

A Study of Effective Instructional Practices for Teaching Boys in All-Boys, Independent Schools
in Virginia

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ABSTRACT

The purpose of this study was to identify instructional practices that are effective for teaching boys in all-boys, independent schools in Virginia. Teachers' self-reported levels of preparedness to teach boys was also investigated. The study was a basic qualitative study that used a qualitatively designed survey to collect data regarding the instructional teaching practices used by teachers of all-boys, independent schools in Virginia. The reported data identified several instructional practices that align with prior research conducted by Reichert and Hawley (2010b). The findings of this study indicated that active movement and hands-on, interactive learning are effective instructional practices for teaching boys. Additionally, the study indicated that teachers are prepared to teach boys, and relationships built on trust and respect are important for boys to learn.

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GENERAL AUDIENCE ABSTRACT

The purpose of this study was to identify instructional practices that are effective for teaching boys in all-boys, independent schools in Virginia. Teachers' self-reported levels of preparedness to teach boys was also investigated. For the purposes of this study, the term "instructional practice" refers to a specific teaching method used in a lesson, unit of study, or assigned task that is effective. The participants could deem the practice effective for a variety of reasons, either measurable or immeasurable, including but not limited to a boy's performance level, behavior, engagement, attentiveness, motivation, and/or overall quality of work. The study was a basic qualitative study that used a qualitatively designed survey to collect data regarding the instructional teaching practices used by teachers of all-boys, independent schools in Virginia. The reported data identified several instructional practices that align with prior research conducted by Reichert and Hawley (2010b). The findings of this study indicated that active movement and hands-on, interactive learning are effective instructional practices for teaching boys. Additionally, the study indicated that teachers are prepared to teach boys, and relationships built on trust and respect are important for boys to learn.

DEDICATION

To my husband, Josh. Thank you for your encouragement, patience, and forgiveness as I completed this journey. You believed in me even at times when I did not believe in myself.

To my daughters, Carrigan, and Charlotte. I hope to have served as a positive female role model and taught you, through this journey, that you can achieve your dreams - a career, a family, an education - if you are willing to put in the work. Never lose your drive, your heart, or your sense of purpose.

"I can do all things through Christ who strengthens me."

Philippians 4:13

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CHAPTER ONE: INTRODUCTION TO THE PROBLEM

Energetic. Competitive. Active. Playful. These characteristics are often used to describe young boys. Gurian and Stevens (2005) call this “boy energy” (p. 44). This energy is “something definable – physical, in motion, kinesthetic. Even when they are reading a book, boys are often tapping their feet or peeling the skin off their nails, or their eyes are darting about in exploratory, impulsive passions” (Gurian & Stevens, 2005, p. 44). In education, behaviors such as these can conflict with traditional teaching styles such as lecture-based teaching. Most boys struggle when required to sit for long periods of time and need an opportunity to move and explore (Vercelletto, 2015). Thus, a discussion regarding how boys learn best is warranted. This study sought to identify instructional teaching practices that are effective for teaching boys in all-boys, independent schools in Virginia. Teachers’ self-reported levels of preparedness to teach boys was also investigated. The study findings are presented to inform school leaders as to the instructional practices that are distinctly tailored to a boy’s learning and how these practices are utilized in the classroom.

Overview of the Study

This study was a basic qualitative study. A basic qualitative study is appropriate for researchers who want to explore “(1) how people interpret their experiences, (2) how they construct their worlds, and (3) what meaning they attribute to their experiences” (Merriam & Tisdell, 2016, p. 24). Participants in this study completed a survey to self-report effective instructional practices for teaching boys and identified their level of preparedness to teach boys. The survey also gathered demographic information to determine if these practices were shared among teachers at all-boys, independent schools in various grade levels and content areas.

Statement of the Problem

There are growing concerns regarding the success of boys in the classroom. In relation to girls, boys are more likely to be diagnosed with learning disabilities, such as attention deficit hyperactivity disorder (ADHD) and behavioral disorders (Gurian & Stevens, 2005). Additionally, boys are falling behind in literacy performance. Since 1992, the National Assessment of Educational Progress (NAEP) has assessed student reading performance at grades 4, 8, and 12 in both public and private schools across the nation. The most recent NAEP data, from 2019, indicated that the average reading scale score of boys in grades 4 and 8 dropped from NAEP data reported in 2017; the data for grade 12 in 2019 were not included in the publication (National Center for Education Statistics [NCES], 2020). According to NAEP data, the average reading scale score of boys in grade 4 dropped from 222 to 220 and boys in grade 8 dropped from 267 to 263 from NAEP data reported in 2017 (National Center for Education Statistics [NCES], 2020). Additionally, female students have scored higher than male students on every administered assessment since 1992 (National Center for Education Statistics [NCES], 2020). Whitmire (2010) suggested that boys who fall behind in literacy may be able to progress in elementary and middle school but will begin to falter in high school and college if they lack strong reading abilities. The NAEP (2020) reported that since the year 2000, the college enrollment rate for females has consistently surpassed the enrollment rate for males. Men comprise less than 44 percent of the college population (Gurian & Stevens, 2005). The increased numbers of boys being diagnosed with ADHD, receiving disciplinary action, underperforming in literacy, and being underrepresented in college calls for educators to investigate how to better support boys in the academic classroom setting.

Considering the concerns that face boys, schools need to facilitate the outcomes that will improve a boy's classroom experience. Research has shown that boys respond positively to certain instructional practices. When teachers utilize these practices in their classrooms, boys are more likely to be engaged, attentive, and put forth effort (Reichert & Hawley, 2010a). However, it is not enough for the teachers to know these practices. Schools need to provide "both personal and professional development time to compare, demonstrate, and reformulate teaching approaches" (Reichert & Hawley, 2010b, p. 239).

Purpose of the Study

The purpose of this study was to identify instructional practices that are effective for teaching boys in all-boys, independent schools in Virginia. Teachers' self-reported levels of preparedness to teach boys was also investigated. Data were analyzed to determine if teachers identified effective instructional practices for teaching boys that align with prior research. The results of these findings could assist in determining if common instructional practices are shared among teachers at all-boys, independent schools and how these practices are utilized to support a boy's learning.

Justification of the Study

This study sought to identify effective instructional practices for teaching boys in all-boys, independent schools in Virginia. While the education of all children is important, "to realize the potential of boys and girls requires acknowledging the distinctive ways each may respond to instruction" (Reichert & Hawley, 2010b, p.240). Every child is unique but this "should not blind us to the fact that gender is one of the two great organizing principles in child development – the other principle being age" (Sax, 2017, p. 8). This study did not assume that boys as a group are homogeneous. It recognized that even within a given population of boys

some will respond differently to instruction than others; however, it did seek to expand upon research that shows boys benefit from certain instructional practices, such as game-playing activities, active movement, competition and teamwork, and student-generated products (Reichert & Hawley, 2010b).

The emphasis on the success of boys in the classroom comes in response to efforts made to support girls. For decades, girls were underrepresented in mathematics, technologies, and science classes which were perceived “by many people as ‘masculine’ fields of study” (Bank et al., 2007, p. 246). In order to support girls and help them succeed in these fields, changes were made to the educational system. Gurian and Stevens (2005) stated,

specifically, we brought more verbal functioning to our math and science classes, trained teachers to use more writing and group conversation in teaching those subjects, changed our testing of those subjects to include more explanative and discursive essay answers, and developed new ways to encourage our girls at home that fit their natural need for verbal encouragement. (p. 62)

If these changes were made to better support girls who were underrepresented in these fields of study, then there is a question as to what changes can be made to better a boy’s experience in the classroom? How might certain instructional practices help boys who are underperforming in schools?

Research Questions

This basic qualitative study sought to understand instructional practices that are effective for teaching boys. To that end, data were collected from teachers at all-boys, independent schools in Virginia through the use of a qualitatively designed survey instrument. The following research questions guided this study:

1. What do teachers at all-boys, independent schools in Virginia report as effective instructional practices for teaching boys?
2. What are teachers' self-reported levels of preparedness to teach boys?

Conceptual Framework

A study conducted by Reichert and Hawley (2010b) in 2007-2008 asked teachers in all boys schools in various countries across the globe “to narrate clearly and objectively an instructional activity that is especially, perhaps unusually, effective in heightening boys’ learning” (p. 252). Teachers perceived that the lesson was effective based on the boys’ engagement, attentiveness, and satisfactory performance. From these narratives, Reichert and Hawley (2010b) identified distinctive features as to what is effective teaching. Lessons that were perceived as effective were ones that included:

1. Student-generated products
2. Game-playing activities
3. Active movement
4. Role-playing and performance
5. Open inquiry
6. Competition and teamwork
7. A dramatic or surprising element

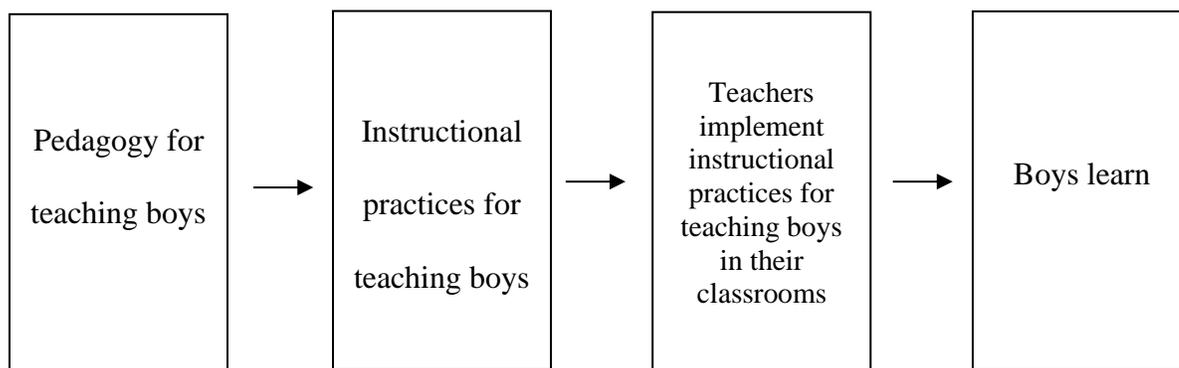
Some of these features may overlap in a given lesson. For example, one teacher reported using a horse-racing game as a comprehension exercise. Students worked in pairs to answer questions one at a time, which were checked by the teacher, in order to race to the board and move their horse/postcard forward. This one lesson incorporates elements of game-playing, active movement, and competition and teamwork. Reichert and Hawley (2010b) also found that

teachers reported effective lessons that included personal realization, meaning these lessons “brought to clear consciousness matters of deep personal importance, clarifying and energizing boys’ awareness of realities and values beyond what might be expected or required in school” (p. 137). This identifying factor is isolated from the above list since it cannot be directly tied to an instructional practice and is more determined by a boy’s personal experiences.

The conceptual framework (see Figure 1) for this study was created by the researcher with the belief that if research supports effective instructional practices for teaching male students then teachers of all-boy, independent schools should be able to identify these practices within their instruction. It adopts the notion that if teachers use the appropriate instructional practice, boys will be successful. This study focused on the connections illustrated by the conceptual framework guiding this work.

Figure 1

Conceptual Framework – The Relationship and Impact of Instructional Practices for Teaching Boys



Definition of Terms

To direct this work, the following terms were identified and defined:

Coeducation is the joint education of both sexes, male and female, at the same institution and in the same classes. The term *coed* will be used synonymously with *coeducation*.

Gender is the behavioral, cultural, or psychological traits typically associated with one sex (Merriam-Webster Dictionary). In this study, *gender* will refer to the role, behaviors, and socially constructed characteristics of a boy/male or girl/female within a given society.

Instructional practice refers a specific teaching method used in a lesson, unit of study, or assigned task that is effective. The teacher may determine if the method was effective by the students' engagement, attention, motivation, performance level, and/or quality of work. In this study, the term *instructional practice* will be used in addition to *instructional strategy* to refer to a specific method a teacher uses in his/her classroom to directly impact the overall performance of boys in their classrooms, including, but not limited to, academic and behavioral.

Instructional strategy refers a plan of action that is implemented by the teacher in order to achieve a learning goal.

Relational gesture is a feature within a relationship that has an invitational and provisional quality that is essential to the success of the relationship. The *relational gesture* is intended to be received in an effort to develop trust and promote engagement (Reichert & Hawley, 2013a).

Sex refers to either of the two major forms of individuals that occur in many species and that are distinguished respectively as female or male especially on the basis of their reproductive organs and structures (Merriam-Webster Dictionary). In this study, *sex* will refer to the biological traits of a person that would distinguish them as boy/male or girl/female.

Single-sex education is education at the elementary, secondary, or postsecondary level in which males or females attend school exclusively with members of their own sex (Mael et al., 2005, p. ix).

Limitations/Delimitations

Limitations and delimitations are used to describe the boundaries set for a research study. While limitations are aspects of the study that the researcher cannot control, delimitations are decisions or choices the researcher has made during the research process.

Limitations

The limitations of the study included the impact of the COVID-19 pandemic on school schedules and the psychological state of teachers during the study. Some schools opted to hold in-person teaching while others instituted virtual learning. While it was not the goal of the study, teachers who chose to participate may have responded to the survey questions based on their current teaching situation rather than generalizing their experiences. Additionally, the ramifications of the COVID-19 pandemic on the educational system could cause stress, anxiety, and depression in some teachers. Some study respondents may have responded more positively or negatively to the survey due to the participants' mental and emotional health associated with their COVID-19 experiences.

Participants of the study were teachers who work at an all-boys, independent school in Virginia. The sample of schools included boarding schools, military schools, and schools with a religious affiliation. Participants' experience of teaching students within these environments was limited to those families who can afford to send their son to an independent school. The cost of the schools was beyond the control of study; the population of students who attend the independent schools was reflective of their family's financial resources. Furthermore, boys who attend independent schools do so because of their interest and/or their parents' interest; it is a choice. Thus, the population of boys who teachers within this study have contact with was a

direct reflection of the family's preference or the boy's preference of an all-boys, independent schools versus other educational options.

Participation in this study was voluntary, and teachers who elected to respond may have more motivation or interest in the topic matter; therefore, their responses may be different than those teachers who elect not to respond. According to Merriam and Tisdell (2016), "because human beings are the primary instrument of data collection and analysis in qualitative research, interpretations of reality are accessed directly through their observations and interviews" (p. 243). Thus, those teachers who chose to participate responded to the survey based on their own perspectives and interpretations of their reality within an all-boys school. Finally, since the survey included self-reported measures, some participants may not have responded honestly or may have felt inadequate to respond based on their experiences; however, to limit or reduce such effects, surveys were given online, and participants were not required to identify their name or school of employment.

Delimitations

The delimitations of the study included surveying teachers at all-boys, independent schools that are members of the Virginia Association of Independent Schools (VAIS). At the time of this study, there were nine schools that met this criterion, including: Benedictine College Preparatory, Blue Ridge School, Boys Home of Virginia, Fishburne Military School, Fork Union Military Academy, Hargrave Military Academy, Seven Hills School, St. Christopher's School, and Woodberry Forest School. Participants were limited to these schools since they are classified as all-boys schools, and the research questions relate directly to teachers who teach within an all-boys school. Reichert and Hawley (2010b) have conducted research of boys in schools, and they have stated that surveying all-boys schools was necessary to "see the teaching of boys in the

clearest possible relief – that is in schools for boys” (p. xix). The experiences of teachers were impacted by the population of students they teach. Hence, the scope of responses was narrowed to only those teachers that work in the above specified independent, all-boys schools. While the prospective participants were somewhat limited, the data could potentially be transferable to other schools and school districts.

This study took place in the fall of the 2020-2021 academic school year, and data were collected at one point in time. The study was not designed as a longitudinal study in which data collection from teachers would continue throughout their experience of working in all-boys schools. Participants responded to the study survey that included mostly open-ended responses, which can elicit a variety of responses, some that are more descriptive than others. Additionally, participants were not limited to grade level or subject taught. As a result, survey responses may be reflective of the teacher’s unique experience in a certain grade level or the subject that he/she teaches.

Organization of the Study

Investing how boys learn best is a relevant topic for educational research. This study sought to identify instructional practices that are effective for teaching boys. This study is organized into five chapters. Chapter One contains the following sections: (a) overview of the study, (b) statement of the problem, (c) purpose of the study, (d) justification of the study, (e) research questions, (f) conceptual framework, (g) definition of terms, and (h) limitations/delimitations. Chapter Two provides a review of literature related to this study— instructional practices for teaching boys. This chapter includes: (a) search procedures, (b) history of single-sex schools, (c) criticisms of single-sex schools, (d) benefits of single-sex schools, (e) leadership in single-sex schools, (f) boys and single-sex schools, (g) relational teaching of boys,

(h) instructional practices that benefit boys, and (i) literature review summary. Chapter Three explains the methodology used in this study and includes the following sections: (a) purpose of the study, (b) research design and justification, (c) research questions, (d) sample and site selection, (e) data collection procedures, (f) data gathering procedures, (g) instrument design, (h) instrument validation, (i), data treatment and management, (j) data analysis techniques, (k) study timeline, and (l) methodology summary. Chapter Four presents and analyzes the collected data in this qualitative study, which includes the sections: (a) data report and description, (b) emergent themes, and (c) summary of the data. The reported data in this chapter address the research questions that guided this study. Lastly, Chapter Five discusses the findings in this study and presents conclusions drawn from the data and is organized by (a) summary of findings and related literature, (b) implications for future practice, (c) recommendations for future studies, and (d) reflections.

CHAPTER TWO: LITERATURE REVIEW

Single-sex schools have been utilized throughout history. “Although coeducation has been the standard for public education in the United States for most of the last one hundred years, single-gender schools have existed historically in the form of private schools for girls only or boys only for many years before public education was widely available” (Gurian & Stevens, 2005, p. 194). Changes in legislation have allowed for the implementation of single-sex schools and classrooms in public education; however, separating students based on gender elicits mixed reactions. There are proponents and supporters of this educational construct. This literature review did not seek to argue whether one environment is better than another. Rather, it presented literature that suggested a boy’s classroom experience is impacted when the opposing gender is absent and specifically identifies instructional practices that benefit boys.

Search Procedures

The literature used for this study was found by searching the Virginia Tech University Libraries interlibrary databases as well as public Internet search engines. Electronic databases such as Ebscohost, ERIC, and JSTOR were used to locate scholarly literature for review and consideration for this study. The total number of articles searched was 85. Although more recent articles (within the past 12 years) were favored, scholarly articles older than 12 years were utilized in order to give a comprehensive review of the history of single-sex education. Various combinations of keywords were used in the database searches, including history of single-sex education, single-sex education, male achievement in single-sex schools, and best practices for boys.

History of Single-Sex Schools

Single-sex education is “education at the elementary, secondary, or postsecondary level in which males or females attend school exclusively with members of their own sex” (Mael et al., 2005, p. ix). In the United States, public education began in colonial America with single-sex environments, admitting only boys while girls typically received informal schooling or schooling in the home (Joyner, 1996). Nevertheless, with the exception of large urban cities such as Baltimore, New York, and Philadelphia, coeducation in public schools was the most common form of practice by the end of the 19th century (Brown & Russo, 1999). Coeducation was cheaper to operate and required fewer facilities and personnel (Anfara & Mertens, 2008). An 1890 survey of 628 U.S. school superintendents reported only 41 single-sex schools (Joyner, 1996). Independent and Catholic schools offered single-sex alternatives to public education, such as the Collegiate School for boys, which was founded in 1628 in New York City or the Ursuline Academy for girls, which was founded in 1819 in Boston, Massachusetts (Collegiate School, n.d.; Ursuline Academy, n.d.). Comparatively, single-sex schools were fewer in numbers than coeducational settings and often limited to the wealthy who had the financial means to pay for private schooling.

In the 1960s and 1970s gender-specific courses became more prominent in public schools (Cable & Spradlin, 2008). Single-sex programs, such as home economics classes for girls and woodshop for boys, were implemented to prepare students for the gender specific roles they would assume as adults (Pollard, 1999). The women’s movement challenged the inequity of single-sex classrooms and brought attention to the need for equality in education during these years. Instructional practices that further perpetuated gender stereotypes were scrutinized. The school environment was believed to be misogynistic in nature; boys and girls were tracked for

certain courses and the curriculum was gender biased, favoring boys over girls (Bank et al., 2007). Women began to view single-sex education as “a system of male privilege and female subordination that would no longer be tolerated in an enlightened society” (Bank et al., 2007, p. 217). The attention surrounding single-sex education came to a head when the U.S. government passed the Title IX act of 1972, which prohibited sex discrimination in federally funded education programs or activities (U.S. Department of Education, 2014). This education reform sought to provide equal access to all students in order to achieve academic excellence. While private institutions were exempt from this legislation, these schools experienced a decline in enrollment during this time. Bank et al. (2007) stated that 64% of American independent schools were single-sex in the 1960s but that percentage dropped to 34% by the mid-1970s.

After the implementation of Title IX, some public school systems across the country tried to establish single-sex programs in the 1990s, but many faced opposition from the courts (Riordan et al., 2008). For instance, in 1991, plans to open three all-Black male academies in Detroit, Michigan were challenged in *Garrett v. Board of Education of the School District of the City of Detroit* (1991) (Brown & Russo, 1999). The Detroit Board of Education attempted to establish these academies in order to “remedy educational problems encountered by Black males in public schools and society in general” (Brown & Russo, 1999, p.151). According to *Garrett v. Board of Education of the School District of the City of Detroit* (1991), the academies would serve 250 boys in preschool through Grade 5 and offer special programs that taught African and African-American history, provide individualized counseling, require student uniforms, and emphasize male responsibility. The controversy was fueled when a parent tried to enroll her daughter into one of the purposed academies and was denied acceptance. A federal court ruled in favor of the female applicant, claiming that denying her acceptance violated the Equal Protection

Clause of the Fourteenth Amendment (Brown & Russo, 1999). The court also claimed that the “district fell short of demonstrating that excluding girls was substantially related to achieving its educational objectives” (Brown & Russo, 1999, p. 152). As a result, the academies never opened, but the question of the legality of single-sex schooling in the United States continued.

In 2001, the U.S. Congress passed the No Child Left Behind Act (NCLB) in hopes of closing the achievement gap. As part of NCLB, school districts were allowed to use funds to offer single-sex elementary and secondary schools, classes, and extracurricular programs if they met certain requirements (Riordan et al., 2008). This new legislation sparked numerous inquiries regarding the legality of single-sex classes in compliance with the previously enacted Title IX of 1972. In 2006, the U.S. Department of Education’s Office for Civil Rights responded to these inquiries by issuing “guidelines explaining how school districts could offer single-sex classes consistent with applicable law” (U.S. Department of Education, 2014, para. 7). These guidelines sought to clarify the pathway schools could take if interested in providing single-sex opportunities. According to the U.S. Department of Education (2014), a non-vocational elementary or secondary school may offer a non-vocational, single-sex class if it can:

- Identify an important objective that they seek to achieve by offering a single-sex class;
- Demonstrate that the single-sex nature of the class is substantially related to achieving that objective;
- Ensure that enrollment in the single-sex class is completely voluntary (through an opt-in, rather than an opt-out, process);
- Offer a substantially equal coed class in the same subject;
- Offer single-sex classes evenhandedly to male and female students;

- Conduct periodic evaluations at least every two years to ensure that the classes continue to comply with Title IX;
- Avoid relying on gender stereotypes;
- Provide equitable access to single-sex classes to students with disabilities and English language learners; and
- Avoid discriminating against faculty members based on gender when assigning educators to single-sex classrooms. (para. 4)

There are separate regulations that apply to public, non-vocational, single-sex schools, which are legal according to 34 C.F.R. § 106.34(c) of Title IX as long as the district provides “students of the excluded sex a substantially equal single-sex school or coeducational school” (Cornell Law School, 2006, Section C, “Schools,” para. 1). Due to these differing regulations, The National Association for Single-Sex Public Education (NASSPE) suggests the process for establishing single-sex schools in public school districts is less complex than establishing single-sex classes within coeducational schools (NASSPE, 2016).

Since the implementation of NCLB, single-sex education in the United States has gained popularity. In the fall of 2003, there were 20 single-sex public schools; the number of schools grew to 80 by the fall of 2007 (Riordan et al., 2008). According to the NASSPE, there were around 500 public schools in the United States that provided single-sex opportunities during the 2011-2012 school year; of those schools, 390 were coeducational buildings that offered single-sex classrooms (NASSPE, 2016). Furthermore, Education Week (2017) reported the United States had 283 single-gender public schools during the 2014-2015 school year. Of these schools, 170 of them were all-boys and 113 of them were all-girls (Education Week, 2017). The article authors did note that their data conflicted with data reported by the U.S. Department of

Education, which indicated more than 1,000 single-sex public schools that same year. This discrepancy is a result of excluding vocational schools, juvenile-justice facilities, and alternative, special education schools from their analysis (Education Week, 2017). In the private sector, a 2013-2014 report from Broughman and Swaim (2016) for the U.S. Department of Education found that 4%, or roughly 1,300 schools, of private schools in the United States were single-sex (Broughman & Swaim, 2016). Although the number of single-sex classrooms in coeducation schools and independent schools has increased in recent years, opposition to single-sex education remains.

Criticisms of Single-Sex Schools

Proponents of coeducational schooling believe boys and girls learn best together. The American Council for Coeducational Schooling (ACCES) is a non-profit organization that seeks to promote and improve coeducation. The organization believes coeducational schooling provides more opportunities for students to interact with various personalities and perspectives, prepares students for the diversity of the workplace, and establishes respectful and positive relationships between the genders (ACCES, n.d.). While organizations such as the ACCES identify several advantages to coeducational schooling, there are additional claims as to why single-sex schooling is detrimental to students of both genders.

Even though the number of single-sex public schools is increasing, critics worry that segregating learning environments based on gender will promote gender stereotypes. Halpern et al. (2011) state that single-sex schools perpetuate the disparity between males and females, create environments that lack diversity, and are ineffective in improving student academic performance. In the article, *The Pseudoscience of Single-Sex Schooling*, Halpern et al. (2011) claim there is no solid research that proves “single-sex education improves student’s academic

performance, but there is evidence that sex segregation increases gender stereotypes and legitimizes institutional sexism” (p. 1706). The study is thought to have had a significant influence on education and the decision making of educational leaders. One such example of the Halpern et al. (2011) study’s influence includes the failed attempt to open two charter schools in Madison, Wisconsin by Kaleem Caire, President and CEO of the Urban League of Greater Madison. The two planned schools—one for boys and one for girls—were to be named Madison Prep and were intended to serve the minority community. In order to gain funding for the project, Caire had to submit scientific evidence supporting single-sex education to the Wisconsin Department of Public Instruction (Ward, 2012). The timing of Caire’s charter school request coincided with the publication of the Halpern et al. (2011) study. Caire believes funding for his project “wasn’t approved because it got bogged down in people’s philosophies about what’s good and what’s not good” (Ward, 2012, par. 7). According to Ward (2012), Caire indicated the basis for developing the schools was an emphasis on the social aspect of adolescent learning rather than brain research. The plans for the two schools were denied by the Madison Board of Education.

A second debate surrounding the advantages of single-sex education is the notion that boys and girls learn differently due to differences in their brains. Psychologist Dr. Leonard Sax believes boys and girls are wired differently effecting how they hear, see, and respond to learning styles. These differences are also visible in autonomic function adapted from the work of Sax (2006) as seen in Figure 2.

Figure 2

Comparison of the Autonomic Nervous Systems of Boys and Girls

	Girls	Boys
Stress response is influenced more by the . . .	Parasympathetic division of the autonomic nervous system	Sympathetic division of the autonomic nervous system
Primary neurotransmitter is:	Acetylcholine	Norepinephrine
Primary humoral factor is:	Acetylcholine	Adrenalin
Activation of the system often results in:	Dizziness, mental slowing or "freezing" "I just couldn't think—or even move!" "I felt paralyzed."	Sharpened senses, arousal, excitement "I've never felt so alive."
Activation of the system is experienced as:	Stressful, unpleasant, even nauseating	Thrilling, arousing— "Let's do that again!"

Note: From "Six Degrees of Separation: What Teachers Need to Know about the Emerging Science of Sex Differences," by L. Sax, 2006, *Educational Horizons*, 84(3), p. 192.

Based on these findings, Sax (2006) believes that when young males "are exposed to threat and confrontation, their senses sharpen, and they feel a thrill. When most young girls are exposed to such stimuli, however, they feel dizzy and 'yucky'" (p. 192). The study's findings imply that boys will respond better to teachers who speak loudly with clear, direct instructions while girls prefer soft voices coupled with terms of endearment (Sax, 2006). Neuroscientist Lise Eliot disagrees with these claims. Eliot (2013) cites research that suggests "gender differences in hearing, vision, and autonomic nervous function are modest" (p. 363) and proponents of gender segregation have exploited these minute differences to create a false pretext. She fears that these pseudo-biological claims will have a negative influence on boys' and girls' self-perceptions and create fixed gender roles when in fact children's brains are highly malleable—a notion that should be instilled and promoted by schools so students can develop their self-efficacy as learners (Eliot, 2013).

The conflicting research regarding gender brain difference has also made an impact in the courts. In *Doe v. Wood County Board of Education* (2012), a mother, with support from the American Civil Liberties Union (ACLU), filed an action against Van Devender Middle School in Parkersburg, West Virginia. The middle school offered gender-segregated classes for reading, mathematics, social studies, and science. The mother, whose three daughters attended the school, alleged “that the single-sex classes at [Van Devender Middle School] violated the Equal Protection Clause of the Fourteenth Amendment and Title IX” (*Doe v. Wood County Board of Education*, 2012). While the court disagreed with her claims, it did rule that the school district could not solely offer an opt-out system to families who prefer a coeducational setting. To ensure that the program is completely voluntary, the school district must gain affirmative consent before placing students in single-sex classrooms, as required by the 2006 U.S. Department of Education regulations (*Doe v. Wood County Board of Education*, 2012). While the court’s ruling in *Doe v. Wood County Board of Education* (2012) was not based on the advantages or disadvantages of single-sex schooling, it did state:

that the science behind single-sex education appears to be, at best, inconclusive, and certain gender-based teaching techniques based on stereotypes and lacking any scientific basis may very well be harmful to students. Even Professor Salomone, the expert witness called by the defense, agreed with the ACLU on the issue of brain research—that it’s based on the rationale of pseudoscience—and suggested that many schools were “led astray” by the teachings of Dr. Leonard Sax. Professor Salomone served as an expert witness for the defense not because she agreed with the gender-based teaching techniques, but because she felt that the individual teachers at [Van Devender Middle

School] were, in fact, not teaching students based on gender stereotype, despite the training given by Dr. Sax and David Chadwell. (Conclusion section, par. 1)

The court's statement is cautionary advice to schools who base decisions regarding single-sex schooling on brain research.

The argument that boys and girls learn differently due to differences in their brain is associated with the idea that boys and girls possess varying academic abilities. In reviewing evidence from studies of infants, children, and adults, Spelke (2005) of Harvard University investigated this claim specific to mathematics and science. Based on the review of the research, Spelke (2005) concluded that "male and female infants do not differ in the cognitive abilities at the foundations of mathematical and scientific thinking; they have common abilities to represent and learn about objects, numbers, language, and space" (p. 956). While some studies did show sex differences with complex quantitative tasks at the elementary level "because the differences emerge well after infancy, it is difficult to tease apart the biological and social factors that produce them" (Spelke, 2005, p. 953). These differences also tend to be small and can be impacted by the strategy used to solve the problem. The researcher also suggested that the assessment tool used be evaluated as a means of providing evidence for sex differences in cognitive abilities to ensure there is no gender bias within the test questions. Furthermore, the sample sizes (i.e., the number of males and females taking the assessment) should be equitable. Spelke's (2005) findings that "men and women show equal aptitude for mathematics and science" (p. 956) support Eliot's (2013) claim that the real science of gender differences disproves the belief that learning "can only be managed through fundamentally, and segregated, educational methods" (p. 375).

The potential benefits of single-sex education on student achievement have been debated in the education community. Much of this debate stems from the changes made in educational legislation. Mael et al. (2005) conducted a review of quantitative and qualitative literature for the U.S. Department of Education in response to the revisions made to Title IX by NCLB in 2001. The researchers anticipated the number of single-sex schools would increase after the revisions' implementation, and they wanted to determine the benefits and characteristics of single-sex schools in anticipation of this increase. Mael et al. (2005) released a report of their findings summary, which stated:

there is some support for the premise that single-sex schooling can be helpful, especially for certain outcomes related to academic achievement and more positive academic aspirations. For many outcomes, there is no evidence of either benefit or harm. There is limited support for the view that single-sex schooling may be harmful or that coeducational schooling is more beneficial for students. (p. x)

These findings suggest that decisions regarding single-sex or coeducational schooling ultimately rely upon individual preference.

Benefits of Single-Sex Schools

Supporters of single-sex education recognize that boys and girls possess different needs—socially, emotionally, physically, and academically—and these needs can be met more adequately in a single-sex environment versus a coeducational setting. Single-sex schools help build students' confidence because they reduce the social pressures that are often exhibited between girls and boys (Hunter, 2016). There is less of a need to impress the other sex so students feel comfortable participating (Vail, 2002). This can encourage males and females to explore roles beyond the traditional norms that have been associated with each gender.

Additionally, single-sex schools may promote varying academic interests among males and females. A 2003 study in *Psychology of Men and Masculinity* found that males in single-sex schools were more likely to pursue studies in the humanities than their coed counterparts, an interest that traditionally has been pursued more by females (Norfleet & Richards, 2003). Conversely, females in single-sex schools have shown a greater interest in mathematics and science; these subjects that have been traditionally dominated by men. In a study conducted by Sax (2009) using data from the University of California, Los Angeles' Higher Education Research Institute, research found that girls entering college from single-sex schools were "three times more likely than women graduates of coeducational schools to report that they intend to pursue a career in engineering" (p. 10) and demonstrated a higher confidence in mathematical ability and computer skills. Single-sex schools provide the opportunity for males and females to pursue subjects without feeling self-conscious about their interests.

Principals and teachers have also reported benefits to single-sex schooling. Riordan et al. (2008) conducted a descriptive study of single-sex public schools for the U.S. Department of Education. Their study included surveys of principals and teachers in 19 of the 20 single-sex schools that were operational in fall 2003. Results of the surveys found that principals and teachers "perceived that the main benefits of single-sex schooling were decreased distractions to learning, improved student achievement, and the opportunity to address the unique learning styles and interests of boys and girls" (Riordan et al., 2008, p. 24). Additionally, Stotsky (2012), a professor of education reform at the University of Arkansas, compared data of single- and mixed-gender classes in two public schools. Using Arkansas state's annual assessments of literacy, the study compared data for Grades 4 through 6 for the 2008-2009 school year. While

the data did not show significant academic differences between the classes, Stotsky (2012) did report that:

the teachers, parents and principals agreed that single-sex classes seem to provide less distraction for both sexes, better accommodation of each sex's interests, better learning environment for shy or quiet children, more opportunity to use examples for academic concepts and class readings tailored to each sex and more opportunity for leadership skills of each sex to emerge. (p. 35)

The perceptions of teachers and principals provide feedback regarding the climate and culture of single-sex classrooms.

Single-sex schools have also been found to benefit inner-city minority groups. For example, the Eagle Academy Foundation in New York operates six all-male schools, Grades 6 through 12 in parts of New York City and Newark, New Jersey. The single-sex public schools serve inner-city young men who are predominantly Black or Latino. According to its website, the Eagle Academy's high school graduation rate is 87% compared to the 59% national average for young men of color (The Eagle Academy Foundation, 2016). Similarly, Rebecca Stinson, principal of Claremont Academy, attributes their increase in academic performance to the implementation of single-sex classes (Patterson, 2012). The school shifted to gender-segregated Grades 7 and 8 academic subjects in 2007. The results on the Illinois Standard Achievement Test in 2011 indicated "the composite score of Claremont students meeting or exceeding state standards [was] 76% higher for 8th graders in mathematics and reading, and 82% higher for 7th graders in math, reading, and science" (Patterson, 2012, p. 37-38). Single-sex schooling provides inner-city students who traditionally come from low income, single-parent homes with a stable

environment centered around a common culture that stresses the importance of responsibility and self-confidence (Patterson, 2012).

To address the needs of students, single-gender classrooms offer an alternative to the widely standard coeducational setting. Some schools may opt to provide single-sex classrooms for several reasons such as greater academic achievement or improved behavior, but ultimately, school leaders and educators want to see if this approach to instruction could elicit more favorable outcomes in school performance compared to the coeducational classroom. Dr. Michael Gurian is the co-founder of The Gurian Institute, which uses gender research to provide professional development and training to schools, teachers, and parents. In their co-authored book, *The Minds of Boys: Saving our Sons from Falling Behind in School and Life*, Gurian and Stevens (2005) address some of the challenges faced by boys in school, analyze brain research and how this impacts learning, and offer suggestions as to how to use gender research to support boys in the classroom. Gurian and Stevens (2005) share accounts of seven pilot schools from around the United States that decided to implement single-sex classrooms in their coeducational schools.

The seven participating pilot schools reported several common benefits regarding the implementation of single-sex classrooms. Benefits for both boys and girls included decreased disciplinary referrals and improvements in academic performance on state standardized assessments. While these results are positive, Gurian and Stevens (2005) urge schools to provide adequate training to teachers in order to better understand the differences of the male and female brains and how these differences impact the delivery and form of instruction. Simply separating students by gender and providing single-sex classrooms will not produce the outcomes schools may be looking when opting for this type of student learning environment in of itself.

Leadership in Single-Sex Schools

The role of the school leader in a single-sex school is similar to that of coeducational environments with an obvious emphasis on the gender of the school. The principal needs to understand the needs of the students, whether male or female, in order to develop a pedagogy and practice that best supports their learning. During the 1990s when single-sex schooling was challenged by organizations such as the ACLU, principals were advocating for the needs of their students despite the controversy surrounding single-sex education. An example illustrating the need for educational advocates in schools can be seen in the circumstances at Martin Luther King Jr. Elementary School in Rochester, New York. The school was once considered one of the worst performing schools in New York as measured by their performance standards (Riordan, 2002). The inner-city school was predominantly African-American and Hispanic-American. In 1989, with support from her teachers, parents, and community, the principal implemented single-sex classroom settings at each grade level; there was an option for parents and students to choose a coeducational classroom if preferred. According to school records, “students in the single-sex classrooms showed greater NCE gains on the reading and mathematics tests, higher attendance rates, lower suspension rates, and higher parental participation rates than students in the coeducational classes” (Riordan, 2002, p. 22). Despite these gains, the principal was transferred to another school four years later, and single-sex schooling at Martin Luther King Jr. Elementary School was terminated. According to the research of Riordan (2002), the principal’s leadership in the school helped to “[increase] achievement and equality” (p. 23). The researchers shared that, “she energized a group of teachers by simply supporting and organizing and making possible their pedagogical desires, and she brought forth social capital from the home by the involvement of African-American and Hispanic-American fathers and mothers in the schooling

of their children” (Riordan, 2002, p. 23). The administrative decision made by Anita Boggs as principal of Martin Luther King Jr. Elementary School is an example of what principals are called to do when striving to create a positive, successful learning environment that fosters student achievement.

In order to determine why administrators are implementing single-sex schools, Fabes et al. (2015) surveyed public school principals to analyze their feelings about and experiences with single-sex schooling. Their study included 67 principals from single-sex schools and 193 principals from coeducational schools. The schools included in the study consisted of 31 elementary, four intermediary, 23 middle, three junior high, and six high schools. The researchers wanted to understand why principals support single-sex schooling and what factors play a role in the principals’ beliefs regarding single-sex education (Fabes et al., 2015).

Fabes et al. (2015) found that principals of single-sex schools implemented single-sex classes in the hopes of improving student achievement and behavior. In comparison, principals of coeducational schools reported not wanting to change their program because they were satisfied with their school’s current level of performance, or they were not convinced that the research regarding single-sex schooling was definitive enough to make such a drastic change (Fabes et al., 2015). Principals of single-sex school settings reported that their decision to implement single-sex classes was also influenced by stakeholders such as teachers, parents, and other schools who had been successful with this approach. Conversely, principals in coeducational schools reported a lack of support from stakeholders, which discouraged them from implementing such a change. Fabes et al. (2015) also found that “single-sex advocacy literature, as well as training, consulting, and conferences organized by the authors of this

literature, seem to be a driving force in the single-sex principals' attitudes about single-sex schooling" (Single-Sex Advocacy Literature and Trainings section, par. 2).

The sample of principals in the study conducted by Fabes (2015) identified several advantages and disadvantages to single-sex schooling. Principals of single-sex schools reported improvements in students' attitudes toward school, academic achievement, and behavior. The research obtained mixed results from principals of coeducational schools. While several coeducational principals did not identify any advantages to single-sex schooling, some felt that single-sex schooling would alleviate the distractions caused by male and female interactions and provide an opportunity for teachers to gear classes toward the interests of each gender (Fabes et al., 2015). Moreover, single-sex principals identified budget constraints as a disadvantage to single-sex schooling, and coeducational principals expressed concerns regarding the lack of diversity in addition to the logistical issues associated with single-sex schooling (Fabes et al., 2015). The results of this study may help guide the decision-making process of principals as the number of schools adopting single-sex schooling as a strategy for education continues to increase.

The research and reports that are emerging regarding the effects of single-sex education may influence principals to implement a single-sex program in their school. The work of Protheroe (2009) offers several suggestions when considering the implementation of single-sex instructional settings. In summary, Protheroe (2009) suggests educators implementing single-sex classes and schools:

- Comply with the revised 2006 federal regulations;
- Have a strong sense of the "why" and "how" behind the decision;
- Identify student achievement gaps that could be impacted by the change;

- Review current data of the school by gender;
- Be prepared to provide professional development to teachers;
- Consider offering opt-out options to teachers if they do not want to work in a single-sex environment; [and]
- Determine if single-sex offerings should be considered based on grade level or subject areas. (p. 34)

Protheroe (2009) also stresses the importance of having a clear, organized plan before implementing a single-sex program to ensure it is intentional and purposeful.

Boys and Single-Sex Schools

The achievement gap between boys and girls has been widening in recent years. According to the NCES (2020), girls achieve higher reading scores than their male counterparts at all three levels measured (Grades 4, 8, and 12); this trend continues to grow. In single-sex environments, teachers and principals who work with boys can tailor the pedagogy and instructional practices to meet boys' needs and preferences. In support of the differences in how boys and girls learn, Salomone (2006) states:

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)

The research further emphasizes the importance of gender equity in education. While recent efforts have been made to offer all-girls classes in science, mathematics, and technology in the

hopes of improving overall academic performance, the same efforts need to be granted to boys to improve literacy performance (Salomone, 2006).

The question of whether or not single-sex schools are more suited for boys versus coeducational environments is difficult to answer. There are various factors that can impact the success of a student. Anfara and Mertens (2008) believe that:

what seems to get lost in the search for definitive evidence is that the exact nature and benefits of single-sex education are highly contextual. School characteristics (e.g., class size, percentage of male and female teachers), teaching styles and instructional practices, and the curriculum, among other factors, all have significant effects on students' achievement. It depends on the students, their backgrounds, abilities, and needs, and it also depends on what we are looking for as the desired outcome of this initiative.

Findings about single-sex education must be viewed and interpreted with a healthy dose of caution. (p. 57)

Regardless of the implication that there is no one clear answer, some research has been conducted to determine the effects of single-sex schools on males.

A study by Coren and Luthar (2014) sought to identify problems among affluent boys of two high-performing, independent high schools; one school served all boys while the other school served both boys and girls in a coeducational setting. The researchers presumed that if single-sex classes are believed to be more suitable than coeducational environments then their data should show patterns that support this belief. The analysis of data collected by Coren and Luthar (2014) included samples of male students in Grades 9 through 11 from an all-boys, suburban, independent school and a coeducation, independent school in the city that were originally collected in the spring of 2006. One focus of the research centered on domains where

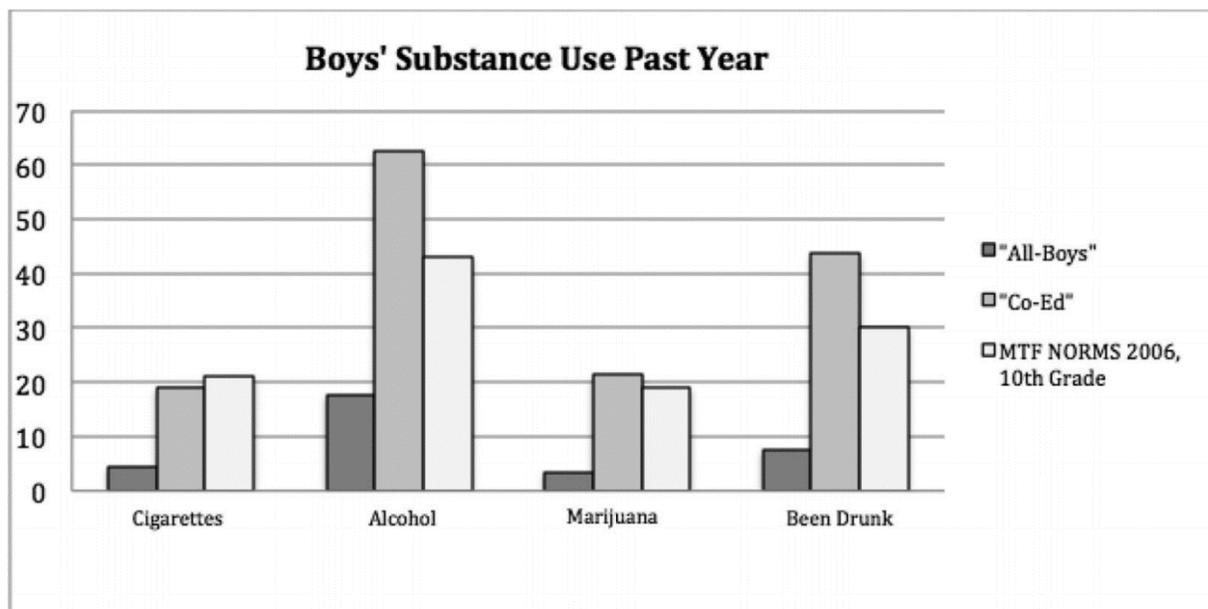
high school youth are more likely to be susceptible, which included internalizing symptoms (anxiety/depression), externalizing symptoms (rule-breaking/aggressive behaviors), substance use, envy of peers (popularity, attractiveness, and wealth), and narcissistic exhibitionism.

Another emphasis of the study was to “to gain further insights into the correlates and nature of parental criticism as a core feature of perfectionism” (Coren & Luthar, 2014, p. 932), which has been linked to narcissism since both seek approval from others in order to maintain a high self-esteem.

The research of Coren and Luthar (2014) also compared the maladjustment levels among their samples with national normative data. The data showed significant school differences in the domains substance use only. As seen in Figure 3, a larger percentage of boys in the coed school setting abused substances compared to boys attending school in an all-boys setting. Additionally, boys in both groups, all-boys and coed boys, scored four to five times higher on overall internalizing and externalizing domains than the national norms, most notably in the areas of aggression and anxiety (Coren & Luthar, 2014). Their research also found that “parent criticism was uniquely linked to internalizing symptoms among coed boys and to externalizing symptoms among all-boys” (p. 939). As predicted, negative peer relationships impacted externalizing symptoms for both groups in the study. Additionally, “envy of peers’ good looks emerged as a unique predictor of internalizing symptoms and narcissistic exhibitionism among coed boys and of externalizing behaviors among all-boys” (Coren & Luthar, 2014, p. 940). The results of study indicate that boys at single-sex schools are still at risk for maladjustment. Understanding boys’ susceptibility to these domains is important in order for schools to provide them with the support needed to overcome or manage these feelings and behaviors (Coren & Luthar, 2014).

Figure 3

Percentage of Students Reporting Substance Use Compared with National Norms



Note: From "Pursuing Perfection: Distress And Interpersonal Functioning Among Adolescent Boys In Single-sex And Co-educational Independent Schools," by S. Coren & S. Luthar, 2014, *Psychology in the Schools*, 51(9), p. 937.

While several factors such as instructional practices, peer influence, and academic ability impact student success, the behaviors boys exhibit in the classroom could determine how these factors play a role in their learning; boys are typically active, competitive, and prone to take risks (International Boys' School Coalition [IBSC], 2019). Boys tend to be more visual and spatial learners who benefit from kinesthetic activities, sensory experiences, and shorter learning periods (International Boys' School Coalition [IBSC], 2019). In today's society, boys are bombarded with mixed messages regarding masculinity and male ideals. Boys struggle to understand what it means to be a man when their "male role models are portrayed as stoic, strong, and dominant [, and] emotional sensitivity is depicted as weakness or used as comic relief" (Kang, 2018, p. 5). As boys grow and mature, it is important that they have principals and teachers who understand their needs and value their unique abilities.

Relational Teaching of Boys

Concerns regarding student achievement have caused educators to take a closer look at how boys learn best in an effort to improve their overall academic success. A study by Reichert and Hawley (2013a) included 35 middle and upper schools from six countries, including Australia, Canada, New Zealand, South Africa, the United Kingdom, and the United States. Study participants were asked to recall an effective relationship as well as an unsuccessful one. Collecting data during the 2011-2012 school year, the researchers obtained online narratives from 1,100 teachers and 1,200 boys. They also conducted focus groups and day-long workshops with boys and teachers from four of the six countries, including Canada, South Africa, the United Kingdom, and the United States (Reichert & Hawley, 2013a). Clear patterns emerged regarding the importance of relationships between the teacher and student. The research identified several relational gestures by teachers that fostered a productive, positive relationship between boys and their teachers. The gestures found in Reichert and Hawley's (2013b) study included:

- Teachers reaching out to students beyond the classroom and being available for academic support or personal conferences;
- Teachers' mastery of the content being taught;
- Teachers setting clear yet fair expectations and consistently upholding those standards;
- Taking an interest in students beyond their academic competence;
- Sharing a common characteristic with students; and
- Responding to boys' oppositional behavior with understanding and patience and refraining from personalizing these behaviors.

While Reichert and Hawley (2013b) found these identified gestures contributed to relational success, the boys' written narratives "stressed their appreciation and admiration for teachers who established clear expectations, held them to high (but attainable) standards and, through various affective gestures, convinced them that they could succeed in meeting them" (p. 51). The findings from this study imply that boys respond positively to teachers who create a working alliance with each student.

The research of Reichert and Hawley (2013a) also identified behaviors that caused a breakdown in the teacher-student relationship. In contrast to their findings regarding positive outcomes, there was a significant difference between what boys and teachers attributed to ineffective relationships. The research reported that teachers participating in the study attributed a relational breakdown to "factors beyond their professional control: irremediable learning deficits, boys' psychological problems, domestic circumstances, or other cultural factors that made it impossible to form a productive working alliance" (Reichert & Hawley, 2013b, p. 52). According to their research, when the student appeared to be unreachable, the teacher no longer strived to build a productive relationship. Conversely, boys participating in the Reichert and Hawley (2013b) study felt the relational breakdown was caused by the teacher's inability to communicate course material effectively, the perception of teachers as sarcastic or judgmental, and the teacher's inability to maintain order or a safe classroom environment. In both findings, neither teachers nor boys took personal responsibility for how their actions impacted the relationship; both groups attributed the relational breakdown to factors specific to the other party. Reichert and Hawley (2013b) concluded that "positive relationships, however valuable in themselves, don't ensure that the student will learn" (p. 53) if the teacher does not have a

mastery of the subject. Regardless, it was evident in their findings that relationships play a key role in male student performance.

Previous research by Reichert and Hawley (2013a) found that adolescent boys are relational learners. Reichert and Nelson (2016) continued to investigate this idea with a focus on boys at the elementary level. With support from IBSC, Reichert and Nelson (2016) conducted a qualitative study that included four schools from three countries – Australia, Canada, and the United States. The purpose of the study was to determine if the relational gestures identified in the previous research conducted by Reichert and Hawley (2013a) would apply to younger students. During the 2015-2016 academic year, the four participating schools conducted “individual and focus-group interviews with teachers, parents, and third through fifth-year boys, as well as surveys [to investigate] questions that paralleled those asked in the prior studies of adolescent boys” (Reichert & Nelson, 2016, Overview section, para. 3).

For Grades Kindergarten through Grade 3, student survey responses reflected the role of the teacher as the caregiver. Boys indicated that a successful relationship with the teacher resulted from the teacher being nice, offering special incentives or rewards, and demonstrating what the boys perceived as feelings of care and love (Reichert & Nelson, 2016). In contrast, boys in Grades 4 and 5 valued teachers who helped them grow as learners. The boys appreciated the freedom to develop their own ideas, express themselves creatively, and receive feedback regarding their work. Reichert and Nelson (2016) noted that there were some obvious variances in the results of this study compared to the 2013 study due to the young age of the student participants; however, a clear parallel emerged. The data showed:

that no factor is more important for the establishment and maintenance of a successful connection than the boy’s perception of the teacher’s attitude toward him. When boys

believe that their teachers care about them, see them as competent, respect their views, and desire their success, they tend to work toward fulfilling high expectations. (Reichert & Nelson, 2016, Chapter Three, para. 4)

The results of Reichert and Nelson's (2016) study, as with Reichert's previous research, demonstrate the importance of the student-teacher relationship on a boy's learning.

Instructional Practices that Benefit Boys

This study sought to confirm results of a qualitative study by Reichert and Hawley (2010b) that identified effective teaching practices that benefit boys; details regarding the Reichert and Hawley (2010b) study are also included in the *Conceptual Framework* section in Chapter One. From January to June 2008, Reichert and Hawley (2010b) partnered with the IBSC to examine successful teaching practices in 18 boys' schools in six countries across the globe. Each school included in the study was a member of the IBSC. The study reviewed responses from approximately 1,000 middle and upper school teachers and 1,500 adolescents. Teachers were asked "to identify and describe a lesson or unit, or teaching strategy or technique, they judged to have been notably successful in engaging boys and deepening their learning" (Reichert & Hawley, 2010b, p. 252). Additionally, students were asked to recall and describe a lesson that had what they considered a memorable or successful teaching practice. From these teacher and student narratives, Reichert and Hawley (2010b) identified distinctive features of effective instructional practices for boys. Lessons that were perceived as effective had characteristics that included:

1. Student-generated products
2. Game-playing activities
3. Active movement

4. Role-playing and performance
5. Open inquiry
6. Competition and teamwork
7. A dramatic or surprising element

It was also noted that all lessons had what Reichert and Hawley (2013a) refer to as a *transitive factor*. A transitive factor is an element of the lesson that:

was transitive to, or carried, the intended learning outcome. These transitive elements, often not directly associated with the lesson at hand, arouse and hold student attention and interest. That is, the motor activity or the adrenal boost of competition or the power of an unexpected surprise in the classroom does not merely engage or delight; it is transitive to (i.e., it attaches to and carries along) a specific learning outcome. (Reichert & Hawley, 2013a, p. 9)

Additionally, Reichert and Hawley (2010b) found that teachers identified the instructional practices as effective based on the boys' responses from previous lessons. Many teachers reported that their lesson was an improvement of a prior lesson that failed to engage boys. This trial and error approach allowed the teachers to adjust their practice to elicit more positive responses. Or, put another way, "resistant student behavior elicits changes in teacher behavior, and when students respond positively to those changes, the teacher retains them as standard practice" (Reichert & Hawley, 2010b, p. xxii). While the original intent of the study was to identify clearly effective teaching practices, Reichert and Hawley (2013a) found the results also centered on another common theme – relationships. Additional studies were conducted by Reichert and Hawley (2013a) to explore this further, as detailed in the *Pedagogy for Teaching Boys* section.

Gurian and Stevens (2005) have also identified methods and teaching techniques that have been utilized in schools and classrooms, both single-sex and coed, to improve the boy experience. The findings are a result of their research and work with various pilot schools around the country, including the schools in Alabama, California, Colorado, Florida, Georgia, Kentucky, Minnesota, Missouri, New York, Texas, and Washington. The schools chose to implement the proposed instructional strategies in an effort to improve their boys' educational experience, including but not limited to academic performance and behavior. These instructional practices include:

- The use of graphic aids in literacy-related assignments. (For example, rather than ask a boy to use words to brainstorm before writing, invite him to draw a picture.)
- The use of teams and competition
- The use of physical, hands-on, kinesthetic activities
- The use of student choice, particularly reading choice
- The use of acting and/or drama (Gurian & Stevens, 2005)

These findings were generated from testimonials of principals, teachers, and parents who have implemented recommended methods and experienced positive results, such as improved grades and test scores and/or fewer discipline referrals. Gurian and Stevens (2005) recognize that not every boy suffers in school and some do quite well even in the absence of these methods.

Researchers also believe that these instructional methods can, and have, shown positive results, and if the goal of education is "success for all children" then these methods can be utilized when necessary to support the learning of boys (Gurian & Stevens, 2005, p. 9).

Literature Review Summary

The literature reviewed in this study identified the prevalence of single-sex classrooms in public and independent schools. Since the adoption of the 2006 guidelines to NCLB, the number of single-sex schools and classrooms has increased. Single-sex classrooms offer a unique opportunity for administrators and teachers to identify factors that can impact student success when the opposing gender is absent. Research has found that male students in single-sex classrooms are more engaged, resist obstructive behaviors, and complete assignments when they have a positive relationship with the teacher. Administrators of single-sex schools need to understand these behaviors and develop a climate and culture that aligns with what research indicates works best for boys.

CHAPTER THREE: METHODOLOGY

Purpose of the Study

According to McMillan and Wergin (2010), “qualitative studies are based on the assumption that reality is subjective and dependent upon context” (p. 89). Qualitative research uses rich descriptions and narratives to gain an understanding of the unique experiences of others. The purpose of this study was to identify instructional practices that are effective for teaching boys in all-boys, independent schools in Virginia. Teachers’ self-reported levels of preparedness to teach boys was also investigated. Data were analyzed to determine whether teachers identified effective instructional practices for teaching boys that align with prior research. The results of these findings could assist in determining if common instructional practices are shared among teachers at all-boys schools and how these practices are utilized to support boys’ learning.

Research Design and Justification

The purpose of qualitative research is to “understand how people make sense of their lives and their experiences” (Merriam, & Tisdell, 2016, p. 24). This basic qualitative study sought to understand the instructional practices identified by teachers that are effective for teaching boys. This methodological approach was appropriate because its purpose was to analyze how teachers interpret their experiences in regard to effective instructional practices for boys and how these experiences have impacted the performance levels of boys. Nonprobability sampling was used in this study. According to Merriam and Tisdell (2016), this sampling procedure is “the method of choice for most qualitative research” (p. 96). Moreover, it was the method of choice for this study because participants were selected based on certain criteria (see Sample and Site Selection) and sampling was not random.

This qualitative study administered a qualitatively designed survey developed by the researcher to participating teachers using purposeful sampling. Data were collected at one point in time through one survey instrument. The data collected through the survey were coded to identify patterns and trends within the responses.

Research Questions

This basic qualitative study sought to understand instructional practices that are effective for teaching boys. To that end, data were collected from teachers at all-boys, independent schools in Virginia through the use of a qualitatively designed survey instrument. The following research questions guided this study:

1. What do teachers at all-boys, independent schools in Virginia report as effective instructional practices for teaching boys?
2. What are teachers' self-reported levels of preparedness to teach boys?

Sample and Site Selection

Sample Selection

In criterion-based selection, the researcher decides the attributes of the sample that are important to the study and then selects participants based on that criterion (Merriam & Tisdell, 2016). The criteria for this study were specified that participants must be teachers at an all-boys, independent school in Virginia. These attributes were important to the study because the saturation of boys in the classroom allowed teachers to speak directly to practices that they perceive are effective for teaching boys without the influence of the opposite gender. A unique sample is “based on unique, atypical, perhaps rare attributes or occurrences of the phenomenon of interest” (Merriam, & Tisdell, 2016, p. 97). The sample of participants in this study were unique in that the independent schools selected were based on their VAIS membership.

Participants were not limited to grade or subject taught; as such, the data reflect the perceptions of teachers across multiple grade levels and subjects.

Site Selection

This study sought to identify instructional practices that are effective for teaching boys in all-boys, independent schools in Virginia. Teachers' self-reported levels of preparedness to teach boys was also investigated. There are nine all-boys, independent schools that are members of VAIS. Of these nine schools, eight schools chose to participate in the qualitative study. These participating schools included: Benedictine College Preparatory, Blue Ridge School, Boys Home of Virginia, Fishburne Military School, Fork Union Military Academy, Hargrave Military Academy, St. Christopher's School, and Woodberry Forest School. Convenience sampling is selecting a sample "based on time, money, location, availability of sites or respondents, and so on" (Merriam, & Tisdell, 2016, p. 98). The participating schools were selected because of their interest. Additionally, the researcher was employed by one of the schools meeting the criteria for participation in this study as a member of the VAIS. As members of the same professional organization, the researcher hoped the affiliation would assist the data collection process through a sense of camaraderie. This had a potential impact on the level of participation and responses received during data collection. The survey instrument was offered to all full-time teachers employed by one of the eight all-boys, independent schools participating in this study; however, completion of the survey instrument was voluntary.

Data Collection Procedures

Data were collected using a qualitatively designed survey constructed by the researcher for use in this study. The researcher-constructed survey was submitted to and approved by the Virginia Tech Institutional Review Board (IRB) prior to beginning data collection. The online

survey program Qualtrics was utilized for data collection. Intending to collect descriptive narratives of teachers regarding their instructional practices they perceive as effective for teaching boys, the survey designed for this study consisted of eleven open-ended questions. While the survey was designed to collect data regarding participating teachers' experiences and perceptions, it did limit the study. Specifically, the content of an electronic survey provides a different interaction with participants than an in-person interview. A survey tool cannot articulate "inflection, body language, and the many other nuances that often communicate more vividly than words (Merriam & Tisdell, 2016, p. 185-186); however, the use of a survey as a data collection tool provided participants with the time, privacy, and independence to complete the survey that an in-person interview does not allow.

Data Gathering Procedures

Prior to submitting the Virginia Tech IRB Online Protocol application, the researcher completed required IRB training and received a Certificate of Completion in the Training of Human Subjects Protection (Appendix A). Approval to conduct the study was then attained by the Virginia Tech IRB. In addition to obtaining Virginia Tech IRB approval, the researcher also sought approval to conduct research in the school from the nine pre-selected all-boys, independent schools in Virginia by sending the Headmaster Approval Letter (Appendix B) as an email communication to the headmaster of each school prior to data collection associated with the study. The email communication to all headmasters introduced the study and its purpose, asked for participation of the school's teachers, and provided headmaster an opportunity to preview the survey instrument. Approval to conduct this study with the school and its teachers was attained by eight of the nine headmasters. The Request for Teacher Emails Letter (Appendix C) was then sent to each school headmaster to request a list of full-time teachers' emails to

participate in the study. Once email contacts were received for potential teacher participants in the study from each school, the researcher sent the Sample Participant Letter (Appendix D) as an email communication to the sampling of teachers from five of the eight participating schools. The email communication to potential teacher participants served as an introduction to the study, the study's purpose, and asked teachers to participate in the study by completing the survey. The remaining three schools that agreed to participate in the study opted to forward the Sample Participant Letter directly to the sampling of teachers as an email communication for ease of distribution; the researcher was copied on each of these emails. In summary, the survey instrument used for data collection in this study was distributed to potential study participants electronically and data was collected electronically from the Qualtrics survey tool utilized.

Instrument Design

The data collection instrument constructed for this study was a qualitatively designed survey. The survey instrument (Appendix E) contained eleven items, seven of which were open-ended to allow participants to write narratives or descriptions as responses. Three survey items consisted of multiple-choice options, and one survey item asks participants to respond using a provided rating scale.

To aid the analysis of the data, survey items one, two, three, and nine collected demographic information from the participant. The demographic information collected from these survey items included the school level (e.g., elementary/lower, middle, high/upper), number of years' experience teaching in all-boys schools or classrooms, description of the school setting, and whether current instruction was being delivered online, in-person, or other. This study was conducted during the COVID-19 pandemic, which influenced many learning institutions during the 2020-2021 school year. As such, item nine in the survey, relating to the

delivery method of instruction, was added to the originally planned survey tool. The demographic survey items did not collect any information that would jeopardize the confidentiality of the study participants.

The remaining items included in the survey were constructed to identify the instructional practices that are effective in teaching boys and teachers' preparedness for teaching boys. Survey items four, five, six, 10, and 11 align with research question one: *What do teachers at all-boys, independent schools in Virginia report as effective instructional practices for teaching boys?* Survey items four, five, and six ask participants to identify effective instructional practices for teaching boys and provide specific examples of how these instructional practices are used in their classrooms. Due to the COVID-19 pandemic, survey item 10 was included to ascertain how the pandemic has potentially influenced participants' instructional teaching of boys. Lastly, survey item 11 provided an opportunity for participants to share additional insights or comments related to their teaching of boys.

Survey items seven and eight align with research question two: *What are teachers' self-reported levels of preparedness to teach boys?* These survey items ask participants to rate their preparedness to teach boys using a 5-point Likert scale (strongly agree = 5; 4 = agree; 3 = neutral; 2 = disagree; 1 = strongly disagree) and explain the rating selected. Figure 4 provides the alignment of the research questions to the survey items used in this study.

Figure 4

Alignment Between Research Questions and Survey Items

Research Question	Survey Item Number
What do teachers at all-boys, independent schools in Virginia	4. Describe effective instructional practices for teaching boys that you use in your classroom.

report as effective instructional practices for teaching boys?	<p>5. Give an example of how you use these strategies in your classroom.</p> <p>6. How has your instructional practice changed or evolved over the years to effectively teach boys?</p> <p>10. How has your instructional practice of all boys changed during COVID-19?</p> <p>11. What else would you like to share regarding your experience of teaching boys at an all-boys school?</p>
What are teachers' self-reported levels of preparedness to teach boys?	<p>Rate your response using the following scale: strongly agree = 5, agree = 4, neutral = 3, disagree = 2, strongly disagree = 1</p> <p>7. I was prepared to teach boys.</p> <p>8. Explain your rating for the previous item.</p>

The items designed for the survey were inspired by the research conducted by Reichert and Hawley (2010b). Their research prompted teachers to “narrate clearly and objectively an instructional activity that is especially, perhaps unusually, effective in heightening boys’ learning” (Reichert & Hawley, 2010b, p. 252); the researchers attested that the prompt can elicit highly subjective responses. The responses in their study were detailed, thoughtful accounts of lessons that teachers taught and contained several identifiable features. These features were indicated in the study’s analysis attributed to being especially effective with boys. Additional survey items used by Reichert and Hawley (2010b) included:

- To what do you attribute this lesson’s special effectiveness? (There is no need to be authoritative or ‘scientific’ in this appraisal.)
- Is there something about this lesson that you believe is specially pitched to boys’ learning?

- Are there measurable outcomes – or outcomes that might conceivably be measured – that could objectively document the effectiveness of this practice? (p. 253)

Reichert and Hawley's (2010b) research served as an appropriate example for this study. The current study had similar objectives, which included collecting data regarding instructional practices that are particularly effective in teaching boys. Additional data were collected in the current study regarding the impact of the COVID-19 pandemic, as reported by teachers, and its impact on their instruction. This topic was not represented in Reichert and Hawley's (2010b) research survey.

Instrument Validation

The instrument designed for the study was checked for content validity and clarity through a review process eliciting feedback from experts in the field of education. Feedback was sought from current leaders and/or administrators of public schools in various school districts in Virginia and two private schools in Virginia; one expert providing feedback on the survey instrument was an administrator of an all-boys, independent school. Additionally, the researcher also sought feedback from the dissertation chair.

Feedback from the panel of experts and the dissertation chair was collected electronically through an email communication and transferred to a Google document. Final revisions and considerations to the survey wording were made after the prospectus exam, which was then submitted to the Virginia Tech IRB. Upon IRB approval to conduct the study and use the survey instrument designed for the study, the data collection process was able to commence.

Data Treatment and Management

Participants received an *Informed Consent Form* (Appendix F), which outlines the purpose of the study and the nature of their involvement in the study. The form was meant to

assure the participants' anonymity and ensure that no identifiable information would be collected or shared. The participants' responses were collected for the sole purpose as outlined by the study's objectives. All participation was voluntary; while qualifying teachers at the specified schools received the survey, they could opt not to submit a response.

All surveys were distributed electronically as stated in the *Data Gathering Procedures* section. The survey was designed using the online platform Qualtrics. Participants had two weeks from the date of the initial email communication—which provided the link to access the online survey—to submit their responses. Throughout the survey window, participants received one email communication that reminded them of the survey deadline. Once participants submitted their responses, data were saved and stored within the researcher's Qualtrics account, which was password protected. In addition, the data were kept in a Microsoft Word table that was housed on the researcher's password protected computer.

Data Analysis Techniques

According to Merriam and Tisdell (2016), “the much-preferred way to analyze data in a qualitative study is to do it simultaneously with data collection” (p. 197). As participants' responses were being collected by the survey instrument, an ongoing analysis was conducted while the survey window was open rather than waiting for the survey window to end. The responses were read, and observer comments and memos were typed in the Microsoft Word table next to each participant's responses in an open coding format. As multiple responses were read, coding was used to begin identifying common responses. Coding is “assigning some sort of shorthand designation to various aspects of your data so that you can easily retrieve specific pieces of the data” (Merriam, & Tisdell, 2016, p.199).

For the purposes of this study, a number coding system was used for question four of the survey to designate if a response aligned with the research conducted by Reichert and Hawley (2010b) that outlines various instructional practices as identified by teachers that are effective for teaching boys. The identified instructional practices from their previous research were used to code participant responses using the numbers from the following:

1. Student-generated products
2. Game-playing activities
3. Active movement
4. Role-playing and performance
5. Open inquiry
6. Competition and teamwork
7. A dramatic or surprising element

Each instructional practice was designated a number. If a respondents' narrative mentioned the teaching practice, the corresponding number was typed in an adjacent column next to the response. If a respondent's narrative mentioned more than one teaching practice in a single response, then it was coded with each appropriate number. Additionally, if the response alluded to one of the above-mentioned instructional practices, it was assigned the corresponding number. An example of a practice alluded to in this study was a teacher identified "motor activity" as an effective teaching practice; it was coded as 3 for Active Movement. If a response included an instructional practice that is not assigned in the above list, then it was coded as "other", or 8. From responses coded as "other", or 8, similar themes were identified by the researcher.

For questions five, six, eight, 10, and 11 of the survey, data were compared and dissected in order to identify reoccurring regularities in the data. These reoccurring items became

categories. Once categories were established, names and characteristics of each category were identified. Merriam and Tisdell (2016) state that this approach to qualitative research analysis can be complex because “the challenge is to construct categories or themes that capture some recurring pattern that cuts across your data. It should be clear that categories are abstractions derived from the data, not the data themselves” (p. 207). As such, the categories could not be derived until the responses were read and analyzed for comparisons. After categories were created, they were assigned to a response and then sorted accordingly. Data were sorted using a Microsoft Word table.

Study Timeline

The initial study was submitted in August 2020 for review and feedback from the dissertation chair after which a prospectus exam was scheduled. A successful completion of the prospectus exam also occurred in August 2020. The study was submitted to the Virginia Tech IRB for approval in September 2020; approval was granted in October 2020. After the Virginia Tech IRB approval was received in October 2020, the researcher sent an email communication containing the *Headmaster Approval Letter* to each participating school by the end of October 2020. Upon approval from the headmasters, the study’s data collection process commenced. The *Sample Participant Letter* was sent to teachers in November 2020 with a deadline date of the end of November 2020, or two weeks after the date of the email communication. An ongoing analysis of data occurred in November–December 2020. Data collection was completed in December 2020.

Methodology Summary

This study was a basic qualitative study that sought to understand the instructional practices identified by teachers that are effective for teaching boys. The participants of the study

included teachers from all-boys, independent schools in Virginia that are members of the VAIS. The study used a researcher-generated survey that elicited feedback mostly in the form of descriptive narratives. Data were collected over a period of two weeks and an ongoing analysis of the data was conducted. Coding was used to identify specific teaching practices that were common among the responses. Categories were created based on the reoccurring themes that emerged from the data. The analysis of the categories will be discussed in more detail in *Chapter 4: Presentation and Analysis of Data*.

CHAPTER FOUR: PRESENTATION AND ANALYSIS OF DATA

The purpose of this study was to identify instructional practices that are effective for teaching boys in all-boys, independent schools in Virginia. Teachers' self-reported levels of preparedness to teach boys was also investigated. Data were analyzed to determine whether teachers identified effective instructional practices for teaching boys that align with prior research. The results of these findings could assist in determining if common instructional practices are shared among teachers at all-boys schools and how these practices are utilized to support boys' learning.

Data Report and Description

The data were reported and analyzed by research question and the alignment of the survey item to the research. The first three items on the survey addressed demographic information and item nine was added to address the instructional models being implemented at schools due to the COVID-19 pandemic. These data responses are reported to provide background and context for this study.

Demographic Survey Items

Survey Items One and Two. Participants responded to three survey items that collected data regarding participants' demographic information. Survey items one and two asked participants to identify: (a) the school level at which the participant is currently serving, and (b) the number of years teaching at an all-boys school. Table 1 summarizes reported demographic characteristics from survey items one and two.

Table 1*Demographic Characteristics of Participants (N = 97)*

Characteristics	n	%
School Level		
Upper/High	68	70.10
Middle	18	18.56
Elementary/Lower	5	5.15
Other	6	6.19
Years Teaching All-Boys		
0-5	37	38.14
6-10	29	20.62
11-15	11	11.34
16-20	9	9.28
20+	20	20.62

Survey item one identified the school level at which the participant was currently serving. Ninety-seven (N = 97) survey responses were collected for this item. Of these 97 responses, the distribution by categories provided in the survey item was as follows: Upper/High, 68 participants (70.1%); Middle, 18 participants (18.56%); Elementary/Lower, 5 participants (5.15%); and Other, 6 participants (6.19%). Most participants identified their school level as a middle/upper school; elementary/lower were identified by least number of participants.

Survey item two identified the number of years the participant has taught at an all-boys school or in an all-boys classroom. There were five answer choices to select from, expressed as ranges (in years), provided with the survey item: 0-5, 6-10, 11-15, 16-20, and 20+. Ninety-seven (N = 97) survey responses were collected for this item. Of these 97 responses, the distribution was as follows: 0-5 years, 37 participants (38.14%); 6-10 years, 20 participants (20.62%); 11-15 years, 11 participants (11.34%); 16 -20 years, 9 participants (9.28%); and 20+ years, 20 participants (20.62%). Most participants in the survey have been teaching 0-5 years at an all-

boys school or in an all-boys classroom. The range least represented by survey participants was those teachers who have been teaching in an all-boys school or in an all-boys classroom for 16-20 years.

Survey Item Three. Survey item three also collected data regarding participants' demographic characteristics by asking participants to describe their school setting. The survey item was open-ended and allowed respondents to submit a description using words of their choosing. Ninety-five (N = 95) survey responses were collected for this item. Several themes emerged from the data relating to the school setting described by study participants, including all-boys, boarding school, campus-style, day school, description of population size, diverse, grade level(s) of school, military school, private or independent, religious affiliation such as Catholic or Episcopal identity, residential, rural, and/or urban or suburban. Respondents identified one or more of these descriptors in their responses, therefore, totals are presented but no percentages are provided. For example, one response described the school setting as "Rural, all-boys boarding school," matching three of the themes identified from the data. Table 2 summarizes reported demographic characteristics from survey item three.

As shown in Table 2, the frequency of descriptors was as follows: all-boys – 49; boarding school – 35; campus-style – 6; day school – 5; description of population size (of school or classroom) – 10; diverse – 4; grade level(s) offered at the school – 24; military school – 28; private or independent – 14; religious affiliation (i.e., Catholic or Episcopal identity) – 14; residential – 8; rural – 20; and urban or suburban – 6. The most common descriptor used in participants' responses was the identification of the school as an all-boys school; identifying the setting as a boarding school was the second most used descriptor.

Table 2*Description of School Setting by Participants*

Characteristic	Number of Responses
All-Boys	49
Boarding School	35
Campus-style	6
Day School	5
Described Population Size	10
Diverse	4
Grade Level(s) of School	24
Military School	28
Private or Independent	14
Religions Affiliation	14
Residential	8
Rural	20
Urban or Suburban	6

Survey Item Nine. Survey item nine related to the instructional delivery model being used at the schools. It could not be assumed that all teachers were delivering instruction in-person due to the influence of the COVID-19 pandemic. The item asked participants to indicate how they were delivering instruction to their students – either in person, online, or other. Seventy-three (N = 73) responses were collected for this item. Table 3 summarizes the reported data for survey item nine.

Table 3*Participants' Current Teaching Status During COVID-19 (N=73)*

Status	<i>n</i>	%
In-person	55	75.34
Online	1	1.37
Other	17	23.29

As Table 3 shows, most participants are teaching in-person with a total of 55 survey respondents (over 75%) identifying their teaching as taking place in-person. One survey respondent indicated he or she was teaching online. Of the 55 responses to this survey item, 17 respondents (about 23%) indicated other as their current instructional delivery model. In the other category, 15 responses indicated a hybrid approach; they are teaching some students in-person and some students online.

Research Question One

What do teachers at all-boys, independent schools in Virginia report as effective instructional practices for teaching boys? Survey items four, five, six, 10, and 11 addressed the first research question in this study. The responses and discussion related to those survey items follows.

Survey Item Four. Item four in the survey asked participants to describe effective instructional practices for teaching boys that they use in their classrooms. For the purposes of this study, the term “instructional practice” refers to a specific teaching method used in a lesson, unit of study, or assigned task that is effective. The participants could deem the practice effective for a variety of reasons, either measurable or immeasurable, including but not limited to a boy’s performance level, behavior, engagement, attentiveness, motivation, and/or overall quality of work. The survey item was open-ended and allowed respondents to submit a description of their choice. Seventy-two (N = 72) responses were collected for this survey item. A number coding system was used to designate if a response aligns with the research conducted by Reichert and Hawley (2010b) that outlines various instructional practices as identified by teachers that are effective for teaching boys. This includes the following instructional practices:

1. Student-generated products
2. Game-playing activities
3. Active movement
4. Role-playing and performance
5. Open inquiry
6. Competition and teamwork
7. A dramatic or surprising element

Each instructional practice was designated a certain number. If a respondent's narrative mentioned the teaching practice, the corresponding number was typed in an adjacent column next to the response. If a respondent's narrative mentioned more than one teaching practice in a single response, then it was coded with each appropriate number. If a response included an instructional practice that is not assigned in the above list, then it was coded as "other", or 8, then similar themes were identified. If the response alluded to one of the above-mentioned instructional practices, it was assigned the corresponding number. For example, if a teacher identified "motor activity" as an effective teaching practice, it was coded as 3 for Active Movement. Table 4 outlines the responses to this survey item that were associated with each instructional practice.

Table 4

Description of Effective Instructional Practices

Instructional Practice	<i>n</i>
Active movement	10
Competition and teamwork	13
Dramatic or surprising element	0
Game-playing activities	6
Open Inquiry	4

Other	54
Role-playing and performance	6
Student-generated products	3

As Table 4 shows, most responses described a teaching practice other than the seven pre-determined practices as identified in the research conducted by Reichert and Hawley (2010b).

The “other” responses were coded to identify patterns and trends within the responses. From the results, ten additional instructional practices were identified. Table 5 outlines the responses that were associated with each instructional practice.

Table 5

Description of Effective Instructional Practices in “Other” Category

Instructional Practice	<i>n</i>
Discussion	9
Hands-on or interactive learning	16
Integration of technology	2
Project-based learning	6
Repetition	3
Relationship building	9
Student choice	4
Student feedback	5
Use of visual aids or components	5

As shown in Table 5, the additional instructional strategies identified by survey participants that are effective for teaching boys include discussion, hands-on or interactive learning, integration of technology, project-based learning, repetition, relationship building, student choice, student feedback, and use of visual aids or components. Most responses indicated that they incorporate some form of hands-on or interactive learning. For example, one participant stated, “If I can provide visual cues, hands on applications, more interaction with the material,

the boys, as a general rule, retain the knowledge.” Another participant stated, “Key is making the lesson relevant and hands-on. Boys enjoy being engaged with the learning process, collecting data, testing modeling, doing work in the field, making observations and seeing what they are learning.” The integration of technology was described the least in participants’ responses.

Survey Item Five. Item five on the survey asked participants to identify ways in which they use the instructional strategies in their classrooms. Seventy-three ($N = 73$) participants responded to this item. There were no specific illustrations of common themes amongst the responses received. While the same instructional strategy may have been mentioned in the responses as it related to survey item four, the responses did not indicate that a given instructional strategy was used in the exact same manner or method. Respondents described how and why the instructional strategy was implemented in the participants’ instruction, thus making each response unique. For example, six respondents indicated that they incorporate competition in the form of games to review the content; however, the specific games they use may differ within these responses. As other examples, one respondent stated, “I also often use content-related games, such as Quizziz and Kahoot to help prepare students for upcoming assessments, such as a test or a quiz,” while another participant stated, “To review vocabulary and/or concepts, we play games such as "Stop and Scribble" that invite boys into moments of review, competition, and movement.” There were no identifying themes of how participants use the instructional strategies in their classrooms.

Survey Item Six. Item six in the survey asked participants to identify how their instructional practice has changed or evolved over the years to effectively teach boys. Seventy-three ($N = 73$) participants responded to this item. Table 6 shows the eight themes that were identified from the responses.

Table 6*Change in Instructional Practice*

Characteristic	<i>n</i>
Adjustments to pacing	5
Dependent upon students	4
Increased activities that require movement	6
Increase in use of technology	5
More personalized attention, get to know students' interests	9
More patient, relaxed, and flexible	6
Set clear expectations and create routine class structure	7
Students more in charge of own learning	7

As Table 6 shows, six participants indicated that they have become more patient, relaxed, and or flexible. For example, one participant stated, “I also have learned not to take myself too seriously. Depending on the day and the energy in the room (or lack thereof), I have also learned to be flexible. I may choose to take things in a different direction.” Seven participants noted the importance of setting clear expectations and creating a routine class structure. For example, one participant stated, “Boys need clarity of purpose. ‘This is what we are doing and why we are doing it.’ Making expectations crystal clear ahead of time allows accountability during the process.” Six participants noted that they have increased activities that require movement. Nine participants reported that they strive to provide more personalized attention, get to know their students’ interests, and incorporate these interests into the classwork. Four participants feel that changes in their instructional practice are dependent upon the students (i.e., the instruction changes because the students differ year to year). Five participants indicated that their use of technology in the classroom, either by themselves or the students, has increased over time. Seven participants reported that students are more in charge of their learning, that the role of the

teacher is to provide opportunities for students to interact with the material; learning is more hands-on. As an example, one participant stated, “Definitely always thinking of ways to get them to interact with the material, instead of just hearing the material.” Lastly, five participants indicated that their pacing has changed over the years, either in regard to the curriculum or the class structure.

Survey Item 10. Item 10 in the survey asked participants to identify how their instructional approach of all boys has changed due to the COVID-19 pandemic. Seventy-one (N = 71) responses were collected for this survey item. Of these responses, 11 responses indicated that there are reduced opportunities for movement in the classroom and/or that group work has been impacted; they indicated there is less group work or that the number of students working together in a small group has been reduced. Responses indicated that the COVID-19 pandemic has further impacted instruction as teachers and classrooms are implementing the Center for Disease Control and Prevention (CDC) safety guidelines, such as mask wearing, social distancing, and washing of hands; there is a greater emphasis on good and proper hygiene overall. The implementation of CDC guidelines was mentioned in 15 responses. Eleven responses indicated that they are making time to connect with students one-on-one and relationships are key during this time, with less emphasis on rigor and more focus on students’ well-being. Relatable data indicated that four participants have adapted their curriculum or expectations of students; one participant stated, “It has forced me to really examine the core importance of each lesson even more closely and make some hard decisions on ‘cutting the fat’ from each unit.” Twelve respondents reported that they have not changed or there have been minimal changes to their instructional approach during the COVID-19 pandemic as they followed CDC guidelines in their classroom settings. Additionally, 11 responses indicated that

there has been an increased use of technology or that the delivery of instruction has shifted to an online or digital platform.

Survey Item 11. Item 11 in the survey was a general response item that asked participants to share additional insights or comments related to their experience of teaching boys at an all-boys school. Sixty-four ($N = 64$) participants responded to this survey item. Of these responses, 17 indicated that they enjoy or love teaching boys, and that it is a great experience. Additionally, six participants described some aspect of boys' personalities that they enjoy, such as humor, energy level, or creativity. For example, one participant stated, "The key is saying 'yes' to the experience, and be open to the particular joys, freedom, humor, and fun boys bring to the table." Ten participants indicated that there are less distractions in a single-sex environment or they mentioned a positive effect due to the absence of girls in the classroom. For example, one participant stated, "There are less distractions for the boys in class. They can maintain their focus a bit better [without] girls in the classroom." Relatable data indicated that six participants feel that boys are more likely to take risks, have less fear of embarrassment, and/or are more vulnerable in an all-boys school.

The theme of relationships was noted again in the response to survey item 11. Participants indicated that when working with boys there is a need for mutual respect and relationships are important to learning, with a total of nine participants indicating a relationship related response. For example, one participant stated, "If you can relate to them on a personal level and build that strong relationship from the beginning, then everything else is easy. These guys will do just about anything if they trust you and have a foundation from which to work." Furthermore, five participants emphasized the importance of discipline and/or structure either in

their expectations of student conduct or academic performance. Four participants indicated that teaching all-boys was challenging yet rewarding.

Research Question Two

What are teachers' self-reported levels of preparedness to teach boys? To address research question two, survey items seven and eight were presented. The participants' responses and associated discussion follows.

Survey Item Seven. Survey item seven asked participants to rate their self-reported level of preparedness to teach boys by responding to the statement "I was prepared to teach boys." The following scale was provided to rate the statement: 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree. Seventy-four (N = 74) responses were collected for this item.

Table 7 summarizes the reported data for survey item seven.

As shown in Table 7, 50 participants (67.57%) reported that they either "strongly agree" or "agree" with the statement "I was prepared to teach boys." Fifteen participants (20.27%) reported a "neutral" response to the statement, and nine participants (12.16%) reported that they either "strongly disagree" or "disagree" with the statement.

Table 7

Self-Reported Level of Preparedness to Teach Boys (N=74)

Rating	<i>n</i>	%
Strongly Agree = 5	23	31.08
Agree = 4	27	36.49
Neutral = 3	15	20.27
Disagree = 2	8	10.81
Strongly Disagree = 1	1	1.35

Survey Item Eight. Item eight in the survey asked participants to explain the scale rating to their response for survey item seven. Seventy-one ($N = 71$) responses were collected for this item. Of these responses, 12 responses indicated that experience in the classroom contributed to their preparedness to teach boys. For example, one participant stated, “Although I haven't had much formal instruction in ‘boys only education,’ I feel that my years of experience in the classroom helped me be prepared.” Nine responses indicated that they related to boys, either because they are males themselves or because they feel comfortable teaching boys. For example, one participant stated, “I feel at home around them.” Another indicator of a participant’s preparedness to teach boys was that they have children themselves, with a total of five respondents identifying that they are parents or have raised children. The most mentioned contributing factor to a participant’s preparedness to teach boys was their previous teaching experience or that they had taught or worked with children in a coed environment, with a total of 22 responses in this topic area. Additionally, five participants felt like working with boys as a coach or previous coaching experience helped prepare them to teach boys. Five participants also indicated that teaching boys requires building strong relationships. For example, one participant stated, “Relationships with the boys are key, probably more than half the battle.”

Emergent Themes

When analyzing the participant responses to this study’s survey instrument, three themes emerged from the data. The theme of active movement was identified in the responses to survey items four, six, and 10. Participants indicated that active movement is an instructional strategy that is effective for teaching boys, that it is an instructional strategy that participants have increased the use of within their instruction, and it is an instructional strategy that has been impacted by safety guidelines and regulations in response to the COVID-19 pandemic.

The theme of hands-on instruction was identified in responses to survey items four and six. Participants indicated that hands-on, interactive learning is an instructional strategy that is effective for teaching boys. It is also an instructional strategy that respondents indicated they have increased the use of within their instruction.

The theme of relationships was identified in the responses to survey items four, eight, 10, and 11. Participants indicated that relationships are an instructional strategy that is effective for teaching boys, has influenced their preparedness to teach boys, and has been impacted by safety guidelines and regulations in response to the COVID-19 pandemic. Relationships was an additional insight several participants wanted to share related to their experience of teaching boys at an all-boys school.

Summary of Data

This chapter presented the results of descriptive data analyses. These data determined that a common instructional strategy used in all-boys schools is active movement and hands-on, interactive learning. Additionally, the data indicated that relationships founded upon trust and respect are important to establish between the student and the teacher in order for learning to take place. Chapter Five contains the summary and conclusions including (a) summary of findings and related literature, (b) implications for future practice, (c) recommendations for future studies, and (d) reflections.

CHAPTER FIVE: FINDINGS, SUMMARY, AND CONCLUSIONS

The purpose of this study was to identify instructional practices that are effective for teaching boys in all-boys, independent schools in Virginia. Teachers' self-reported levels of preparedness to teach boys was also investigated. Data were analyzed to determine whether teachers identified effective instructional practices for teaching boys that align with prior research. Participants of this study were full-time teachers at all-boys, independent schools that are members of VAIS.

The research questions posed in this study were: *(a) What do teachers at all-boys, independent schools in Virginia report as effective instructional practices for teaching boys?, and (b) What are teachers' self-reported levels of preparedness to teach boys?* Additional data analyses findings were presented that reported participants' years of experience at an all-boys school or all-boys classroom, current school level, and current teaching status (instructional model).

Summary of Findings and Related Literature

Finding 1

Teachers indicate they are prepared to teach boys. As reported in Table 7, 50 participants (67.57%) reported that they either "strongly agree" or "agree" with the statement "I was prepared to teach boys." This finding does not align directly with Reichert and Hawley's (2010b) research in that their study did not address preparedness to teach boys; however, Reichert and Hawley's (2010b) research relates in that it does address effective teaching practices, and the participants who indicated they are prepared to teach boys also identified teaching practices that they perceive are effective for teaching boys.

Finding 2

Teachers indicate that their preparedness to teach boys is based on their current or previous experience in the classroom, not formal instruction regarding best practices for teaching boys. Survey item eight asked participants to explain the scale rating to their response for survey item seven, which asked participants to rate their self-reported level of preparedness to teach boys, by responding to the statement “I was prepared to teach boys.” Three themes emerged in the responses to survey item eight that related to some form of experience with teaching or working with boys, which contributed to their preparedness to teach boys. In response to survey item eight, 12 survey responses indicated that experience in the classroom contributed to their preparedness to teach boys. For example, one participant stated, “Although I haven't had much formal instruction in ‘boys only education,’ I feel that my years of experience in the classroom helped me be prepared.” Twenty-two responses mentioned a contributing factor to their preparedness to teach boys was their previous teaching experience or that they had taught or worked with children in a coed environment.

Additionally, five participants felt like working with boys as a coach or previous coaching experience helped prepare them to teach boys. Again, these study results do not align directly with Reichert and Hawley's (2010b) study; their research did not address preparedness to teach boys. This current study did provide a connection to the research of Reichert and Hawley's (2010b) regarding effective teaching practices. The participants who indicated they were prepared to teach boys based on their previous experience teaching or working with boys also identified teaching practices that they perceive are effective for teaching boys.

Finding 3

Teachers indicate that active movement is an effective instructional strategy for teaching boys. The theme of active movement was identified in the responses to survey items four, six, and 10. Participants indicated that active movement is an instructional strategy that has been effective for teaching boys. Participants also indicated increasing the use of active movement within their instruction. Additionally, participants indicated the use of this instructional strategy has been impacted by safety guidelines and regulations in response to the COVID-19 pandemic. In response to survey item four, 11 participants identified active movement as an instructional strategy that is effective for teaching boys.

While there were no identifying themes in the responses to survey item five, there were specific examples of how active movement is used as a strategy in participants' classrooms. For example, one participant stated, "I took my students outside to do a 'seek and find' matching activity." Another participant stated, "Boys act out vocabulary (hand motions, acting, sound effects)." A third participant stated, "We complete projects that allow them to physically move. I do not make them sit while they work. As long as they stay at their desk and are working I am flexible."

In response to survey item six, six (6) participants identified that over the years they have increased activities that require movement throughout their teaching of boys. Lastly, in response to question ten, 11 participants indicated that due to the COVID-19 pandemic—and the health and safety mitigation guidelines that schools have implemented at the recommendation of the CDC and other health organizations—there has been reduced opportunities for movement in the classroom.

These study results align with the qualitative study by Reichert and Hawley (2010b), which identified active movement as a teaching strategy or technique that participants in their study judged to have been notably successful in engaging boys and deepening their learning. The study results also align with research by Gurian and Stevens (2005) in which study participants implemented the use of physical, hands-on, kinesthetic activities in addition to other strategies as outlined in the *Instructional Practices that Benefit Boys* section and experienced positive results. Those positive results included improved grades and test scores and/or fewer discipline referrals.

Finding 4

Teachers indicate that hands-on, interactive learning is an effective instructional strategy for teaching boys. The theme of hands-on, interactive learning was identified in the responses to survey items four and six. Participants indicated that hands-on, interactive learning is an instructional strategy that is effective for teaching boys; participants indicated increasing use of this strategy within their instruction. In response to survey item four, 16 participants identified hands-on, interactive learning as an instructional strategy that is effective for teaching boys. While there were no identifying themes in the responses to survey item five, there were specific examples of how hands-on, interactive learning is used as a strategy in participants' classrooms. For example, one participant stated, "I involve students with wake up exercises to get into the class. Interaction is the core foundation of my class and every student will at least contribute in class." Another participant stated, "I mainly teach math and use manipulatives frequently in my lessons." In response to survey item six, six (6) participants identified that over the years they have increased activities that are hands-on or interactive throughout their teaching of boys.

In the qualitative study by Reichert and Hawley (2010b), hands-on, interactive learning was not specifically identified as a teaching strategy or technique that participants of the study judged to have been notably successful in engaging boys and deepening their learning. However, strategies such as student-generated products, game-playing activities, and role-playing and performance were identified, which could be classified as hands-on, interactive learning. The study results do align with research by Gurian and Stevens (2005) in which participants implemented the use of physical, hands-on, kinesthetic activities in addition to other strategies as outlined in the *Instructional Practices that Benefit Boys* section of the Literature Review (p.36) and experienced positive results, such as improved grades and test scores and/or fewer discipline referrals.

Finding 5

Teachers indicate that relationships built on trust and respect are important in order for learning to take place. The theme of relationships was identified in the responses to survey items four, eight, 10, and 11. Participants indicated that relationships are an instructional strategy that is effective for teaching boys, has influenced their preparedness to teach boys, has been impacted by health and safety mitigation guidelines and regulations in response to the COVID-19 pandemic, and was an additional insight participants wanted to share related to their experience of teaching boys at an all-boys school. In response to survey item four, nine participants identified the importance of relationships as an effective instructional practice.

While there were no identifying themes in the responses to survey item five, there were specific statements regarding the importance of relationships. For example, one participant stated, “Start with the relationship, and move out from there. Ask about a boy's athletic contest before we dive into the material. Place the relationship first as a means or entry point for the

material, not the other way around. When a relationship is strained, pull back and rely on the relationship, then reengage the material.”

In response to survey item eight, five participants also indicated that teaching boys requires building strong relationships. In response to survey item 10, 11 responses indicated that they are making time to connect with students one-on-one and relationships were key during the COVID-19 pandemic, with less emphasis on rigor and more focus on students’ well-being. In response to survey item 11, nine participants indicated that when working with boys there is a need for mutual respect and relationships are important to learning.

These study results align with the study by Reichert and Hawley (2013a), which identified several relational gestures by teachers that fostered a productive relationship. Narratives were obtained from middle and upper school teachers and students. Reichert and Hawley’s (2013b) research found several common relational gestures by teachers that attributed to positive relationships between boys and their teachers. These relational gestures include:

- Teachers reaching out to students beyond the classroom and being available for academic support or personal conferences
- Teachers’ mastery of the content being taught
- Teachers setting clear yet fair expectations and consistently upholding those standards
- Taking an interest in students beyond their academic competence
- Sharing a common characteristic with students
- Responding to boys’ oppositional behavior with understanding and patience and refraining from personalizing these behaviors

Reichert and Hawley’s (2013a) findings suggest that relationships play a key role in male student performance. Reichert and Nelson (2016) continued to investigate the importance of

relationships with a study at the elementary level. The purpose of the study was to determine if the relational gestures identified in Reichert and Hawley's (2013a) previous study would apply to younger students. In Grade Kindergarten through Grade 3, student survey responses reflected the role of the teacher as the caregiver. Boys indicated that a successful relationship with the teacher resulted from the teacher being nice, offering special incentives or rewards, and demonstrating what the boys perceived as feelings of care and love (Reichert, 2016). In contrast, boys in Grades 4 and 5 valued teachers who helped them grow as learners. They appreciated the freedom to develop their own ideas, express themselves creatively, and receive feedback regarding their work. The results of Reichert and Nelson's (2016) study, as with Reichert's previous research, demonstrate the importance of the student-teacher relationship on a boy's learning.

Implications for Future Practice

Implication 1

Teachers who wish to teach at an all-boys school or in an all-boys classroom should work in environments where they are directly working with or teaching boys in order to gain the experience necessary to feel prepared to teach in all-boys settings. This implication for future practice is offered to address Findings 1 and 2. Teachers indicated that they are prepared to teach boys, yet that preparation is based upon their experience of teaching or working with boys. Teachers did not indicate that their level of preparedness to teach boys was based on formal training or prior educational programs. Thus, in order for teachers to feel prepared to teach boys, they should directly seek opportunities that provides them with experience of teaching or working with boys.

Implication 2

Principals should encourage teachers experienced in teaching boys to mentor new teachers. This implication for future practice is offered to address Finding 2. Teachers indicated that their response to the statement, “I was prepared to teach boys,” was based upon their prior experience of teaching or working with boys. New teachers may lack this experience due to their novelty to the field. While new teachers may have experience working with or coaching boys, they do not have experience teaching boys in the classroom. Providing new teachers with a mentor that is experienced in teaching boys would allow the mentor to model the instructional practices that are effective for teaching boys, observe the new teacher when he or she is implementing instructional practices into their instruction, and conduct conferences with the new teacher to ensure these practices are being utilized and deemed effective.

Implication 3

University teacher training programs should incorporate information related to instructional practices that are effective with boys. This implication for future practice is offered to address Finding 2. Teachers indicated that their response to the statement, “I was prepared to teach boys,” was based upon their prior experience of teaching or working with boys, not from education received by a university teacher training program. Prospective teachers should be informed of instructional practices that research indicates are effective for teaching boys. This knowledge will help prepare prospective teachers so they can utilize these practices at the start of their career rather than relying on experience to help them feel prepared to teach boys.

Implication 4

Principals should provide professional development related to teaching boys, using the framework identified by Reichert and Hawley (2010b). This implication for future practice is offered to address Finding 2. Teachers indicated that their response to the statement, “I was prepared to teach boys,” was based upon their prior experience of teaching or working with boys, not upon research. Offering teachers with professional development related to the framework identified by Reichert and Hawley (2010b) would allow for teachers to put into practice the instructional strategies deemed effective by Reichert and Hawley (2010b) for teaching boys rather than relying on experience which is an arbitrary concept because one cannot determine how many years’ experience are needed in order to feel prepared to teach boys.

Implication 5

Teachers of all-boys classrooms should identify ways in which they can incorporate active movement within their instruction. This implication for future practice is offered to address Finding 3. Active movement was identified as an effective instructional practice for teaching boys. By incorporating active movement, teachers are using an instructional strategy that has been identified as effective for teaching boys, thus allowing for learning to take place.

Implication 6

School leaders of all-boys schools should provide professional development and/or literature to teachers regarding the use of active movement as an instructional strategy.

This implication for future practice is offered to address Finding 3. Active movement was identified as an effective instructional practice for teaching boys. By providing professional development and/or literature to teachers regarding the use of active movement as an instructional strategy, teachers can implement instructional strategies that have been supported

by research as effective for teaching boys, thus allowing for learning to take place. It also provides specific examples as to what active movement is and how it is effectively used in a boy's classroom which could be interpreted differently from one teacher to the next. Providing professional development and/or literature regarding the use of active movement as an instructional strategy removes the ambiguity and allows for clarity in order for effective instruction to take place.

Implication 7

Teachers of all-boys classrooms should identify ways in which they can incorporate hands-on, interactive learning within their instruction. This implication for future practice is offered to address Finding 4. Hands-on, interactive learning was identified as an effective instructional practice for teaching boys. By incorporating hands-on, interactive learning, teachers are using an instructional strategy that has been identified as effective for teaching boys, thus allowing for learning to take place.

Implication 8

School leaders of all-boys schools should provide professional development and/or literature to teachers regarding the use of hands-on, interactive learning as an instructional strategy. This implication for future practice is offered to address Finding 4. Hands-on, interactive learning was identified as an effective instructional practice for teaching boys. By providing professional development and/or literature to teachers regarding the use of hands-on, interactive learning as an instructional strategy, teachers can implement instructional strategies that have been supported by research as effective for teaching boys, thus allowing for learning to take place. It also provides specific examples as to what hands-on, interactive learning is, how it is defined, and how it is effectively used in a boy's classroom, which could be interpreted

differently from one teacher to the next. Providing professional development and/or literature regarding the use of hands-on, interactive learning as an instructional strategy removes the ambiguity and allows for clarity in order for effective instruction to take place.

Implication 9

Teachers and school leaders of all-boys schools should improve or continue to foster positive relationships with their students by using the relational gestures as outlined in Reichert and Hawley's (2013a) research and Reichert and Nelson's (2016) study depending on the grade level they teach. This implication for future practice is offered to address Finding 5. The results of Reichert and Hawley's (2013a) research and Reichert and Nelson's (2016) study demonstrate the importance of the student-teacher relationship on a boy's learning and identify specific relational gestures teachers and school leaders can practice in order to improve or continue to foster positive relationships with their students. Teachers and school leaders should be aware of and practice these relational gestures since research has shown that these gestures positively influence a boy's learning, and learning is ultimately what school leaders and teachers hope for their students to achieve.

Recommendations for Future Studies

From a review of previous research regarding effective instructional strategies for teaching boys and from the results of this study, suggestions are offered for future studies. The benefit of increasing the sample size to all-boys, independent schools beyond Virginia would provide a broader perspective regarding effective instructional practices for teaching boys and determine if the same practices are identified by teachers from various all-boys, independent schools around the country.

Additionally, the benefit of expanding the setting to include teachers of coed independent schools within Virginia would provide a comparison regarding whether the same effective instructional practices for teaching boys are identified by teachers at coed independent schools versus all-boys, independent schools. Furthermore, expanding the setting to include school leaders of all-boys, independent schools within Virginia would provide data regarding the perceptions of school leaders and the instructional practices that they perceive are effective for teaching boys and whether or not their perceptions align with effective instructional practices for teaching boys that teachers of all-boys, independent schools in Virginia have identified.

The benefit of conducting a study to identify instructional practices that are effective for teaching boys in a coed, independent setting would allow for participants to identify practices that are used with boys within their classroom that may not be used for girls. It would further help to identify what is effective for teaching of boys versus what is simply effective teaching regardless of gender. In order to further analyze how gender may play a role in the instructional practices that are used in classrooms, it would be beneficial to conduct a study to identify instructional practices that are effective for teaching girls in an all-girls, independent school or classroom and a study to identify instructional practices that are effective for teaching girls in a coed, independent setting. The specification of an independent school would only be necessary if the results of these proposed studies were to be compared with the results of this study which only included participants of independent schools.

The benefit of conducting a study that investigates what university teacher training programs are doing to help prepare teachers to teach boys would prevent teachers from having to learn from experience. While experimentation is a form of learning because it allows teachers to reflect and improve one's practice, it also takes time and a willingness to adapt. Identifying what

university teacher training programs are doing to help prepare teachers would alleviate teachers from learning these practices on the spot which could increase the risk for error.

Lastly, the benefit of considering a study that includes participants that teach in an all-boys, independent school or classroom as well as participants that teach in a coed school or classroom setting would provide data that can be cross analyzed for comparison at one point in time. A study with this design would provide data regarding the impact of the opposite genders on the instructional strategies that teachers use in the classroom. This potential study could identify whether instructional strategies differ in an all-boys versus coed educational setting. Furthermore, conducting a study that includes participants that teach in an all-boys, independent school or classroom as well as participants that teach in an all-girls school or classroom would provide data reports that can be cross analyzed for comparison at one point in time. It would provide data regarding the instructional strategies that teachers use in the classroom and whether or not those strategies differ depending on the gender that is being taught.

Reflections

Throughout this research study, there were few difficulties that occurred during the process. Of the nine all-boys, independent schools in Virginia, eight volunteered to participate in the study. The responsiveness and willingness of these schools to participate in this research study was encouraging. Additionally, the willingness of Dr. Richard Hawley to speak to the researcher of this study during the process was most appreciated. The discussion enhanced the researcher's perspective regarding Dr. Hawley's research of boys beyond what was read in the published literature.

In reflection, one challenge came when analyzing the results of the narratives. The narratives ranged in regard to their length and the amount of detail that was provided. For

example, in response to survey item four, which asked participants to describe an effective instructional practice for teaching boys that they use in their classroom, one participant stated, “Discuss, don't lecture” while another stated, “Incorporating a gaming element or competition is a favorite practice for engaging most boys. With games, boys learn from each other. Games also encourage boys to think critically and try different strategies.” When little detail or explanation was given, it was hard to determine the instructional practice being identified and whether or not this practice related to the identifying themes that emerged from the data.

Additionally, it was hard to determine the instructional practice being identified due to a lack of clarity by the participant. For example, one participant stated, “First 15 – We Do – You Do – You Do – IP – Exit Ticket.” Without further explanation or detail regarding the instructional practice, it was almost impossible to determine the practice that was being described.

Furthermore, analyses of the data identified consistent language used in participants’ responses. For example, language such as “hands-on,” “interactive,” and “discussion” were terms that were often used and thus themes were identified based upon these identified practices. However, there was little description given consistently by participants in order to determine whether or not participants define these terms in the same way or utilize these practices within their instruction similarly. The use of focus groups might have helped so participants could better define these terms and further detail the practice being described.

Lastly, being a qualitative study, the results of the study were analyzed by the researcher and themes were identified based upon the researcher’s analysis of the data. Merriam and Tisdell (2016) state that this approach to qualitative research analysis can be complex because “the challenge is to construct categories or themes that capture some recurring pattern that cuts across

your data. It should be clear that categories are abstractions derived from the data, not the data themselves” (p. 207). As such, the categories identified were based upon this researcher’s analysis of the data and may differ if analyzed by another researcher; however, the analysis was validated by a field expert who reviewed the data report and agreed with the findings that were derived from the data. Review of the data by a field expert lends another layer of validity to the overall analysis.

The value of the research conducted further indicates that there are common instructional practices that are effective for teaching boys. While there is further question as to what is considered “good teaching” and what is considered “good teaching of boys,” there is research that identifies specific practices that benefit boys’ learning. It is the belief of this researcher that these instructional practices may not benefit *every* boy; even within a given population of boys, some will respond differently to instruction than others. Research like this does help to further inform schools, parents, and families when making decisions regarding the most appropriate learning environment for boys and how that environment can further elevate each boy’s potential.

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APPENDIX A

Training of Human Subjects Protection Certificate



Completion Date 19-Jul-2019
Expiration Date 18-Jul-2022
Record ID 32493649

This is to certify that:

Kadie Parsley

Has completed the following CITI Program course:

- Social & Behavioral Research** (Curriculum Group)
- Social & Behavioral Research** (Course Learner Group)
- 1 - Basic Course** (Stage)

Not valid for renewal of certification through CME. Do not use for TransCelerate mutual recognition (see Completion Report).

Under requirements set by:

Virginia Polytechnic Institute & State University (Virginia Tech)



Verify at www.citiprogram.org/verify/?wd0edf5b4-ba26-41f4-965c-4e2fe00ec371-32493649

APPENDIX B

Headmaster Approval Letter

Dear XXX,

My name is Kadie Parsley, and I am a doctoral candidate at Virginia Tech. I am currently conducting a study for my dissertation that aims to gather data from teachers of all-boys, independent schools. The purpose of my study is to identify instructional practices that are effective for teaching boys of all-boys, independent schools in Virginia and identify teachers' self-reported levels of preparedness to teach boys.

I am requesting that teaching members of your staff participate in my study. If you agree, during the first week of November 2020, the teachers will receive an e-mail containing a link to a survey. They will be requested to complete the on-line survey at a time this is suitable for them, which is hosted by Qualtrics. It is 11 questions and should take approximately 20-30 minutes to complete. Their responses will be completely anonymous, and no individual names or institutions will be recorded during the course of this survey. They will have two weeks to participate in the survey, if they so choose. The collected data will be stored electronically in a secure place and will only be used in aggregate or summative form.

The Virginia Tech Institutional Review Board (IRB) has approved this study. Your willingness for your school to participate is completely voluntary. For additional information, please feel free to e-mail me at parsley@vt.edu or my dissertation chair, Dr. Carol Cash at ccash48@vt.edu

Thank you for your consideration,

Kadie Parsley

APPENDIX C

Request for Teacher Emails Letter

Dear XXX,

Thank you for agreeing to your school's participation in my study. As a friendly reminder, all participation is voluntary, and while you have given permission for your school's participation, teachers may still opt to not complete the survey.

Now that participation has been granted, would you please send me a list of the emails of your teaching staff? This includes only those full-time teachers who directly teach the boys 20+ hours each week. By providing your teachers' emails, you are consenting that I may email them a link to the survey. This email will be sent the first week of November 2020.

Thank you, again, for your school's participation,

Kadie Parsley

APPENDIX D

Sample Participant Letter

Dear teachers of XXX,

My name is Kadie Parsley, and I am a doctoral candidate at Virginia Tech. I am currently conducting a study for my dissertation that aims to gather data from teachers of all-boys schools. The purpose of my study is to identify instructional practices that are effective for teaching boys of all-boys, independent schools in Virginia and identify teachers' self-reported levels of preparedness to teach boys.

I am requesting your participation in completing an online survey. The survey is 11 questions and should take approximately 20-30 minutes to complete. If you choose to participate, your responses will be completely anonymous, and no individual names or institutions will be recorded during the course of this survey. All survey data will be reported only in summative, aggregate form.

If you choose to participate, please read the attached *Informed Consent Form* which provides details regarding your participation.

Here is a link to the survey: XXX

The Virginia Tech Institutional Review Board (IRB) has approved this study. Your willingness to participate is completely voluntary. For additional information, please feel free to e-mail me at parsley@vt.edu or my dissertation chair, Dr. Carol Cash at ccash48@vt.edu.

Thank you for your consideration,

Kadie Parsley

APPENDIX E

Survey Instrument

Effective Instructional Practices for Teaching Boys in All-Boys, Independent Schools in Virginia

Start of Block: Introduction

Thank you for agreeing to participate in this study. The purpose of this study is to identify instructional practices that are effective for teaching boys of all-boys, independent schools in Virginia and identify teachers' self-reported levels of preparedness to teach boys. Your participation in this study is completely voluntary. No identifiable information, such as name or place of employment, will be collected. The survey contains 11 questions and will take approximately 20-30 minutes to complete depending upon the length and description of your responses.

When responding, please be sure your narrations are clear and descriptive. Try to focus on a specific quality or feature rather than using vague terms. There are no expectations regarding the length of your responses; however, try to avoid brevity so the true intent of your response may be interpreted appropriately.

End of Block: Introduction

Start of Block: Demographic Information

Q1 School level (currently serving)

- Elementary/Lower (1)
- Middle (2)
- High/Upper (3)
- Other (4) _____
-

Q2 How many years have you taught at an all-boys school or in an all-boys classroom?

- 0-5 (1)
- 6-10 (2)
- 11-15 (3)
- 16-20 (4)
- 20+ (5)
-

Q3 Describe your school setting.

End of Block: Demographic Information

Start of Block: RQ1

Q4 Describe effective instructional practices for teaching boys that you use in your classroom.

For the purposes of this study, the term "instructional practice" refers to a specific teaching method used in a lesson, unit of study, or assigned task that is effective. You may deem the practice as effective for a variety of reasons, either measurable or immeasurable, including but not limited to a boy's performance level, behavior, engagement, attentiveness, motivation, and/or overall quality of work.

Q5 Give an example of how you use these strategies in your classroom.

Q6 How has your instructional practice changed or evolved over the years to effectively teach boys?

End of Block: RQ1

Start of Block: RQ2

Q7 Rate your response using the following scale: strongly agree = 5, agree = 4, neutral = 3, disagree = 2, strongly disagree = 1

	Strongly Agree = 5 (1)	Agree = 4 (2)	Neutral = 3 (3)	Disagree = 2 (4)	Strongly Disagree = 1 (5)
I was prepared to teach boys. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q8 Explain your rating for the previous item.

End of Block: RQ2

Start of Block: Covid-19 Response

Q9 Are you currently teaching online or in-person?

Online (1)

In-person (2)

Other (3) _____

Q10 How has your instructional practice of all boys changed during COVID-19?

End of Block: Covid-19 Response

Start of Block: Block 5

Q11 What else would you like to share regarding your experience of teaching boys at an all-boys school?

End of Block: Block 5

APPENDIX F

Informed Consent Form

Please Keep this Informed Consent Form for Your Records

Effective Instructional Practices for Teaching Boys in All-Boys, Independent Schools in Virginia

The purpose of this study is to identify instructional practices that are effective for teaching boys in all-boys, independent schools in Virginia and identify teachers' self-reported levels of preparedness to teach boys.

When deciding to participate, please consider the following...

- Participation in the study is voluntary.
- Your completion and submission of the online survey items implies consent to participate in this study and consent to use the information you provide in summative form.
- It is estimated that completion of all survey items will take 20-30 minutes.
- You may elect to not participate or withdraw from this study at any time without opposition or consequence.
- You may benefit as study findings may further inform school professional development planning and/or training.
- The risk of participation in this study is no greater than those ordinarily encountered in daily life. There are no apparent physical risks.
- All survey data will be reported only in summative, aggregate form.
- Individual responses will not be reported, and no identifiable information, such as name or place of employment, will be collected.
- The Data Retention and Sharing Guidelines of the American Psychological Association (2010) will be followed to store and share the data.
- If you have any questions about your rights as a research subject, please contact the Virginia Tech Institutional Review Board (IRB) www.irb.vt.edu. This is an IRB approved study.

Researcher Contact Information: Kadie L. Parsley, 804-513-4641, e-mail: parsleyk@vt.edu