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The Lost Boys: An Exploration Of The Male Gender Gap And Its Causes

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THE LOST BOYS:

AN EXPLORATION OF THE MALE GENDER GAP AND ITS CAUSES

by

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DEDICATION

To my wife, Sarah, who gave me reason to finish this capstone.

"Salt tears rose from the wells of longing in both men, and cries burst forth from both as keen and fluttering as those of the great taloned hawk whose nestlings farmers take before they can fly. So helplessly they cried, pouring out tears."
-Homer, *The Odyssey*

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Introduction

Introduction

Over the five years I have been teaching, I have noticed a difference in the achievement levels of my students, and it is one that can be sorted by gender. In general, the levels of work and effort I see from female students outpaces the work from male students. When students graduate, I watch more female students enrolling in college than male students. Grades earned by female students, at least in my own classes, appear to be higher than grades earned by male students. Over these five years, I've become curious about this gap, and this curiosity led me to my capstone question: does a gender gap exist between male and female students, and what can be done to close it?

A central ideal of public education is equality. Historically, it is an ideal that has not been lived up to at all times. Without belaboring the point, it is easy to look back at national events or policies such as segregated schools and see how deeply flawed the execution of that ideal has been. Nonetheless, it is an ideal that remains central to the practice of education, and it is one that must be held in mind as the basis for educational policy decisions, at least to my thinking. When I see a group of students struggling across multiple subject areas and benchmarks, such as male students are (Applerouth, 2016), it makes me realize how far from the ideal of equality schools continue to be. For a large

part of my career, though, this group's struggles had been invisible to me, until the end of my fourth year of teaching.

In June of 2017, I attended my high school's commencement ceremony for graduating seniors. It was special for me - I had never been able to make it to one of these ceremonies in the past, but I also felt a special connection to that graduating class. My first year teaching at this school (also my first year teaching at all) was their freshman year. Before my eyes, they had developed from glorified middle schoolers into the young men and women who were ready to go off to college, join the military, or enroll in the workforce. Along with their parents, friends, and families, I cheered for these students for what they had accomplished.

There was a failure of technology for the valedictorian speech that night. The class valedictorians had put together a recorded video in place of a speech, but the projection crew was unable to get the video to stream. Instead, the valedictorians had to deliver an impromptu graduation speech in front of thousands. In general, they were successful. It made for a memorable evening for me, and it would have been a generally positive memory aside from a realization that came to me while I was watching these eight young women give an improvised graduation speech: they were eight young women. The ratio seemed off to me, but I didn't spend a long time thinking about it.

Later, the class honors graduates were announced. They wore golden tassels over their shoulders to denote their status. Many of them also wore the tassels of National Honor Society, another prestigious group to which students can apply. As these honors graduates were announced, it became clear to me how skewed this group was as well. Of

the roughly fifty honors graduates in the class of 2017, fewer than ten were male. They all stood, and were applauded by the assembled well-wishers, and I wondered: Was this common outside of this group?

The next school year, I was having lunch with a former colleague of mine. She had retired at the end of the previous year, but would come back to substitute teach when she was needed, and we began to discuss differences between male and female students. This was something she had mentioned to me in the past, but I had mentally dismissed what she was telling me because it did not fit well with what I had heard about the world. When I was young, I had heard how schools had been failing women, and to think that an advantaged group like boys were somehow struggling to keep up with female peers seemed unlikely to me at the time. This time, however, I shared what I had seen at graduation with her.

She nodded as I spoke, and when I finished, I asked her, "Did we fail that class of men?"

I am not sure what I expected her to say, or what I wanted to hear. Because I felt so close to them, I think I wanted this retired colleague to point out how anomalous what I saw at graduation was.

Instead, she shook her head. "No, I think we have been failing all of them."

Even today, that answer seems extreme to me. Clearly, some boys were graduating with honors in that class. She pointed out, however, over the course of her career, she had noted how poorly male students had been performing in contrast to female students.

In my own classroom, I could see many of the things that she was pointing out. I noticed lower levels of engagement from male students. They were more likely, in my anecdotal experience, to be off-task than female students. Between male and female students, males were much more likely to be defiant when given redirection, even in subtle ways like body language. They were, in general, less likely to contribute to class discussions, which (in my literature classes at least), put them at a disadvantage due to the unlikeliness of having their questions answered.

School work was less likely to be turned in on time from male students as well. Often I would see late work not coming in until the very end of a grading period, and it was notable that in nearly all examples in my memory, that work was coming from male students. This tendency was harder to notice for me because I tend to be highly lenient with student deadlines anyway, so it took reviewing my previous years' gradebooks to notice how many things were coming in late.

Overview

These things were anecdotal, and could have been limited to the classrooms of just two teachers at a rural high school in a midwestern state. To me, it was a topic that required further investigation, and something that I was driven to discover more about. As I began my research and inquiry, I formed a research question. Does the gender gap exist, and what can be done to close it? This capstone will seek to answer that question through research into the existence of the gender gap between male and female students, possible social or internal causes of this gender gap, and whether implicit biases on behalf of teachers could play a role in its existence. My findings will be presented

through a multi-episode podcast series titled "No Man's Class," in which I will include

several educator guest hosts to offer input on my research and add anecdotal experiences

from their own classrooms. Together, we will make suggestions based on evidence about

how I (and others) can change our practice to work to close any existing gender gap.

These podcasts will be described in detail in Chapter Three.

Throughout the remainder of this chapter, I will discuss my own story as an

educator and person to support how I came to this question. Following those details, I

will include a statement of purpose, in which I will focus my research question. Finally, I

will summarize key sections and transition to the review of literature in Chapter Two.

Personal and Professional Context

When I graduated high school, I was uncertain of what path I wanted my life to

take. I bounced around to more than one college, eventually settling on English Literature

as a degree.

After graduation, I was once more uncertain. I tried several fields after leaving

college, attending a summer graduate course on publishing immediately after leaving

school and beginning a Masters of Fine Arts later that fall. Neither would feel right.

While enrolled in the Masters program, I worked as a substitute teacher in a tiny

school district well outside of town. It was almost impossible to find work as a substitute

teacher in the college town - one of the most common majors for students at that school

was education, and almost all of the substitute jobs went to those graduates as they waited

to find full-time work. For me, I had to drive close to an hour for each job I took in the

district. The principal secretary would call me at 5:00 AM each morning she had available work - the district had not moved over to online substitute posting yet.

Of my year spent in the Masters program, substitute teaching was the only bright spot. I disliked the city I went to school, and I felt adrift in the Masters program. I found myself skipping classes to take substitute teaching jobs, and not only because I needed the money. Being able to connect with students made those early morning phone calls something I looked forward to getting.

In March of that year, after returning from a conference in the Rocky Mountains, I would decide to leave the Masters of Fine Arts program. By the next fall, I enrolled in a Master of Arts in Teaching program, which I would attend at night and online for the next three years. When I read my acceptance letter, I recall wondering why I had not stayed with education in the first place. I did not know.

I care deeply about my students, and I feel a special bond to because I feel like I share a common background with them. I grew up less than fifteen miles from where I teach today, and the struggles these students face will be the same ones that my own children will be exposed to. I feel a personal and professional obligation to make changes to the way I teach in order to close the gender gap, if it exists, and provide an equally high quality education to every student who enters my classroom. Those are the reasons I have chosen this research topic, because while I had been trying not to neglect students with minority status throughout my career, I might have been leaving another group behind. I will focus on that purpose in my next section, my purpose statement.

Statement of purpose

My purpose in doing this capstone project is to discover whether or not a gender gap exists between male and female students, and if it does, to develop solutions I can enact in my classroom to help close it and share those solutions with the education practice. To display my findings and proposed solutions, I will create a podcast mini-series aimed at other educators who have an interest in examining this possible gender gap.

The podcast will review selections of the literature from Chapter Two as a basis for discussion between me and three guest hosts (also educators), such as findings like higher rates of gifted and talented enrollment for female students(U.S. Department of Education, 2012), higher rates of behavioral interventions for male students (Kafer; National Center for Education 2006, cited in Clark, Flower, Walton, & Oakley, 2008), and less rigorous courses selected by high school boys (Advanced Placement Program Summary, 2016). It will include their opinions and reactions to the research I have found, and their reflections on the solutions I plan to enact in my classroom to close the gender gap on my small scale. While my solutions to these struggles may be centralized to my classroom, awareness of this issue is important for teachers of all backgrounds and locations. Though my discussions will be based on my experiences, it is my hope and belief that other teachers will be able to take either my solutions or my path of inquiry to make their own classrooms more equal places.

Summary

As a teacher, among the greatest tools I have in my arsenal is awareness of the difficulties my students will have. Until I began the research for this inquiry, I had rarely

paused to consider the parts of male identity or the male experience that made school more (or differently) challenging than for female students. Through this research and project, I will be able to increase my own awareness of these possible problems, as well as the awareness of other teachers. By the end, I will have attempted to answer the question *does the gender gap exist, and how can I work to close it?*

Chapter Two will display a review of the available literature focused on the existence of the gender gap between male and female students, what social or internal factors influence this gender gap, and whether or if teacher bias can play a part in its continuation. Chapter Three will explain the proposed podcast series in detail, including questions and discussion topics I will cover with my guest hosts, my methodology in organizing the podcast, and background on my guest speakers. In Chapter Four, I will reflect on my research and project.

CHAPTER TWO

Literature Review

Overview

In the previous chapter, I have outlined the impetus for by interest in the gender

gap and provided the guiding question of my research: *does a gender gap exist, and what*

can be done to close it? This literature review will begin with establishing the existence

of the gender gap in formal education. It will explore the different forms the gender gap

takes with male students with regard to their achievement (grades and testing), their

investment in their education (selection of rigorous classes and continuation of education

at a post-secondary level). In addition, this section will address other trends, such as

higher instances of out-of-school suspension for boys across all race demographics,

higher rates of attention-deficit-hyperactivity disorder identification, and higher rates of

behavior intervention than female students. Finally, another area in which male students

find themselves falling short is in levels of engagement. I will look at all of these issues

in depth within this section.

The following section will attempt to describe identified causes of the gender gap.

It will cover measured differences in the ways boys and girls study and attempt

homework, which some researchers point to as one cause for the discrepancy between

male and female scholastic achievement. This section will also discuss perspective and

confidence differences between male and female students that may lead to the difference

in achievement, and why that connection may exist. It examines as well the differences in male and female desire for praise and/or structure in a classroom, and whether teachers are more or less willing to provide those things to students. Male students and female students experience different levels of both peer and familial support with regard to their education (Klevan, Weinberg, and Middleton), and this section will also explore that difference.

The third section will examine implicit bias on behalf of teachers as a possible cause for the gender gap. I will use Project Implicit, an implicit bias tool developed by Harvard University, to measure my own bias regarding gender in terms of achievement (do I associate family or career as more male or female?) and educational domains (do I associate certain areas of education - such as STEM fields - as more male or female?). Since my project is to determine how we can change classrooms and pedagogy to close this gap, being aware of biases will be important. This section will also look at other factors, such as whether or not the differences in male or female handwriting could play a role in how boys and girls are graded differently by teachers.

Finally, I will address recommended solutions offered by researchers. I will examine recommended structural changes to classrooms. I will also look at how male and female students respond to interactions, and how I can build relationships with them differently to encourage them to make the most of their education.

The Gender Gap

The research reveals that since the 1970s, young female learners have been rapidly outpacing their male counterparts in several areas. For example, higher

percentages of the female student population are enrolled in gifted and talented classes;

in 2009, 8.1% of all girls against 7.4% of boys (U.S. Department of Education, 2012).

Advanced Placement (AP) enrollments also revealed a gender gap with young women,

enrolling at a 25% greater pace - roughly 1.14 million male enrollment to 1.5 million

female, with females taking overall more AP tests as well (Applerouth, 2016).

Applerouth (2016) also reported that nearly 70% of all high school valedictorians are

female - similar to my noted observations regarding an all female valedictorian class at

my current high school. Morris (2008) found in his case study "'Rednecks,' 'Rutters,'

and ''Rithmatic'", 75% of the top 20 students in his examined school were female, and

the students with the top GPA in each class in the rural high school he examined were

female.

The gender gap appears to be a real phenomena, and it manifests through a variety

of indicators. According to a 2006 study by A.L. Duckworth and M. E. P. Seligman titled

"Self-Discipline Gives Girls the Edge: Gender in Self-Discipline, Grades, and

Achievement Test Scores", though the average male student scores higher in some

science technology engineering and mathematics (STEM)-related classes, they have

fallen behind their female counterparts in almost all metrics for student evaluation in

formal education. They also enroll in a higher number of AP classes in those fields,

doubling the enrollment of female students in classes like AP Physics and tripling

enrollment in AP Computer Science A (Advanced Placement Program Summary, 2016).

On average, male students scored lower grades than they were predicted to receive, based

on ability predictor tests. The same was not true for female students (Duckworth &

Seligman, 2006).

In an immediate sense, my own practical research is for high school students, but

this gender gap shows up in earlier grades as well. The research of Clark, Flower,

Walton, & Oakley, (2008) asserts that this gender gap between male and female students

may be present from a point as early as middle school. According to the authors, during

middle and high school years, male American students received lower grades than female

students, and over the course of their secondary years, would graduate with a lower

average GPA than female students (Clark et al., 2008).

In a broader sense, the gender gap applies to areas beyond just grading. The U.S.

Department of Education, as cited in Clark, Flower, Walton, and Oakley (2008), noted in

2004 that boys struggle more with academics than girls across almost all subject areas,

pointing again to lower grades (again, even accounting for the periodic difference in

STEM classes), higher male dropout rates, and lower general achievement. Buchmann

and Diprete, (2006) report that in almost every single educative benchmark, average

female students have either reached parity with or surpassed average male students,

including college attendance and graduation. However, an achievement gap does

continue to persist between female students and male students with regard to STEM

career fields and classes (Robelen, 2012). In these engineering and science related fields,

women are extremely underrepresented, ranging from below 10% of all petroleum or

mechanical engineers to just under 35% of computer systems analysts (U.S. Census

Bureau, 2014). Though some male students may struggle in formal education, concerns for female students or workers in many circumstances have not disappeared.

Male students are significantly more likely than female students to be diagnosed with attention deficit hyperactivity disorder, are more likely than girls to be referred for discipline for their behavior, and more likely to be referred and placed in special education services than females are (Kafer; National Center for Education 2006, cited in Clark, Flower, Walton, & Oakley, 2008). In fact, according to the U.S. Department of Education (2012) male students are more likely to be held back a grade than female students - by a significant gap of nearly twenty percentage points across all grade levels - and are also approximately twice as likely to be suspended out of school than girls (U.S. Department of Education, 2012).

Beyond just the metric data (grades, graduation, college acceptance), Fredricks et al., (2004) describe how male students report lower levels of engagement with their education. The authors define "engagement" as a multilevel construct with three elements: cognitive, behavioral, and emotional). Here, cognitive refers to the mental approach a student takes toward school and education. *Does the student show interest in the learning materials? Is there an apparent level of investment in the curriculum and class?* Fredricks et al., (2004) note that behavioral refers to the ways that a student participates in the school. *Does the student participate in afterschool activities? Do they dress up for school spirit days? Do they choose to come to class prepared?* Emotional engagement looks at a student's feelings toward school and interest in it. Is the student asking questions? Do they feel connected to their teacher? (Fredricks et al., 2004). Low

levels of engagement, in fact, could lead to the aforementioned differences within the
metric data of male and female students. Engagement in school can directly correlate to
achievement in school (Cornell; Skinner & Belmont; and Wu; cited in Lam et al., 2012).
In fact, the mindset of being engaged in the goings-on of a school can indicate student
success. According to Lam et al., "[s]tudent engagement is an example of a
psychological characteristic that is [. . .] predictive of academic performance" (2012, p.
78). Martin (as cited in Lietaert, Roorda, Laevers, Verschueren, & De Fraine,2015), notes
that girls scored higher on each of these engagement criteria (cognitive, behavioral, and
emotional), which the authors note "implies girls generally exert more effort, participate
more actively in class, and show higher attention and persistence than boys" (Lietaert,
Roorda, Laevers, Verschueren, & De Fraine, 2015). That's a remarkable statement, and it
appears to be one that is true across national borders as well. In a data set compiled by
Lam et al., (2012) of 3,400 students from locations across the United States, European,
and Asian countries, girls reported higher levels of engagement than boys: "[o]verall,
boys are less likely to be engaged than girls in school" (p. 90). Though female students
tend to show less academic engagement in STEM-related classes and fields, that isn't
uniformly true. As noted in Riegle-Crumb and Moore's "The Gender Gap in High School
Physics: Considering the Context of Local Communities", places (such as Iceland) that
score higher on the World Economic Forum's Gender Gap Index (which measures how
much disparity there is between male and female workers and citizens with regard to
things like earning potential and employment, or quality of life) also show a narrowing of
the difference between male and female students in grades and participation in these

classes. Speculatively, this could be due to young women seeing female role models in these fields, and being able to imagine themselves as that role model.

For as much insight as these data provided on how this gap seems to manifest, much of this research couldn't answer the question of what was causing it. The following section will attempt to provide some of those answers.

Causes of the Gender Gap

The review of the research for this project supports the idea that there is an achievement gap in education between male students and female students, as measured by differing levels of engagement, achievement, grades, and college admissions. This section will seek to explore the causes of that established gap between male and female students.

Teachers offer support to students differently based on gender, for instance (Lietaert, Roorda, Laevers, Verschueren & DeFraine, 2015). After interviewing students, talking to teachers, and asking independent observers to track student-teacher interactions, Lietaert, Roorda, Laevers, Verschueren, and DeFraine (2015) found that educators are less likely to offer support to male students than they are to female students. In addition, these authors note that teachers are less likely to praise work by male students. They also found that, ironically, male students report that their perception of teacher support matters more to them than that reported by female students. In short, some research shows young men are looking for more support from their teachers than they are receiving, and this need was found to be greater than that of female students.

Socially, there appears to be a stigma about school and education being unmasculine, feminine, or even homosexual. "Boys perceived as "nerdy" - often those who put more effort into school and were involved in school activities such as band - were more likely to be called 'gay' or 'pussies'"(Morris, 2008, p.737) In some instances, lack of effort in education can become a central part of the male gender identity, at least for males that live in rural areas (Morris, 2008). In his study, Morris notes that some young male students define themselves as being bad at school, or maybe more accurately, being uneducated. "Boys [...] took pride in their *lack* of academic effort. No boy I interviewed reported that he studied outside of school" (Morris, 2008, p. 736). Martin (1995) found that some male students connected being a hard worker or high achiever in school with being gay. In a later examination, Martino (1999) found that boys were fine with scholastic achievement, so long as they didn't appear to have worked hard for it. Further troubling is the notation from Mac an Ghaill (as cited in Frank et al., 2003) that "studious boys also experience harassment by teachers, particularly male teachers" (p. 122). It was disheartening to think about teachers contributing to the harassment of their students, and could be one of the external causes for the gap, though it was difficult to find corroborating studies. Questions remained regarding whether there were also things that girls were doing in their schooling that boys were not.

In answer to that question, Duckworth and Seligman (2006) examined whether female students show higher levels of self-discipline than male students. Curiously, they found that, while girls in the study were more likely to have a higher GPA than boys, the male students actually measured as having higher IQs than the female students.

To account for the difference in achievement, the authors point to female study habits. Girls started homework earlier in the day than boys did, and "spent almost twice as much time completing it" (Duckworth & Seligman, 2006, p. 206). Despite measuring delayed gratification in the students (girls were only slightly more willing to take a promise of future money over an immediate payout), girls appear to be more disciplined in how they approached their education than boys were. This is supported by other sources (Barber; Warrington et al., as cited in Lam et a.l, 2012; Holt & Gershenson, 2015) who demonstrate that boys show lower levels of motivation than girls, and are less willing to take their education farther. They also spend less time on homework than girls, on average. On average, a typical male student spends 17 fewer minutes per day on homework than a female student (Holt & Gershenson, 2015). A wide body of research suggests a connection between time spent on homework and educational development (Xu, 1998; Singh, 2002; Cooper, 2006; cited in Holt & Gershenson, 2015), implying a possible cause for lower male achievement in schools.

Female students show better study habits than male students in a variety of ways. Across 38 countries, 15 year-old female students measure a full year ahead of male students in both reading and writing (PISA, cited in Applerouth, 2016). Ablard and Lipschultz studied how well third grade boys and girls used self-regulated learning for a variety of purposes, and concluded that girls on average performed better when attempting common school-related tasks, such as writing a paper, completing math homework the student might not understand, or preparing for a reading/writing test

(1998). They also found girls were more likely to overcome distractions while working, and generally be more organized than boys.

In contrast with female students, one study found male students lack social support for their scholastic lives. In their study "Why the Boys are Missing: Using Social Capital to Explain Gender Differences in College Enrollment for Public High School Students", Klevan, Weinberg, and Middleton (2015) explored this concept. According to the authors, "much of the gender gap in college enrollment can be explained by aspects of social capital" (p. 248), and point out that "girls orient their friendships around academics more so than boys" (p. 248). Buchmann and DiPrete additionally point out the benefit sons of absent fathers would have if the fathers were present in the home (2006). They found that sons whose fathers were either absent or who had less education (no college) were less likely to complete college, and that this was "more important for the educational attainment of sons than for the educational attainment of daughters" (p. 534).

Some of the causes for this gender gap appears to have roots in male behavior patterns, including how they study and orient their academic relationships. Beyond those internalized behaviors though, it is important to examine the external factors that may contribute to this gap as well.

Implicit Bias

According to Cheryl Staats, implicit bias is "the attitudes or stereotypes that affect our understanding, actions, and decisions in an unconscious manner" (2016, p. 29). In her writing, she points out that teachers who "profess egalitarian intentions and try to treat all individuals fairly can still unknowingly act in ways that reflect their implicit - rather than

their explicit - biases" (2016, p. 30). It became important to learn more about how teachers could unknowingly contribute to gender inequality in the classroom.

Much of the research done on implicit bias is centered around bias against African-American individuals or individuals who are perceived to be female. For example, in preschool classrooms, teachers were more likely to identify problem behaviors from African-American students than students who were not African-American because of the amount of time teachers spent watching these students (Gilliam, Maupin, Reyes, Accavitti, & Shic, 2016). In the same study teachers did display a further tendency to focus on male students over female students by a significant margin, which lead to identifying male problem behaviors more often than female (Gilliam, et al., 2016) and led to further behavior interventions, regardless of race.

In another study, researchers found that readers were more willing to identify errors in writing from writers they perceived to be African-American that from writers they did not (Reeves, cited in Staats, 2016). This means that grades (or student performance as subjectively measured by teachers) could be influenced by inherent biases against the student. Regarding implicit bias against female students, one study found that teachers who perceived handwriting to be "male" were more likely to grade identical essays higher than those perceived to be written by female students.One might assume that "male" handwriting would be graded lower because of stereotypical untidiness. Loewenthal, cited in King (1998) points out that gender can often be accurately guessed from handwriting, and that the most common indicator readers use to evaluate handwriting as "male" or "female" handwriting is based on how circular the

formation of lettering is. The more rounded or circular the letters, the more likely the handwriting is to be perceived as "female" handwriting. In truth, though it has not been extensively studied, both "messy" and "neat" handwriting are grader higher than typed writing (Marshall & Powers, 1969). It is worth noting that the age of that study could limit its accuracy in today's classroom. Further, recent increases in technology in classrooms may also decrease differences in handwriting (because more assignments are typed).

Further studies show a bias from teachers in STEM fields, in which female students are shown to be disadvantaged due to implicit bias from teachers. Both students and teachers were shown to display an associative bias linking masculinity and the sciences (Hand, Rice, & Greenlee 2017). These researchers also found that both teachers and students were more likely to report that male students were generally better in the STEM disciplines that female students.

Reading the research of Hand, Rice, and Greenlee made me curious if, because I teach a subject grouped into the "arts" or "humanities," I harbored a bias against males who were taking my classes. To evaluate my potential biases, I used online testing through Harvard University's *Project Implicit,* an implicit association test (IAT) software. According to the website, *Project Implicit* measures "the strength of associations between concepts (e.g., black people, gay people) and evaluations (e.g., good, bad) or stereotypes (e.g., athletic, clumsy)" (Project Implicit, 2011, Education, About the IAT, ¶1). It offers two tests to evaluate stereotypes related to gender: the Gender-Science IAT (which measures whether the test-taker associates the sciences or

humanities more strongly with one gender or another) and the Gender-Career IAT (which measures whether the test-taker associates family or career more strongly with one gender or another). I took both of these tests.

In the Gender-Sciences IAT, respondents were grouped into seven possible categories that measured the degree to which the respondent associated males with the sciences, ranging from Strong Associations Between Males and Science and Females with Liberal Arts, Moderate Associations, Slight, Little or No Association, Slight Association Between Males and Liberal Arts and Females with Science, Moderate Associations, and Strong Associations. Most respondents to this IAT were most likely to have an association with males and science, and females and liberal arts (23% Strong, 29% Moderate, and 18% Slight) while significantly fewer showed an association between males with liberal arts and females with sciences - 6% Slight, 4% Moderate, and 1% Strong (Project Implicit, 2011). A moderate amount showed little to no bias one way or the other with 18%. In my case, I measured as having a slight automatic association for males with the liberal arts and females for science.

The Gender-Career IAT respondent results were grouped in much the same way that the Gender-Science IAT results were. Beginning with Strong Associations with Males and Career and Females with Family along to Strong Associations with Males and Family and Females with Career. The majority of respondents were more likely to have an association with males and careers and female with family (24% Strong, 32% Moderate, and 19% Slight), with a minority having associations between males with

family and females with career (5% Slight, 3% Moderate, and 1% Strong). 17% showed

little or no automatic association between gender and career or family.

Solutions and Unanswered Questions

As evidenced through research, there likely exists a gender gap between male

students and female students, and it is manifested through academic benchmarks like

college application and admittance (Buchmann & DiPrete, 2006), GPA (Morris, 2008),

disciplinary interventions (U.S. Department of Education, 2013), rigor of selected courses

(Advanced Placement Program Enrollment, 2016), and scholastic engagement (Fredricks

et al., 2004). However, the research is varied with regard to finding common causes for

the gender gap between male and female students, possibly indicating a multitude of

influencing factors. Some research points to classroom or study habits; one study found

that some male students reported a desire for greater praise reinforcement and structure

than they were getting from their teachers (Lietaert, Roorda, Laevers, Verschueren, and

DeFraine, 2015), another found that girls in general had better study habits when it came

to homework (Ablard and Lipschultz, 1998). Other research suggests that socialized

behaviors play a strong role, such as how masculine identity affects a male students

willingness to engage or take part in class (Morris, 2008; Martin, 1995; Martino, 1999)

due to perceptions of femininity or homosexuality.

Social factors that influence the gender gap may be difficult for the individual

classroom teacher to mitigate, therefore it is difficult to foresee a path to changing

students' perceptions of their masculine identities. However, teachers can influence

classroom environment and study habits from their students, and work to increase engagement in the scholastic culture.

Based on the available research, there does appear to be a lack of suggested solutions to changing the direction this gender gap is going. Further research should be conducted to investigate how the knowledge of the gap's existence and possible causes can be mitigated through larger social and institutional changes.

Summary

It is essential to provide egalitarian education to all students. As this chapter has shown, there is a discrepancy between the ideal of education and the practice of it, even extending to students of a privileged position such as male students. This chapter has investigated this gender gap's existence and causes, including implicit bias on behalf of educators. The following chapter will outline and explain a proposed podcast series designed to educate teachers on this gap, describe its causes, and make suggestions for changes a classroom teacher could make in order to work toward closing it.

CHAPTER THREE

Project Description

Introduction

In my five years teaching high school English, I have noticed the possible

existence of a gender gap between male and female students. I first became aware of this

gap when watching a senior commencement with all eight valedictorian speakers being

comprised of female students. That made me curious about whether there were other

ways that male students were lagging behind female students. This capstone seeks to

explore the question: does research support the male gender gap, and what changes can a

classroom teacher make to close it? To accomplish this, I examined existing literature to

establish an answer to the first question, which appears to be "very likely yes" and

explore possible answers to the second. As a method of presenting my findings, I will be

creating a podcast mini-series geared toward other teachers to explain this gender gap and

how teachers can alter their practice based on the knowledge gained from these research

and reflections.

Overview

This chapter will describe the project I intend to create, including guest speakers I

plan to include on the podcast and questions I will ask them. I will describe my high

school's demographics, location and population, and a brief summary of the courses I

teach at this high school. The chapter will include key research that supports the

existence of the gender gap across age, race, and national borders, and also support my choices in my proposed solutions (to be discussed in the final podcast episode). I will also identify my intended audience for the podcast, and how they can be circulated by listeners.

Project Description

For my capstone project, I created a four episode podcast mini-series titled *The Lost Boys* that addresses my research question. Each episode around one of the following themes: the gender gap and its existence, internalized factors influencing this gap, external factors, and finally, solutions that may come from being aware of the research. Each episode ranges in duration from twenty to twenty-five minutes. They were recorded using Audacity, a free, open-source recording and editing software. Episodes were posted on a new SoundCloud account and also embedded on the project website in their own subpage. That page can be found at dswart01.wixsite.com/thelostboys.

These podcasts are academic in basis, meaning that the episodes' content will be based on the findings I discussed in my literature review, but I also acted as an interpreter for the listener in order to keep information flow familiar. That is, they were based on the research I have done (detailed in Chapter Two), but that research was filtered into my own words and conclusions. As appropriate, I will verbally cite where information originates.

In addition to my own thoughts, I intend to include the views of other teachers with whom I have spoken and shared discussions about the male gender gap. These teachers are people who have independently talked to me about the visible effects of this

phenomena. Before creating the episodes, I intend to sit down and review the findings of my research with each of these teachers about their anecdotal and professional experiences about the gender gap.

In my current practice, I have created podcasts for students using several different formats, such as a single host reading a script or a conversational discussion between two or more hosts. In my experience, podcasting works best as an organic conversation rather than scripted reading, but in our conversations, I will ask the other teachers the following questions (these questions are intended as a framework from which conversation should flow - given the structure of each episode [discussed later in this chapter], these discussion questions can be a base for the audio, which will then be cut into segments and reorganized by theme and into episodes):

- One U.S. Department of Education study has shown that boys were more likely to drop out of school than girls. Is that something you observed in your school?

- In what ways do male and female students behave differently in your classroom?

- Do you feel there is a biological difference between male and female students, or do you think differences in their behavior is socialized?

- A 2006 study by Duckworth and Seligman found that girls tended to start their homework earlier in the day, and also spend more time overall on their homework. How would you describe the differences in male and female study habits, as you have seen them?

- Ablard and Lipshultz (1998) found that girls tended to be better than boys at school-related tasks like overcoming distractions and staying organized. In what way, if at all, have you seen that?

- Klevan, Weinberg, and Middleton (2015) found that girls oriented social relationships around academics (meaning, were more likely to talk about academics with their friends) than boys.

  - How have you seen that, if at all?

  - Why do you think that might be?

  - Do you think there are benefits to having academic-oriented relationships?

- Martino (1999) found that boys preferred to appear as if their academic successes were effortless, or that they did not try in school in order to be successful. Have you seen examples of students behaving that way If so, in what way?

- Morris (2008) found that boys were more likely to be perceived as feminine if they were high achievers in a case study of a rural high school. Have you ever observed male students who other students perceived as less masculine because of how they approached their learning?

- What advice would you have for educators striving to close the gender gap?

  I left open any opportunities for follow-up questions - that is, I did not limit myself to following a script. As important details emerged in conversation, I allowed myself latitude to pursue those avenues. Additionally, as discussion opportunities arose through conversations with the guests, not being relegated to following a questioning script was important.

Guest Speakers

The following is a list of the guest speakers who I included as guest hosts on the podcast, and a short biographical note about each. I have included only first names for the sake of anonymity.

Robby is an English teacher at a rural Midwest high school. He teaches a wide variety of classes, including literature, poetry, and creative writing. He has been teaching since 2012.

Karen is a retired elementary Special Education teacher. She maintains licenses in Early Childhood, Developmental Cognitive Deficiency, Learning Disability, Reading Specialist, and Emotional Behavioral Disorders. She retired in 2016, but taught for over thirty-five years at a variety of schools and districts.

Randy is a biology teacher at an urban Midwestern middle school. He has taught both seventh and eighth grade students, and has been teaching for five years.

Supporting Research

The solutions I discussed are centered around increasing engagement from male students, which is reportedly lower than in female students (Lam et al., 2012), and creating better structure and reinforcement in my classroom - two items that have been found to strongly influence male engagement (Lietaert, Roorda, Laevers, Verschueren, & DeFraine, 2015). Lam et al. (2012) found that across many cultures and countries, male engagement in school is lower than female engagement (see footnote 3 in Chapter Two for a definition of engagement), which they suggest may be one of the causes of the male gender gap. Lietaert, Roorda, Laevers, Verschueren, and DeFraine (2015) found that male students in their study perceived themselves as less supported by their teachers with

regard to structure and praise as reinforcement, and that these male students also rated that support as more important to them than female students did.

This research was central to my proposed solutions, which included more opportunities to model strong student work to help with praise reinforcement, and better structured class discussions, which can be facilitated through technology available at my school, such as Google Classroom or Schoology. The final podcast episode was thematically based around my proposed solutions for the profession and individual teachers who are interested in making changes to their practice.

Setting

My school is a rural school, a little less than an hour from a major urban center in an upper Midwestern state. It is located on a major freeway, so there exists a mix of students who have long family roots in the community (typically landowning farmers) and students whose parents moved to the area to be close to work. It is a predominantly white community (89% white in the 2015-16 school year, according to NCES, 2016) with 22% of the total population free or reduced lunch eligible (NCES, 2016). Since 2015 each graduating class as been roughly three hundred students, with almost no variation.

I have taught a wide range of classes since beginning to work at this high school, which includes a year-long 10th grade English course, an 11th grade American Literature course, a Drama class that includes grades 9-12, a Creative Writing class that includes grades 10-12, and Publications Writing (which includes creating the school yearbook) that include grades 11 and 12. Of those courses, only Publications Writing has a prerequisite grade point average (GPA) requirement. In the two years I have taught only

it only a total of six male students have enrolled while close to fifty female students enrolled. This difference provides me with an anecdotal example of the gender gap in practice, as it is a challenging elective class with a GPA requirement. It may be worth noting that the classes referenced here have traditionally been seen as stereotypically "female" areas of interest, though that statement may also underline the existing biases.

Podcast Audience and Listeners

My expected audience for these podcasts will be teachers who are interested in providing the best possible learning environment for all students. Most of my solutions will be based on my own experiences as a high school English teacher in a rural high school in the upper Midwest of the United States. When I talk about changes I plan to make to my classroom, they are from the point of view of someone who teaches in a secondary school. Other high school teachers and middle school teachers will likely have the largest overlap, but awareness of the gender gap is beneficial to all teachers, and much of the research I discuss is germane to teachers from preschool onward.

Timeline

Over the summer of 2019, I organized times to meet with my guest speakers. Robby, being the guest with the greatest difficulty in scheduling due to his summer obligation, was the most difficult, so I placed priority on recording with him. We were successful in recording our discussion in mid-June of 2019, which we achieved through Skype. The recording session suffered from slight audio interruptions due to combining software (Skype and Audacity), which is slightly noticeable in the recorded audio, but does not interfere with the content.

Randy was recorded in late June of 2019. The recording took place in an equidistant public library's recording studio, and was also recorded using Audacity. Karen's audio was recorded in my classroom in late June 2019 using Audacity as well.

Following the recorded guest discussions, all audio recordings were transcribed and placed, along with biographical descriptions of each contributor, on the projects Wix website (dswart01.wixsite.com/thelostboys). Those transcripts took several weeks to complete due to the intensive and laborious nature of transcribing audio, but was completed by mid-July of 2019.

Using the written transcripts, common themes were identified from the discussions, highlighted, and recompiled into three separate episodes using all speakers on each of those episodes. This portion of the project was completed in late July 2019.

Once each episode was created, music was added for aesthetic purposes in the first and last thirty seconds of each episode. They were then uploaded to a free audio hosting site, SoundCloud. Using the embedding functionality from SoundCloud, each episode was embedded on the project's website by early August 2019. The final steps were to aesthetically upgrade the website and provide written episode transcripts along with each episode. This was completed on August 9, 2019, and was the last step in this project.

Summary

This chapter has outlined how I created a multi-episode podcast series to convey the information gathered in my capstone. Its intended audience is other teachers,

specifically high school teachers who want to become more aware of the gender gap in their schools and what they can do to combat it.

The following chapter, Chapter Four will discuss the final answers to my research question and how well the execution of the podcast was achieved. Most importantly, I will discuss the findings from my research and explain in writing how I will implement my proposed classroom solutions.

CHAPTER FOUR

Reflection and Conclusion

Overview

For my project, I examined the question *does a gender gap exist between male and female students, and what can be done to close it*? This chapter will reflect on my findings and my project by discussing the overall information gleaned through my research, what that information may mean to me and, in a more broad sense, to the education profession, and what research still needs to be done in order to gain a more complete understanding of this topic.

This chapter will additionally cover the struggles encountered during the execution of this project, such as the technical hurdles required to create a podcast with participants in an uncentralized geographic location. I will also address the method with which I created my podcast series from separate discussions with teachers so as to create a narrative flow between speakers.

Finally, other topics covered in this chapter include the implications my project and research has on the profession in a broad sense, and how I intend to communicate the results of my project to that community.

Creating Podcast Episodes

As discussed in chapter three, my project consisted of conversations with three different teachers from a variety of backgrounds. We discussed their thoughts and

anecdotal evidence to support or combat the findings I had discovered within my research. I spoke with teachers from diverse backgrounds. They had various levels of experience in terms of years of service, grade levels and subjects taught, and geographic locations.

With those teachers, I individually discussed and recorded questions I had developed over the course of my research. The questions can be found in chapter three. In general, I did not deviate from those questions. If I asked other questions, they were for clarification purposes or to relate what the speaker had said to my research .

Each recording was roughly thirty to sixty minutes in length. Those discussions were transcribed, and can be found on the website associated with this project (found at dswart01.wixsite.com/thelostboys). From those transcripts, I highlighted common themes from the discussions, edited the audio recordings into sections based on those themes, and then reorganized those edits into three thematically grouped episodes. I then added my own voice back in as a narrative transition between the speakers. These re-scripted episodes can also be found on the aforementioned website. Each episode was to be between twenty and twenty-five minutes in length.

My goal was to let the speakers' responses drive the episodes. Within my Project, the reader will find I have included all of my own thoughts on these matters, and the purpose of the recorded audio was to highlight the experiences of others. Additionally, these were meant to be anecdotal and qualitative discussions. This paper should be the source of academic and scientific discussion, the audio should be the source of real world teachers sharing their experiences.

I added an episode called Episode Zero to outline the goal of the series, and to direct the listener to this Capstone Project Paper. This episode is only my own voice and covers much of the content found in the overview section of chapter one in this paper, with the understanding that the podcast series may be the first experience a listener had with this topic.

In summation, the podcast series comprised four total episodes, with one of those episodes providing explanation narrative for the other three. In the following section, I will describe the most important data learned from the literature review process as it pertains to my project.

Major Learnings

One of the most important pieces of information I found during the literature review was that I was not the first person to be interested in researching the gender gap. Though the literature is not exhaustive, it does come with areas that appear to be unexplored. For several years, education researchers have been documenting the discrepancy between academic engagement levels from male and female students.

This gap manifests in a variety of ways. Male students may avoid taking classes that would be seen as either feminine or academically rigorous and dropout at higher rates than female students. The cause for these differences appears to be rooted in the male identity being in conflict with academic achievement more so than female identity.

Teachers share in some of the blame for this continuation of the gender gap as well. They can internalize stereotypes about male students, such as that they require less praise than female students - a stereotype that is actually the opposite (Lietaert, Roorda,

Laevers, Verschueren, and DeFraine, 2015). This can lead to lower rates of academic engagement from male students.

Female students do continue to be underrepresented in STEM fields (excluding biology), but that concern is one that is already documented, and work is being done to correct it. The male gender gap, assuming that the research in this paper is correct, is something unknown. Consequently, no work is being done to ameliorate it.

Speaking generally, these data were the most significant pieces of information learned from creating my project and writing this Capstone. In the following section, more specific sources and their value to the project will be listed and explained.

Literature Review Revisited

The most important parts of the Literature Review for me dealt with establishing whether the gender gap exists and what may cause it. Because it was such an unknown issue for me as I began this project, the foundational types of research were the most valuable sources for me.

Implicit bias may be the most important overall element of the research because it is the most actionable (meaning that a teacher's bias is something they can control, and many of the other causes of the gender gap are things generally outside of the control of the individual teacher), but wound up not being central to the creation of the project. Implicit bias will be discussed at greater length in the Limitations section of Chapter Four.

One of the most important sources was by Morris (2008). This was a case study of a rural high school, and while some of the descriptions of the school were different than

where I teach, reading what this author discovered through their research reinforced a great deal of what other research found. Perhaps the most valuable insight from this source was the finding that education was reported to be unmasculine by many of the interviewees.

Another central source was Lietaert, Roorda, Laevers, Verschueren, and DeFraine (2015), who found that boys and girls invest differing levels of effort in their school work with regard to time spent and concern for their grades; they also found that teachers support students differently based on their gender. Duckworth & Seligman (2006) reinforced Lietaert, Roorda, Laevers, Verschueren, and DeFraine, finding that girls and boys spend very different amounts of time on their homework.

A final central source was Klevan, Weinberg, and Middleton (2015), who researched how boys and girls orient social relationships around school. To summarize, the authors found that female social groups discuss school issues such as course material or academic difficulties, and male social groups do not.

Though other sources were certainly influential, these several provided the most foundational core of my research. In the next section I will discuss the implications of my findings and project.

Implications

From the research, one can surmise the male gender gap appears to be real. As mentioned earlier, both genders suffer from the discrepancies in how they are socially seen and what expectations about them exist. However, the female struggles are reasonably well documented, and some of the data used for this paper was only able to be

inferred by first reading about the female side.

Schools strive for equal opportunity, but the concept of masculinity appears to be contrary to the methodology of school (we all hold these stereotypes and biases, even down to the dress codes). Where schools often require students to be quiet and still, masculine identity is at times about drawing attention to one's self. Schools require hard work, and while males are not incapable of doing it, their social identities put them at a disadvantage because of inferior resources and safe avenues to ask for help.

In truth, this gender gap appears to be one wing of a larger, sociological phenomenon which is merely manifesting in classrooms. Social pressures discourage boys from showing vulnerability; consequently, boys seem to prefer to appear uninvested in school, unfazed by bad grades, or uninterested in graduation over the appearance of vulnerability.

In this section, I have listed general implications for schools and current practices which exacerbate the social challenges faced by male students. In the following section, I will discuss the unexpected difficulties faced during the creation of my project.

Limitations

Because of the social nature of the discussion, the three interviewed teachers were not good sources of material on implicit bias. In hindsight, I could have asked them to take implicit bias testing and discuss the results, but that did not occur to me until reflection after the discussions. In further reflection, it is possible that doing so may have created an adversarial feeling with the other teachers. Though gender stereotypes are important to understanding the gender gap, those data will have to be found in my own

words in the literature review.

Expanding upon the previous limitation, though the discussions were generally successful in accomplishing their task, teachers did seem generally reluctant to find their own actions contributed to this gender gap. Most were very willing to point out phenomenological events that supported its existence such as male study habits or graduation rates, but did not volunteer examples of personal biases. Given that it is the nature of bias to be hidden, this should not be surprising, but is also important to identify in this reflection. Therefore, listeners should be aware that the discussion provided in the three episodes are not exhaustive, but are merely the thoughts of three individual teachers.

Unfortunately, the above-mentioned lack of implicit bias discussion may be the most limiting issue. Because of the large factors influencing this gender gap (discussed later), the one that is most beneficial for teachers to know about is their own culpability in it. The format of the podcast discussion is probably not ideal for this purpose, but that wasn't something I considered before beginning the project.

There was a moderate level of technical understanding required to do the audio work of the project, and I was only able to figure things out after a lot of trial and error. For example, I placed the microphone close to the other person, and often in the recording, my questions were not audible or were garbled. For the most part, the effect of this should be negligible. I only asked questions as listed in Chapter Three or asked clarifying questions, but it made transcribing my own words very difficult. In the end, I chose not to transcribe my own voice in transcripts related to issues of sound as well and

redundancy. In general, the process of transcription was simple but frustrating. When the project began, it was not clear how time-consuming it would be to create transcripts of the interviews, and a disproportionate amount of time was spent; more than it merited.

Geography was challenging, and I had to learn how to record through Skype and Audacity at the same time, which resulted in a complete lack of my audio in the first recordings. One interviewee lives several hours away, and due to his vacation schedule, finding time to record was difficult.

These limitations discussed here were challenges I was able to overcome, but were encumbrances to the creation of the project. In the next section, I will make suggestions to future researchers regarding avenues for further exploration.

Future Research

In my research for this project, it seemed to me that researchers were only in the early stages of identifying this phenomenon (assuming my conclusion are correct and that the phenomenon exists). Given that observation, it seems safe to assert that there remains a great deal of research to do to elucidate the finer points of this area.

Based on my research, I would categorize future research into three very broad areas. First, data must be gathered on internal social factors. Male students appear to struggle with resolving ideas about themselves as young men with ideas about themselves as young learners. These struggles are internal and may be very difficult to change or shape without changing concepts of the individual's self.

Second, I recommend examining external social factors such as how teachers develop subconscious expectations for what males are like, and then behave in such a

way as to reinforce those expectations. In my writing, this is addressed to some degree in the implicit bias section of the literature review. Currently, most research pertaining to implicit bias and education pertains to bias towards students of color. One specific area I think should be explored is whether teachers are more or less likely to grade untidy handwriting badly, and how likely male handwriting is to be considered "untidy."

Another external social factor for research may be how the gender gap fits into the larger conversation about male identity and mental health. The male gender gap seems to be one manifestation in a cornucopia of difficulties related to unhealthy male identity (others would be higher suicide rates, for example).

Finally, there may be unknown biological factors. One of the questions I asked my guest teachers in the podcast was about whether they believe there to be a biological difference between male and female students, or whether any observed academic differences were the result of socialized behavior. None of the guests were able to offer any insight.

I choose to call these unknown biological factors because this was not something I found research on as I was writing my paper. It could be the case that the research exists and I was not able to find it when conducting my literature review.

In particular, I was curious about developmental periods (like early elementary or during puberty), and whether males differed from females during those periods in how they approached school. More specifically, I would like to know if those biological differences can have longitudinal effects - would have difficulty in discrete periods of an

education due to hormonal (for example) reasons affect later education (due to developing negative feelings about school, or deficiencies in content knowledge).

Perhaps a method of discerning how much, if any, of these phenomena are biological or social could be through examination of nonbinary gendered students. Students who are born with male sexual organs but identify as another gender may have different results than students who are both born male and identify as male. Since both of those categories of students should have the same general biology (puberty and other hormonal changes around the same time), contrasting data between male-born/male-presenting students and male-born/ non-male- presenting ones could offer distinct insight. If those students experience similar struggles, socialization may play a smaller or different role than is currently thought.

Similarly, it could be the case than non-male-born/male-presenting students display characteristics inline with the male gender gap discussed in this paper. If so, socialization may play a very large role. All of the research used in this project looks at gender in a binary lens, and as non-binary gender concepts become more well-known, those should be incorporated into the research.

This section discussed the three broad directions I suggest for future research. Regarding my own project and its distribution, the next section enumerates the methods of communicating my results to a broader audience.

Communicating Results

At first, I considered developing a Search Engine Optimization strategy (SEO) to help get the website available to the public. I chose not to do that because of time

constraints and the feeling that it would not be the best use of my time. However, because the project exists in a dynamic state (it's a website and SoundCloud profile), it can be updated to include this at later times as I'm more aware of how to do that.

I also considered trying to incorporate a Twitter account into the website, but that seemed unhelpful, as I knew it wasn't something I was interested in maintaining, and without maintenance, the account would lose interest from followers and its impact would be minimized. As it stands, the website can be found be searching for the gender gap, and the SoundCloud profile is available for anyone to find. It will also be linked on my personal podcast page for those who listen to that, though that podcast is more for students than professional educators.

Finally, I am soliciting feedback from a number of online teaching communities I am a part of, and that exposure will help bring this information out to the community as well. With these efforts, it is my goal to bring a positive change to the education profession.

Benefit to the Profession

Having roughly half of a student population at risk for not graduating (not to mention a number of other mental health risks like suicide or undiagnosed depression) is a problem. Identifying the male half of your population for behavior interventions while missing the other half is a problem.

Lack of awareness of our tendencies in the case of the male gender gap is at least a part of the problem. If we as teachers are not aware of our implicit biases in our classroom, we run the risk of exacerbating (or at best continuing) a problem. But, as the

research shows, by becoming more aware of our biases, we can overcome them.

The most clear benefit of this project is to raise awareness of the gender gap. Getting a group of teachers together to agree that they are basically observing the same problem across grade levels and schools highlights the widespread nature of the problem.

Raised awareness of the gender gap is the ultimate goal, and through that a professional change in the attitudes of teachers and other education professionals with regard to policy. In the penultimate section, I will summarize the contents of the preceding chapter.

Summary of Chapter Four

This chapter covered the important learnings of this project, which demonstrate the gender gap appears to exist based on research. Myriad factors cause or influence that gap, including personal identity creation and teacher expectations. In it, I also reflected on the most impactful sources from the literature review, and how those sources contributed to my overall understanding of the subject.

In the section on implications, I discuss how this project could influence school policy, such as increased awareness of disciplinary discrepancies between male and female students, and increases in explicit policy changes to better suit school to the struggling male populations.

The struggles experienced in the project are described in the section on limitations, and include mainly technical issues such as learning how to best use recording software in integration with communication software, or working around the schedules of podcast guest speakers.

I suggested future research possibilities and areas, and then I discussed how I planned on distributing my podcast to the world. Finally, I discussed how awareness of the issue might offer the largest gains in overall benefit to the teaching profession.

Conclusion

The gender gap seems to be real, and teachers have a role to play in doing something about it. That role isn't definitive, and more research must be done to take this issue from a fringe curiosity into the mainstream conversation. The role of the teacher begins with increased knowledge of the issue, and it is my hope that these podcast episode, and this Capstone paper, can be among the first steps for teachers who are interested in closing this gender gap.

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