be deemed as pressuring or sarcastic. If an individual is standing, the stride can demonstrate strength and confidence. The shoes a person wears can also be an indicator of their attention to detail and seriousness (Whitbourne, 2012).

Research Procedures and Time of the Study

Participants were contacted and provided with information about the study to gain their permission to participate. Background information was collected from the sample group such as degrees earned, teaching experience, schools each have worked in, and personal data about

where they attended school. After the participants agreed, then the survey was sent to the individuals to gather preliminary information. The survey was generated by the researcher and asked open-ended questions about teaching methods and discipline strategies that the teacher has used or seen in schools during employment and how that has shaped and molded the methods by which they teach today. Participants were asked to describe their classrooms in single gender and coeducation environments and how they were the same or different. The survey provided the teachers a chance to explain their knowledge of alternative forms of schooling and what they believed worked and why. After the surveys were submitted and analyzed, a focus group was held to ask further questions from the findings of the survey. The follow-up questions asked in further detail about what was stated in the surveys and asked teachers to explain examples of teaching methods and discipline strategies which allowed for open discussion. The researcher then studied responses before beginning individual interviews. The interviews were conducted, asking follow-up questions to the information given in the surveys and focus group. Teachers were provided the opportunity to describe their thoughts about single gender and coeducation and what method of education they believed to be best and why. Specific information was also collected in the interviews about the differences in teaching males versus females. The information was then reviewed and coded to determine results.

Data Coding

The information collected from the surveys was disaggregated using open coding. The answers were compared and placed in a spreadsheet to allow for axial coding to determine possible connections. Data collected from the surveys provided information for the conceptual framework while the questions were written from the theoretical framework. The initial data collected from the interviews were open coded followed by axial coding to compare the answers

with the other tests. Selection coding then allowed for relevant connections to be determined and given in the results. These core variables were then addressed in the focus group. The focus group was open coded which allowed the information to be separated and placed in a spreadsheet. The statements were compared to the survey results using axial coding to determine any possible connections. Connections that were deemed relevant were considered selection coding which is where the core variables were identified.

Three sets of experimentation were used to provide credibility through triangulation. Interviews, survey, and a focus group were all used and compared to each other. Reflexivity was also used as a credibility technique giving background from the researcher that supported the study. Peer debriefing after the interviews provided dependability. The information collected from the survey, focus group, and interviews were presented to each participant to confirm the information that was provided. Member checks after each data source collection provided confirmability. Detailed descriptions of context provided transferability. After each type of data collection, there was a detailed description of findings. The researcher also stated what was interpreted during and after each instrument implemented before going back and watching the video footage.

Chapter Four

Findings

The purpose of this study was to collect data concerning teaching methods and discipline strategies that teachers have used in single gender and coeducation environments to see if the techniques had similarities. Data from previous studies have shown that teachers use different instructional techniques according to their audience. Discipline strategies have also shown to be varied as students may get different punishments for the same actions according to the environment. Information from the studies revealed student learning tendencies inform teachers on how to present certain topics according to their audience. Body language was also monitored as teachers gave their response on video in the interviews and focus group. Data were collected through surveys, interviews, and a focus group and the data were open, axial, and selective coded. The data from all sources was triangulated to strengthen the data from all sources. After each collection method, member checks were used to validate the transcription and translation of the information. Peer debriefs were used as a way confirm the validity of the information and provide guidance in the research process.

Research Question

1. What are teacher and administrator perceptions on single gender education versus coeducation regarding teaching strategies and discipline techniques?

Instrumentation

The data were collected and triangulated using a survey, individual interviews, and a focus group. The survey asked open ended questions that allowed the participants to share as much or little information that they felt comfortable. The information was then open coded for commonalities which was used to formulate the questions for the individual interviews. Each

participant was asked questions that were formulated around their survey responses to collect more precise data from the individuals and answer questions or concerns that the survey revealed. The interviews were video recorded for accuracy in transcription and to study body language through responses. The information was analyzed by the use of axial coding to gather common themes through the surveys and interviews to ask more direct questions in the focus group. The data from all sources were then coded using open, axial, and selective methods to provide triangulation for the study. Member checks and peer debriefs were also used to validate the data collected.

Participants

The participants agreed to take part in the study and signed the consent to participate form. A signed copy was kept by the researcher and each participant was provided with a copy each for his records. All of the participants were male. Two gentlemen were Caucasian and the other two were African American. Participant 1 had seven years of experience in coeducation classrooms and 13 years of experience in single gender classrooms. Participant 2 had two years of coeducation and 13 years of single gender experience. He is also a director of the National Center for the Development of Boys which contributed to his knowledge of teaching methods and discipline strategies. Participant 3 taught four years in coeducation and three years in single gender classrooms. This gentleman has worked in an all-female and all-male environment which provided a wide variety of experience. Participant 4 has worked in coeducation classrooms for 25 years and single gender environments for three years. He is currently an administrator providing vast experience from the teacher and the administrator points of view.

Description of Instruments

Three instruments were used in the study of single gender and coeducation environments regarding teaching methods and discipline strategies. The participants were first sent an electronic survey that was generated by the researcher and provided basic information about the thoughts of teachers and administrators involving teaching and discipline. Questions were generated from previous studies and were open ended to allow the participants to share their ideas and thoughts on education. The survey responses were then used to formulate questions that were asked in the one-on-one interviews. The interviews then provided information that could be further explored in the focus group. The participants were asked more in-depth questions which enhanced conversation among the participants. Individual experiences were shared which allowed for more in-depth discussions to take place between the participants. Data collected from the focus groups were transcribed and analyzed as the meeting was video recorded. Video recordings were used to observe body language along with what was being spoken to determine if the participant really meant what they said.

Body Language Analysis

The body language guide by Dr. Susan Whitbourne (2012) was used to observe body language during the individual interviews and focus group. Participant 1 seemed very confident as he sat back in his chair and used very little hand motions as he spoke. He made eye contact and his body language showed that he was comfortable and had a clear understanding of the questions being asked. Participant 2 sat in a forward, confident pose and used many hand motions as he spoke. He made eye contact and was excited about what he was discussing. This showed he had a clear understanding of the topics being discussed. Participant 3 was very fidgety during the interview and focus group. He did not use hand motions and looked around during his

responses. During the focus group, he only gave answers when another participant asked him to give his opinion. His body language insinuated that either he was uncomfortable or was not confident with his answers of the content being discussed. Therefore, the researcher only used data from participant 3 that came from his confident answers and eliminated the data where he seemed uneasy. Participant 4 sat back in his chair, made eye contact, and used some hand motions. He spoke with confidence and it was evident he felt comfortable with the information.

Study Findings

Coding data requires the researcher to decipher the data collected from the various participants and collection methods and categorize them into subcategories. The researcher gave codes to the data which became topics that were discussed in depth in the study. Pre-set coding was used to identify the participants and protect their identity in the study. Throughout the study the participants were referred to as Participant 1,2,3, and 4. The selections collected from the participants were grouped from the surveys, interviews, and focus group so the information could be visualized, and themes recognized through the coding. Open coding was first used to sort and investigate the data into categories for simpler analysis. The data grouped were then further divided through axial coding where the open coded data was divided into subsections that grouped the data into smaller, organized sections. Lastly, the data that were in the axial coded section were grouped into a larger overarching theme and grouped through selective coding. Figure 4.1 gives a depiction of how the data was coded and the levels used to delineate the data.

Figure 4.1

Data Sorted in Levels of Coding

Selections from participants	Open Coding	Axial Coding	Selective Coding
<ul style="list-style-type: none"> • Create diverse groups for exposure to other learners • Work in pairs or small groups • Various forms of presenting information • Teaching in different methods according to the day and audience 	Small groups; make problems relevant; various forms of presentations	Coeducation Teaching Methods	Teaching Methods
<ul style="list-style-type: none"> • Lots of movement • Engage on a personal level • Visual and tactile learners • competition 	High energy; modeling: teach while walking around; visual prompts	Single Gender Teaching Methods	
<ul style="list-style-type: none"> • Wants to touch each other • Contact can be a way of showing affection • Lose focus • Disengaged • Unprepared 	Sleeping; Disorderly conduct; distracting others; horseplay	Male Discipline	Discipline Strategies
<ul style="list-style-type: none"> • Causing drama among friends • Technology misuse • Communicating to others at inappropriate times 	Talking; sending notes; bullying; gossiping	Female Discipline	

Teaching Methods

Participant 2 stated that culture eats strategy for breakfast. He was referring to the culture a school sets in place will always be more powerful than the strategy the teacher tries to implement in his classroom. All four participants stated that students need routines and rituals that are a result of the school being in place for a long period of time and teachers being

consistent about the procedures. Teachers must be intentional about academic, physical, social, and emotional needs of all students. Students have specific learning preferences and an effective educator understands what each child needs to succeed. This includes presenting information differently according to the audience. Participants 2 and 3 mentioned how teaching must be tailored to each student individually as some students need to have time to practice a new concept before generating questions to ask.

Participants 1 and 3 stated that the students don't care what you know until they know how much you care. Boys and girls are evaluating the authenticity of their teacher and many are not willing to accept what the teacher gives them at face value because they feel they are being used or manipulated. If students feel the teacher is being fake, then they will give disrespect in the classroom which can be anywhere from lack of attention to the work they produce. Teachers must be genuine and consistent in everything they do if they want to gain the respect of their students and help them learn and develop. School teachers and administrators must be proactive not reactive. There needs to be a plan in place and structure for students, so they know exactly what is required of them in every aspect. Some teachers wait for something to happen and then have to be reactive to fix the situation or try and break up an issue that escalated when it could have been controlled before it began.

Overall, students perform best in subjects that they are passionate about. Participants 1, 2, and 4 discussed how teachers can create environments that spark the learning in their particular subject with students that might not have cared about that subject in the beginning. Students may do well in a subject they do not care for, but a particular teacher can ignite a passion in them to try new things and become excited about a different idea to pursue. Teaching styles catered to the needs of the student are essential components to delivering knowledge and igniting learning

in the classroom. Energy shifts are important components in the classroom. Teachers can time when students move and reengage if they time energy shifts and create opportunities for students to move. Males need this process more than females, but reengagement timing is important for all students to get the most out of each lesson.

Technology can bring about its own set of teaching methods. Teachers can use areas of technology as anchor points that students can access from anywhere with internet availability which provides structure to the classroom. Participants 3 and 4 discussed how in this digital age students are very keen on technology, so teachers should be using it as a tool to teach students the benefits and dangers of using technology appropriately. Devices can be a major benefit to a teacher, but it can also cause issues in the classroom. Students are behind devices so often that their social and writing skills have digressed and they have not had to rely as much on improving their handwriting and spelling as the computer does it for them. Teachers must learn how to use technology as a benefit in classrooms while finding a balance of under and over saturation of usage.

Participants 2, 3, and 4 discussed how teachers can use technology to create experiences. This includes using virtual reality and other technological devices to allow students to experience learning rather than just reading and hearing about it. When students become one with the content it sparks something in them that can help promote learning. This teaching method includes having professionals come into the classroom bringing tools they use daily to discuss with the students how the particular subject affects their life on a daily basis. Students can be sparked by guest speakers to not only gain a passion for learning, but also start them on a journey of a possible career choice.

Coeducation teaching methods. All participants stated that movement and monitoring are essential in a coeducation classroom. When students feel the teacher is near them, they are more apt to be focused. Small group work was mentioned as being beneficial to mix genders in each group so students can learn from various learning styles. Within groups, various forms of presentations for the entire class can be a teaching method that involves everyone regardless of gender. Participants 1, 2, and 4 stated that the participation levels are less obvious in honors and advanced placement courses as students tended to be more self-motivated in the upper level courses. These participants mentioned that in groups, competition-based activities provided opportunities for all students to be involved. The female students want to do the best work possible while the males want to win the competition which drives learning in a positive direction.

Problems in the course must be relevant to what the students are experiencing in their daily life. In the coeducation classroom this can look vastly different as teachers can discuss topics going on in the school or use examples about particular students, teachers, or couples to explain particular topics. Teachers must also incorporate a wide variety of teaching styles in the coeducation classroom to engage all learners. Participant 4 discussed how he would vary up lessons daily where one day may be more intended for the girls and be more lecture format while the next day was intended more for the boys and be a hands-on activity. Participants 1, 2, and 4 discussed how girls can usually get the topics through auditory and visual means where the boys need to be kinesthetic and hear the information multiple times. Therefore, having a boy come to the board and do a problem while having a female student explain it can engage both styles of learning at the same time. Teachers have to read their classroom to make sure they are not

leaning towards one gender over the other. This can be determined through monitoring, engagement, and participation.

Single gender teaching methods. Single gender teaching methods have some similarities to the coeducation classroom, but there are some distinct differences as well. There needs to be lots of movement in the classroom allowing students to work in groups and sit or stand in areas that are most comfortable to them. Participants 1, 2, and 3 discussed how some students in their classrooms needed to stand while others wanted to sit. Other students wanted to sit on top of the desk and others wanted to sit in the floor. Allowing students to sit in ways that are comfortable to them gives them freedom to choose while keeping them engaged. Teachers in the single gender classroom must also use voice inflection and control their volume according to their audience. Males need a louder more boisterous environment where females need a lower tone and relaxed environment. The environment must also be understood, and examples used that meets the students. In an all-male environment, the teacher may use more sports' analogies where all-females may need more personal stories.

Especially in the single-gender environment, teachers must be genuine and consistent. If students read that the teacher is not, then they will take advantage of the situation and expose the teacher for what he is not. This provides for a long school year as there is not a mutual respect in the classroom, thus impacting learning. Teachers must engage students on a personal level and let them know they can't be invisible or ignored in a class. Participants 1 and 2 discussed how they have students that want to hide and not participate in class. However, the single gender environment lends itself to smaller class sizes where each student is a valued part of the classroom discussion and the other students must rely on each other to get to a full understanding of the topic. The 4 participants discussed how teachers must also be highly energetic about their

subject and make authentic connections through anecdotes and engagement. Being consistent is key for an orderly single-gender classroom. Students must know expectations, and when they try to cross the line, the teacher must call them on it and hold the line of consistency.

Many students can be visual and tactile learners. In the classroom, small competitions can motivate students regardless of gender. When students do test corrections, giving explanations will not only help the student understand the material but will also help the teacher understand the thought process of the student. Participants 1, 2, and 4 discussed how authentic assessments were key to single gender classrooms. This includes asking questions that allow students to explain their thought process and have questions that relate the material to their daily lives. The test questions must be directive where the answers are not simply memorization but asking what the student knows and how they have made connections between the material and the world around them. Audio cues can also be used where students are listening for buzz words that cause them to respond in a certain way. This keeps the students focused wanting to make sure they do not miss the cue that allows them to make noise and move. Key colors and drawings can also help students learn the information. Participant 2 discussed key colors as each color had a specific meaning to the students. For example, green represented money so if he wrote something in green on the board then the students knew that was the most important thing to know. Drawings and figures where students can see the content being covered is beneficial in all classrooms, but they can be tailored to male or female students in the single-gender classroom.

Participants 2, 3, and 4 discussed how students need modeling and should be given visual expectations of excellence. All students can benefit from modeling, but male students in particular, need clear guidelines that should be met, otherwise their work will rarely meet the standard. Within this, teaching by walking around can be a powerful tool for a teacher to use.

Students can get distracted very easily, but proximity can become a great motivator. Participant 2 discussed the use of post-it notes during a class. He carried around a handful of post-it notes and while teaching he would write something on the note and hand it to a student and keep going with class. This note could be something positive or it could be something negative that the student needed to fix. Regardless, the students get this visual warning without other students being involved in the process. There also has to be a mixture of good and bad notes so the students do not think a classmate is always getting in trouble. This allows a teacher to have an interaction with a student to correct a behavior without stopping class and wasting learning opportunities for others.

Discipline Strategies

Discipline can be a difficult task for many teachers and administrators. Participant 4 stated that some teachers just have little patience for boys which can lead to boys getting into trouble more often. Boys and girls tend to get into different types of trouble which may require various forms of punishment. All participants stated how some teachers do not understand the needs of boys and can easily want to get them in trouble for wanting to move and touch other boys. Girls, on the other hand, tend to be more talkative but will behave better in classes as they tend to want to please. Teachers have to understand their classroom and what works for the teacher and the particular group of students. Some students may need to stand during class while others can sit. There may need to be stretch breaks in the middle of a longer lecture. As a teacher, many discipline issues can be avoided when timed breaks are involved to reengage the brain. All participants discussed how even a simple high five or fist bump with a neighbor can reengage the brain for at least another 15-20 minutes as it allows appropriate touching and movement.

A newer form of discipline is having to be established to meet the growing use of technology. Participant 4 described it as teaching his son to drive on a wet road. He would not just tell him go drive right away without first teaching him on a quiet road and then slowly working his way up to an interstate. Participants 2, 3, and 4 stated how students have not been taught to use technology appropriately and post things online without knowing the consequences which could negatively impact them years down the road. There is a certain brain chemistry as well that is occurring when they are on certain websites and gaming for many hours. Technology can be a great learning tool, but it can also be a major distraction as many are learning of new ways to use devices for the wrong things especially in the classroom and in place of studying. This has also taught them that things come quickly, and they lack persistence which hurts them mentally as they do not know how to cope when they receive a bad grade or are asked to correct something.

Male discipline. Male discipline can change according to the age of the student. All participants agreed that younger students tend to get in trouble for talking, showing off for their friends, classroom disruptions, using technology inappropriately, and gaming in class. The older male students tend to lean towards being late to class, sleeping, and being disruptive. Some of these issues are because they are bored, and others are from outside influences that may be keeping them from proper rest. The male students also tend to be disengaged in class unless they respect and have a connection with the teacher. In the lower level classes, boys are overall unprepared for class. Participants 2 and 4 even stated that they believed that males are in trouble about four times more than girls and it is because they lose focus which causes them to be disruptive. Boys can also be very physical with each other as it is a way that they show they care for one another. However, teachers can sometime deem that as bullying if they do not understand

boys. All participants stated that young men want to touch, grab, slap, and wrestle with each other not to be mean but to show each other they care. Males being physical is their way of showing each other that they belong to the group and that they are accepted among others.

Female discipline. Female students tend to get in trouble for the same issues no matter the age. All participants agreed that talking and using technology in class were the largest contributors to female discipline issues. Girls tend to use technology to not only send messages, but also as a cyber bullying technique that causes major issues if not taken care of in a timely manner. Drama being instigated and gossiping are also major tactics that lead to discipline issues. Many of the major dress code infractions come from the girls who want to push the limits and can cause major issues in single gender schools with bullying and then in coeducational settings as boys begin to act out more to impress the girl that is dressed inappropriately.

Learning Tendencies

The learning tendencies of students emerged from the research. As the participants continued to describe why they use particular teaching methods and discipline strategies there was many descriptions of how students learn that influenced the methods of teaching. Females tended to learn in different ways than males. This data could be further pursued in another study as the researcher found that teaching methods and discipline strategies were heavily influenced by student learning tendencies.

Female learning tendencies. From teacher perceptions, female students tended to be auditory learners. When covering information in class, females understood after the teacher explained it once instead of their male counterparts that needed the information to be stated multiple times. Participants 1 and 4 stated that females in general look at the big broad picture and listen for details to determine what is important from what is not. Girls can deal with the

abstract in a lecture whereas boys need concrete information. Females were stated to be better at adaptation in the classroom regardless of teaching methods. As the teacher presented the material in various formats, females were more eager to try new things and be more involved with new concepts. Participants 1, 3, and 4 discussed how a higher percentage of female students worked harder to complete assignments. They also discussed how females were more apt to please the teacher and complete tasks fully and on time even if they disliked or disagreed with the assignment or the teacher.

Female students participated more in single gender classes. Participants 1, 2, and 4 discussed how girls were able to prioritize what was presented into categories of what was important as opposed to filler. The female students were able take more precise notes which helped prepare for assessments. Female students were also stated to avoid careless errors and learn from their mistakes, so they do not make them multiple times. Errors were avoided as female students checked their work. When asked to review their work, they were more apt to follow instructions and spend extra time on their assignments.

Participants 1, 2, and 3 stated that females developed skills using styles that focused on using detail-oriented methods of knowledge attainment. Educational courses challenge students to learn and work hard in many different areas. Females have an instinctive brain function that allows them to focus on the important details. In single gender environments, females tended to be more expressive and were more willing to try new things without fear of failure. Female students in a single gender environment were also more expressive in classes and highly engaged in STEM (science, technology, engineering, and mathematics) courses that are traditionally dominated by males. The single gender environment gave females the freedom from failure to

try new things and explore alternatives that may have not been presented to them in coeducation settings.

Male learning tendencies. The four participants agreed that males can be restless, especially in coeducation environments. Males tend to learn in more of a black and white perspective as they are not as willing to look deeper into the meaning unless prompted and reminded to do so. There are some that are not the norm and go above and beyond, but they are usually found in honors and advanced placement courses. There tends to be an apathetic attitude towards education amongst males in the coeducation and single gender environments. This has led to a depression in the quality of work. Participants 1 and 3 described how some students, even given detailed instructions of how to get an A on an assignment, would still not meet the requirements needed to gain the grade. The male students would choose to do less work for a worse grade simply because of apathy in the classroom.

Participants 1, 2, and 4 discussed how the students only prioritized what the teacher was empathetic about. If the teacher paid attention to details, not only in his work but also how he carried himself and his dress, then the students would, as a whole, raise their standard. Students need that relationship with teachers and will model the teachers they respect and feel a connection with. Males overall excelled with hands-on activities in the classroom and benefited from movement. Participants 2 and 4 discussed how males learn from doing the experiment rather than just seeing what it looks like in a book or a video. He stated that when boys get to fumble and fiddle with the concepts, they are learning about it causing it to become more concrete in their brains. The same way for students who use notecards instead of technology to study vocabulary terms. The kinesthetic and visual component of writing notecards and flipping them to study helps in the brain chemistry to remember the terms.

Boys brains need more oxygen to fire properly. Participant 4 told about a science teacher he used to work with that would allow her class to run around the building before a big quiz or test and it was mainly for her boys to get up and moving and get more oxygen to the brain. They would then come in and sit down focused and do well on their assessment. Brain chemistry can heavily play into the success or failure of students and teachers have to figure out what is best for each student and how to help him or her succeed. Participant 4 told a story from a conference he attended where an elementary school principal banned all physical contact. However, the doctor that was speaking at the conference told the principal that she was setting the students, particularly the boys, up for failure later in life because she was not allowing them to learn what appropriate physical touching consisted of. She described appropriate physical contact as a basic need for a growing boy and placed it in the same category as food or water. This is what helps male brains know what is appropriate and sets them up for success later in life as they will know how to be a good friend, great husband, and father as the brain chemistry was wired in a particular way.

This was easier for teachers in a single-gender classroom where males seemed to be more focused. Females can be a major distraction for male learning whether that may be males trying to impress or trying to attract attention. Males tend to also be visual learners and can benefit from images and problems on the board. Working problems instead of talking about them lends to the more kinesthetic learner. Participants 1, 2, and 4 discussed how to structure classes to allow movement every 20 minutes. This does not have to be moving around the room, but something that lends itself to a break in the atmosphere for students to change gears and keep them engaged. The span of focus for male adolescence is very short. Males can also benefit from

extended time to respond. This includes having time to write before they respond to gather their thoughts and give every student the opportunity to gather his or her thoughts.

Coeducation Schools

There are benefits and downfalls for every type of school. Participants 1, 2, and 4 stated that even though single gender education has many advantages, the ultimate truth is the world is a coeducation environment. When students leave the single gender environment, there are times they do not know how to interact with the opposite gender as it is a very differently learning environment. Students have to realize that life is not a boys or girls club and they must treat each other differently than they did in the single gender environment. Coeducational institutions help students learn how to work with individuals that learn and think different than them to produce a better end result. Girls in coeducation schools will many times defer to the boys. This happens in the classroom where girls will do the work but let the boys be more vocal and be the so-called leader of the group. Teachers many times could get the girls engaged in the lesson and the boys would follow along and be vocal about their learning as they were trying to impress the girls and show interest in areas, they were also interested in. Participant 2 stated that if a person was in a think tank to solve problems, ultimately the coeducation classroom was better than a single gender environment. However, he also stated that when you are trying to learn something just so you can solve the problem later then he believed that single gender environments provided the greatest area for growth.

Single Gender Schools

Overall, the four participants agreed that single-gender schools allowed for more effective instruction as it was tailored to the students in the classroom. Participants 2 and 3 stated that single gender classes were outperforming coeducation classes particularly with boys.

However, participants 1 and 4 stated that losing girls in the classroom lowered male participation and created more apathy that the teacher had to address. All participants agreed that in an all-male environment, there was more freedom to take chances both for the student and for the teacher without fear of appealing to everyone and without walking on egg shells of offending someone. This gives boys an environment to perform better because of fewer distractions and they are supported to take healthy risks without fear of failure. The all-female classroom has much of the same freedom with less pressure to conform and impress the boys in the classroom.

In the single gender classroom, teachers have the ability to select appropriate materials and teach the way that their students learn best. Every student learns differently, and each class gives a different culmination of students. Therefore, teachers must be given the freedom to modify teaching strategies to meet the needs of each classroom. Having all boys or all girls helps a teacher prepare as there are learning trends that lean towards one gender over another. Students in single gender environments are more likely to engage in subjects that they tend to be weaker in. Participants 1,2, and 4 discussed how boys will excel more in subjects such as art, music, and theater where girls will do better in science and mathematics. These are areas that in a coeducational setting are dominated by the opposite gender.

Participant 4 gave an example of a student that graduated and went to college and left his room unlocked during the day the same way he had at his all boys school and came back to all of his belongings being stolen. There are downfalls to the single gender environment where boys and girls are not properly introduced with how to behave and interact with others as there is not as many people to impress and the culture is completely different. All participants agreed that single gender schools have to find ways to incorporate activities with the opposite gender to help prepare students for life outside the single gender school they are currently in. This comes with

teaching students to take advantage of everything they are offered in school but understand the application to the real world looks a little bit different.

Students in single gender environments tended to form longer lasting relationships with each other as there was less unhealthy competition. These bonds that are formed between students is something single gender schools hold as a major benefit to their institutions. In the single gender schools, students have more mentors of the same gender and opportunities to mentor others. The comradery among students and teachers and the ability to push each other without the fear of failing is what sets single gender schools apart. All participants discussed how students can be themselves and take the risks necessary to learn at a higher level and become who God has created them to be.

There are leadership positions and alternative classes in schools that students can elect to take. The one benefit of single gender schools is that those roles only exist if someone steps up and takes ownership of those roles. Participants 1, 2, and 4 discussed how areas that are generally dominated by the opposite gender will allow students to step out of their comfort zone and fill those roles to keep the areas running. Someone has to do the yearbook, be president of the class, and be the lead in the plays. Single gender schools allow opportunities for students to try something new without fear of failure and learn something that in a coeducation environment they would not have been introduced to. Participants 2 and 3 stated that it all comes down to passion. If students know there is a need for something and become passionate about it, then they will see it come to fruition. Participant 3 gave an example of some of the brightest students in school who decided to start a video gaming team and now they are one of the best teams in the country. They saw a need and their passion drove them to not only start the team, but also do it with excellence.

When hiring teachers to work in single gender schools it is critical to find educators that are great with a particular gender first and then they teach the subject. Participant 4 discussed how when he interviews and hires faculty for the all-boys school, he looks for how they interact with boys and the relationship they can build with those students. Some teachers do not have a tolerance for boys therefore making the job extremely difficult as they are always dealing with discipline issues. He mentioned how some students he has had discussions with act like perfect gentleman for everyone except one teacher and it is because they have found out how to get under her skin and it was a sort of game for them. Participants 2 and 3 added that teachers should never take themselves too seriously and just enjoy the time with the students building relationships over everything else.

Summary

Participant 2 stated, “most schools don’t ask kids anything, they just serve. They don’t care if you are vegetarian, vegan, or whatever they are just going to serve steak.” Coeducation schools offer education in this manner many times. Teachers have such large class sizes with students that learn in various ways, so information is delivered in a particular way and students are asked to conform to the teacher and learn regardless of the style. If students get bored in class and begin to act out, then they get in trouble. There is a debate whether single-gender or coeducation is better. From the data, males and females learn in different ways, for the most part, which requires varied teaching methods to meet each student where he or she is. If the classroom is structured to meet the need of the particular gender, then discipline issues will be decreased. Teachers and administrators can also correct issues in different ways as there are different methods that can be used in the single gender and coeducation environments. There are pros and

cons for both single gender and coeducation classrooms. The best environment for the student and the teacher depends on what is best for the individual.

Chapter Five

Findings, Conclusions, Implications, and Recommendations

Past research has shown that student scores greatly improve in single gender environments (Piechura-Couture, Tichenor, and Heins 2007). Many factors influence how a student learns and the clear operations of a school. However, there are clear distinctions as to how single gender schools are operated differently than coeducation schools. Teaching methods and discipline strategies are different according to the audience and the environment (Anfara & Mertens, 2008). Cultural norms change the structure of the school and the learning needs of the students in that environment. Teachers must adjust how information is presented to meet the needs of each student (Jackson, 2010). Teaching in single gender versus a coeducation classroom changes the environment which requires varied teaching methods to reach each student where they are. Discipline strategies must be modified as the way students are treated in certain situations is handled accordingly to the environment and the severity of the infraction. Some discipline infractions can occur because of the classroom environment. Overall, students have shown vast improvement in single gender environments which supported the past research that stated that the majority of students can greatly benefit from single gender education where specialized education occurs (Kombre, Carter, Che, and Bridges 2016).

The purpose of this study was to acquire information from teachers comparing and contrasting teaching methods and discipline strategies they have used in single gender and coeducation environments. The qualitative study involved a survey, individual interviews, and a focus group of four teachers. Learning tendencies was not something that was included in the research question but rather came from the data and could be a research question in a further

research study. Chapter five presents a summary of the statement of problem, research question, discussion, conclusions, and recommendations for further research.

Statement of the Problem

History shows that schools were never intended to be coeducational in manner until budget cuts occurred. However, coeducation continues to hinder teachers as they must present material in multiple formats to meet the strengths of boys and girls separately thus leaving out one group at any given time and interfering with the learning process (Dickey, 2014). Schools have continued to sacrifice the quality of education for saving expenses all while schools continue to decline as a whole. Single gender schools have produced longevity in growth in comparison to coeducation schools that continue to decrease in academic strength (Ogden, 2011).

Brain development causes males and females to learn in different ways, particularly at younger ages which causes an achievement gap as teachers are attempting to reach each student in their classroom. Experts have gone as far as describing how male and female brains develop and what they need in the classroom is almost opposite. This causes great difficulty in teaching methods that teachers use (Jackson, 2010). Students have various learning styles and respond to discipline in different ways. This study sought to determine the methods of teaching and discipline utilized by teachers in the single gender and coeducation classrooms.

Research Question

Teachers' perceptions were examined related to the following research question:

1. What are teacher and administrator perceptions on single gender education versus coeducation regarding teaching strategies and discipline techniques?

Discussion

The research question was answered through surveys, individual interviews, and a focus group that consisted of four participants. The interviews and focus group were video recorded and transcribed. The videos were also used to observe body language, as it showed how confident the teachers were with their answers. All of the responses were open coded to list the data, axial coded to group the data, and selective coded to separate out appropriate information into smaller groups. Member checks and peer debriefs were used to validate the process. The following is a brief discussion of information collected in the study.

Teaching Methods

Teaching methods in single gender and coeducation classrooms showed to have some similarities but many differences. Males need movement and kinesthetic style learning (Schneider, 2013). Teachers must be louder and incorporate movement and activities to get the students out of their seats and moving around to physically experience the content. Males also need teachers to repeat information more than once and use various forms of technology to keep them informed or they will forget what has been asked of them (Jones, 2010). Their maturity levels are, in general, lower and their brain develops differently. Using analogies whether sports, music, personal stories, or current local or world issues helps males make connections to the material and allows them to commit more information to memory. Males learn more when a prize is at the end or there is some sort of competition that drives learning.

Female students need a quieter, more relaxed environment where the teacher speaks in softer tones and makes the energy level of the class lower. Teachers usually only need to state instructions once as females usually get it the first time. Group work or individual assignments work well for females as they are great at multi-tasking so having various tasks running at once

supports learning. Females are more auditory and can benefit from presentations and the teacher giving information and doing example problems on the board. The method of the teacher presenting the information and then students having to use that information to produce a final product either in a group or individually helps females learn (Anfara & Mertens, 2018).

Single gender schools allow teachers to format lessons to meet the needs of each student as the learning is gender specific. Schools that specialize in teaching either males or females can create a culture that helps develop an environment conducive to learning for that specific gender. In coeducation environments, teachers are asked to format lessons that may reach one gender over the other whether intentional or not. Teachers can present information unintentionally that draws in one gender all while pushing another away. Therefore, students do not perform as well in coeducation environments due to teachers not being able to prepare for both genders which can cause apathy, short attention span, and one gender outperforming the other.

Discipline Strategies

When students become apathetic, discipline issues occur. In the coeducation environments, students will act inappropriately to impress each other. Males tend to have more incidents than females as they are trying to assert dominance and be the alpha male of the group. In coeducation environments, teachers have to address each situation with a similar stance bringing correction to each student. In single gender classrooms, the discipline issues are different. All male environments consist of going too far with playing with each other. Males are wired to be physical and will touch each other in a way that could be deemed as bullying if teachers do not know males and how they interact with each other. Female students tend to get in trouble for talking, gossiping, technology usage, and dress code. Therefore, discipline issues are

not as severe in the single gender classrooms and are easier to confront and solve in lieu of the coeducation environment.

Learning Tendencies

Various learning tendencies of males and females emerged from the information as teachers began to discuss why they use particular teaching methods. Males are kinesthetic and visual learners. Physical movement, hands-on activities, pictures, videos, and diagrams are important for male learners (Gurian, 2013). Instructions for assignments must also be repeated multiple times for males to understand the importance of the information. Females are more auditory learners and can adapt to various styles of instruction. Female learners tend to not need information repeated multiple times and thrive in a non-competitive and quieter classroom. Female students tend to be people pleasers and want to see others proud of their work even if they dislike the teacher or task (Anfara & Mertens, 2008).

Conclusions

All four participants in the study agreed that at least a single gender option is necessary for learning. Some schools are coeducational in nature with certain classes being single gender. The highest gains for students that close the achievement gap is single gender classrooms with teachers that understand the particular gender and know how to offer the information to meet their needs. Single gender classrooms are not as effective if there is not an excellent teacher that understands what the students need and adapt lessons to meet their needs. Single gender education may be more expensive overall, but data support that the best way to improve student learning, decrease apathy, increase test scores, and create environments conducive to learning is to put students in single gender environments.

Limitations

The data were limited as there was a small sample size and all participants taught at the same single gender school. The teachers were all male which could have provided a limitation as female teachers may think in a different way or have an alternative outlook to education settings. A sample from other schools could provide different teacher perceptions and provide a wider range of data on teaching methods and discipline strategies used by teachers in various parts of the country and different forms of education.

Recommendations for Further Study

Research into single gender and coeducation schools should continue to provide more information for teachers to fully understand the brain chemistry of males and females and how each gender learns. Single gender and coeducation environments should be further studied to determine how schools could modify environments to meet the needs for all students all while keeping a budget in mind. Teaching methods are always continuing to change and develop to meet the needs of every student. More teachers in various schools whether all-male, all-female, or coeducation need to be studied to broaden the range of participants which could modify the data by being a different culture. The culture of the school could be something that also changes how students perceive learning and the discipline strategies that are used. Other areas of the country and schools of various socio-economic levels could be studied that would broaden the range of participants and produce results that could help a larger number of individuals. Learning tendencies came out of the research as an area that drove teachers to modify teaching strategies. Student learning tendencies could be a research question to drive a future study to understand fully how students learn best which would change how teachers presented information in the classroom.

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Appendix A

Dr. Susan Whitbourne Approval

10/19/2018
To: Chad Lee

I approve the use of my blog for your dissertation and hope this email will serve for this purpose. You can cite my work with credit.

--

Susan Krauss Whitbourne, Ph.D., ABPP
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Appendix B

School Approval

To Whom It May Concern,

One of our teachers, Mr. Chad Lee, has requested permission to conduct surveys, focus groups, and interviews with a chosen group of fellow faculty at ----- . We are pleased to help with his research on different teaching strategies and discipline methods used in single sex and coed schools.

We look forward to hearing Chad present his findings once he has completed his dissertation.

Sincerely,

Appendix C

Participant Approval Form

Informed Consent Form

Title of Study

Teaching Methods and Discipline Strategies in Single Gender and Coeducation Classrooms as perceived by Teachers and Administrators

Principal Investigator

David Chadwick Lee

Doctoral Candidate, Carson-Newman University

[REDACTED]

[REDACTED]

dclee@cn.edu

Purpose of Study

You are being asked to participate in a research study. Before you consent to participate in this study, it is important that you understand why and how the research is being collected. Please read the following information and ask the researcher if you have any questions or concerns before proceeding.

Study Procedures

The following study is being conducted to gather information from teachers and administrators on effective teaching methods and discipline strategies. The researcher is concerned with the differences in male and female performance in single gender and coeducation environments. The study will collect data using three methods: Survey, one-to-one interview, and a focus group.

Survey

The survey consists of 20 open-ended questions asking about your experiences and expertise in the single gender and coeducation classroom. All questions are voluntary response as you may provide as much or as little information as you feel comfortable.

Interview

The interview will be more in-depth asking questions that are generated from the information provided in the surveys. The researcher will ask more open-ended questions asking more about teaching methods, discipline strategies, and learning styles of males and females. The interviews will be videotaped for the proper transcription of the interview.

Focus Group

The focus group will consist of more open-ended questions asked to the group about information that has been presented in the survey and interviews. Asking questions in a group setting will also allow for discussion among colleagues about the topics of teaching and learning. The focus group will be videotaped for proper transcription of the interview.

Member Checking

Following data collection, the researcher will perform member checks by asking study participants to review transcripts of their survey, interview, and interactions in the focus group. This process is to insure validity and allow the participant to make any necessary changes so the researcher will be provided with the most accurate data.

Risks

There are nominal risks in the study. You will be asked many variations of questions involving education. Questions will strictly be asked about the topic seeking information that you, the participant, deem relevant. There are no anticipated physical, psychological, social, legal, or

economic risks. However, you may decline to answer any or all questions and you may terminate your involvement and redact comments made in the study at any time.

Benefits

You will receive no direct benefit from your participation in the study, but your participation will provide further data for continued research. The researcher will collect data on teaching methods and discipline strategies in single gender and coeducation environments with the intent to provide data for continued research in what method of education meets the needs of students most effectively.

Confidentiality

For the purpose of this study, your comments will not be anonymous. However, every effort will be made to preserve your confidentiality including:

1. Assigning numbers to each participant that will be used in all research notes and documents
2. All notes, transcripts, and other identifying information will be kept in a locked file in the researcher's computer and any papers will be kept in a file cabinet locked at all times.
3. All information will be kept for at least three years following the completion of the research.

Compensation

No participant will be compensated to participate in the study.

Contact Information

In you have questions about the study, or if you experience any adverse effects as a result of participating in this study, you may contact the Dissertation Chair Dr. Tammy Barnes at tbarnes@cn.edu. If you have any questions regarding your rights as a research participant, or if problems arise which you do not feel you can discuss with the primary investigator, please

contact Carson-Newman University's Institutional Review Board to speak with Chairman Dr. Casalenuovo who can be reached at gcasalenuovo@cn.edu.

Voluntary Participation

Your participation in this study is voluntary. It is your decision whether or not to participate in the study. If you decide to participate, you will be asked to sign the consent form below. After you sign the consent form, you are still free to withdraw at any time and do not have to provide reasoning. Withdrawing from the study will not affect the relationship you have with the researcher. If you withdraw from the study before data collection is completed, your data will be returned to you or destroyed.

Consent

I _____ (Print Name) have read and I understand the provided information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without cost. I understand that I will be given a copy of this consent form. I voluntarily agree to take part in this study.

Participant's Signature _____ Date _____

Investigator's Signature _____ Date _____

Appendix D

Survey Questions

1. Gender
2. Race
3. How many years did you work in a coeducation classroom?
4. How many years did you work in a single gender classroom?
5. In a coeducation setting, did you notice a difference in learning styles of males and females? If so, please explain.
6. What teaching methods/techniques worked best for you in a coeducation classroom?
7. Were there any distinct differences to you in how males and females perceived information and performed on assignments in a coeducation environment?
8. Were there subjects in a coeducation setting that one gender performed better at? If so, please explain.
9. Were there subjects in a single gender setting that one gender performed better at? If so, please explain.
10. In a single gender classroom, did you notice a difference in learning styles with the students in the classroom?
11. What teaching methods/techniques work best for you in a single gender classroom?
12. In the single gender classroom, what teaching strategies do you implement?
13. In the single gender classroom, have you noticed if there are certain teaching strategies that work better than others? If so, please explain.
14. In the coeducation classroom, is there a gender that tends to get in trouble more? If so, what gender?

15. In the coeducation classroom, what do males tend to get in trouble for the most? What discipline strategies have you implemented to prevent/correct those actions?
16. In the coeducation classroom, what do females tend to get in trouble for the most? What discipline strategies have you implemented to prevent/correct those actions?
17. In the single gender environment, what are the most common discipline problems and how were they prevented/corrected?
18. In your professional opinion do males perform better in single gender or coeducation settings? Why?
19. In your professional opinion, do females perform better in single gender or coeducation settings? Why?
20. In your professional opinion, is learning more conducive in the coeducation or single gender environment and why?

Appendix E

Interview Questions Participant A

1. You mentioned that boys are more visual and hands-on learners can you expand on that?
2. How did girls learn best in that coeducation environment?
3. How did you modify teaching strategies in the coed classroom to meet the individual needs of each student? You talked about kinds of learning styles how do you modify that to meet the needs of every single student?
4. How did you begin to understand what each student needed academically?
5. Does the passion and interest in a particular subject come instinctually to the student, from the teacher, or is it a mixture?
6. You mentioned after 20 minutes having physical movement for boys, can you please expand on that and how you see that done in the classroom?
7. In the coed classroom, discipline can be difficult. You mentioned that is depends on the teacher. What can the teacher do to minimize discipline issues?
8. You mentioned technology issues being a major concern for boys and girls, why are students so engrossed in technology and what policies help prevent it from being used inappropriately?
9. Should all schools go to single-gender environments? Why or why not?
10. What was your biggest challenge and biggest success in the coed environment and the single gender environment?

Appendix F

Interview Questions Participant B

1. You mentioned that females are more auditory and adaptive can you expand on that?
2. You mentioned that boys were restless in the coed classroom, was there anything that could be done to engage them more?
3. Mixed groups by gender was mentioned as an effective teaching method for you, who do you feel did more of the work in those groups and why?
4. Can you speak to the apathy that you mentioned in the single gender classrooms and how does that differ from the boys who were very “black and white” in the coed classroom?
5. You mentioned that lots of movement was a teaching method that works best for all boys, why is that and how does it help?
6. You mentioned being genuine and consistent with all-boys otherwise they will take advantage of you, does that mean relationships is a major component of a well-run classroom?
7. It seems that in the coed classroom that males wanted to disengage and become invisible. Do you think that is a current problem in coed schools that may be causing many of the issues in schools?
8. How does single-gender classes allow for better instruction all while lowering participation and increasing apathy?
9. Should all schools go to single-gender environments? Why or why not?
10. What was your biggest challenge and biggest success in the coed environment and the single gender environment?

Appendix G

Interview Questions Participant C

1. You mentioned females learning through detail-oriented methods of knowledge attainment, can you expand on that?
2. You mentioned creating diverse groups, do you believe exposing students to others that learn different from them helps them become a better learner? If so, how does that happen?
3. You mentioned online structure as a teaching method that worked well in single gender environments. What does that consist of and how does it help students succeed?
4. Do the same teaching strategies work in the single gender and coeducation settings?
5. Can you expand on what you mean by horseplay and how does group environments decrease these actions?
6. Why do single gender environments see an increase in male focus?
7. How is learning more conducive in the single gender environment?
8. What are some teaching methods and discipline strategies that you have seen used in a single gender environment that could not be used in a coed environment?
9. Should all schools go to single-gender environments? Why or why not?
10. What was your biggest challenge and biggest success in the coed environment and the single gender environment?

Appendix H

Interview Questions Participant D

1. Why do you believe girls participated more in single gender environments?
2. Did girls in coed environments respond well to competition-based activities and movement or were there other activities that they responded best to?
3. You mentioned that the male students in coed classes only prioritized the things that you were emphatic about. Can you expand on that?
4. How would you describe an authentic assessment?
5. What are audio cues and key colors and how did they help males learn?
6. Why do boys require constant monitoring and movement by the teacher?
7. What causes boys to lose focus more and become more disruptive? How does proximity and post-it notes fix that issue?
8. Can you go into further detail of what it means that “culture eats strategy for breakfast” and how does the environment of the classroom affect learning for males and females?
9. Should all schools go to single-gender environments? Why or why not?
10. What was your biggest challenge and biggest success in the coed environment and the single gender environment?

Appendix I

Focus Group Questions

1. What are some of the most crucial teaching methods to implement in a single gender environment and a coed environment?
2. Boys tend to be more kinesthetic learners overall, how can teachers modify their classrooms to adapt to this learning style in both the single gender and coed environments?
3. Appropriate physical contact continued to be mentioned in the interviews and surveys, what does that consist of, how much is too much, and how do boys learn what is appropriate? Also, does this look different in single gender and coed environments?
4. Using technology can be a great tool in the classroom. How should this be addressed with a “fast food” type culture and is it causing more discipline issues in both the single gender and coed environment?
5. Boys were mentioned to be more apathetic in single gender environments while usually taking the back seat to leadership roles in the coed environment. How can this “boy crisis” be addressed?
6. Boys tend to be less distracted in the single gender environment, however, they still get in trouble. What are some discipline strategies or techniques that can be used to keep an orderly classroom and school in both single gender and coed environments?