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CLASSROOM

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Gender Bias in Elementary Education: A Professional Development Curriculum Aimed at
Creating Gender Equity in a K-6 Classroom

by

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Abstract

In light of the research findings on gender differences in education, the purpose of this project is to develop curriculum for a professional development course for teachers on how to examine and enhance the way they differentiate their approach to boys and girls in their classrooms. It will look at how teachers react to students of different genders in the areas of math, science, and language arts as well as how teachers approach resolution with regard to behavior problems in their classrooms. This professional development will include strategies that teachers might use when planning instruction based on what they know about the development of boys and girls in various subject areas. It will also promote reflection on how they approach behavior of boys and girls in their classroom to build a classroom community that addresses the needs of both male and female students based on the way current research shows how each group learns.

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Chapter One: Definition of Problem

Consideration of gender in primary education is not something that many teachers will say they actively work to recognize in their practice. That is, it is not something that comes into play for differentiation when planning a unit or a specific lesson. Garrahy (2001) studied a group of third grade teachers and found that they did not differentiate between their students as girls or boys and they did not take into account the gender of their students when teaching. This thought process may stem from the expectations teachers have of the prior knowledge level of the students in their classroom. In the experience of this researcher, much of what is required for teachers to know and be able to do does not include a recognition of how students from each gender experience the required curriculum and state standards.

Teachers spend a great deal of time in their school year in professional development experiences of various sorts; however, that professional development almost never addresses how teachers approach male and female students in their classroom. Based on my experience it seems that most professional development focuses on understanding district adopted curriculum, general classroom management, and understanding cultural diversity in the classroom.

Ways in which students of different genders perform in the areas of math and science has been studied with the conclusion most often being the same generalized statement: boys and girls perform differently across both content areas. More notably, boys tend to be stronger in math and science, and girls in the arts and languages. Marks (2008) studied multiple countries and examined the gender gaps in math and reading. The area of study that focused on the United States using the Programme for International Student Assessment (PISA) showed that in reading boys scored on average 30 points less than girls. In mathematics girls scored 10 points less than boys. Berdard & Cho (2009) also studied multiple countries, however only in the areas of math

and science. They too found that results from the Trends in International Mathematics and Science Study (TIMSS) showed boys outperform girls in the United States in both math and science. The score difference between the boys and girls in this study was approximately 1.8 percentage points in both areas. Noble and Bradford (1996) noted in their research that boys were generally achieving more strongly in math, science, and technology, but the girls made up for it in their achievement on the arts and languages. While these conclusions can be backed with multiple quantitative studies (e.g. Marks, Noble and Bradford (1996), Berdard & Cho (2009)) there has not been significant exploration into why these gaps to still exist and what is being done to address them.

Purpose of Project

In light of the research findings on gender differences in education, the purpose of this project is to develop curriculum for a professional development course for teachers on how to examine and enhance the way they differentiate their approach to boys and girls in their classrooms. It will look at how teachers react to students of different genders in the areas of math, science, and language arts as well as how teachers approach resolution with regard to behavior problems in their classrooms. This professional development will include strategies that teachers might use when planning instruction based on what they know about the development of boys and girls in various subject areas. It will also promote reflection on how they approach behavior of boys and girls in their classroom to build a classroom community that addresses the needs of both male and female students based on the way current research shows how each group learns. This project is being guided by the following themes: The definition of gender bias and the current research around it. The subject areas in which gender gaps appear to be the greatest and most prevalent. The approach of classroom teachers to gender and classroom management.

And the current climate on professional development that teachers are expressing. These themes guided the literature review, which provided the foundation for the professional development experience detailed in chapter four.

The purpose of this project is to develop curriculum for a professional development course for teachers on how to examine and enhance the way they differentiate their approach to boys and girls in their classrooms. It will look at how teachers react to students of different genders in the areas of math, science, and language arts as well as how teachers approach resolution with regard to behavior problems in their classrooms. Goals related to this purpose are to support teachers in identifying any unconscious bias they may hold towards male or female students when it comes to curriculum delivery and classroom/behavior management and to provide them with tools that will help them be more effective in their work with both genders. Being more aware of their reactions and treatment of students of both genders will better inform their instruction and in turn potentially reduce the gap of achievement between male and female students in various curriculum areas.

Preview Literature

Recently reviewed studies that have been conducted over the last 20 years show that although gender biases are recognized in different areas of the elementary classroom environment, math and science classrooms continue to be the place where the gaps between male and female students are most recognized. Noble and Bradford (1996) noted that boys were generally achieving more strongly in math, science, and technology, but the girls made up for it in their achievement on the arts and languages. Barrows (2007) stated that the teachers appeared to be very much aware of what constitutes gender bias; however, they did not discuss how teachers' behaviors in the classroom can affect students' perceptions of gender. Shepardson and

Pizzini (1992) proposed that one reason for the differential educational treatment of girls and boys is that teachers possess a gender bias in their perception of the scientific ability of their students. Another unspoken of factor is how teachers react to poor behavior in the classroom and their tactics of discipline for both boys and girls. Hassett (2009) found in her examination of gender differences in behavior related supports that, in general, boys receive either more behavior-related supports or more intensive behavior-related supports than girls do. Furthermore, through interviews with kindergarten teachers, Koch, Steelman, Mulkey, and Catsambis (2008) found that even with the absence of gender information, respondents also believed the less well behaved students to be male, and the better behaved to be female, demonstrating that stereotyped beliefs are held regarding gender and behavior. This suggests that gender bias is being placed on students at the very start of their education and could likely follow them throughout their educational career. The themes most recognized here are: The definition of gender bias and the current research around it. The subject areas in which gender gaps appear to be the greatest and most prevalent. The approach of classroom teachers to gender and classroom management. And the current climate on professional development that teachers are expressing.

Preview Methodology

An in-depth exploration of both qualitative and quantitative research on the current topics related to gender bias in elementary classrooms as well as the current climate toward professional development from teachers was used to identify best practices in creating educationally equitable learning environments and then to create a professional development curriculum for practicing teachers.

Significance of Project

The purpose of this project is to develop curriculum for a professional development course for teachers on how to examine and enhance the way they differentiate their approach to boys and girls in their classrooms. It will look at how teachers react to students of different genders in the areas of math, science, and language arts as well as how teachers approach resolution with regard to behavior problems in their classrooms. This professional development project is significant because it can help to improve elementary classroom communities by better informing teachers and establishing an outline for presentation of curriculum and handling behavior and classroom management of male and female students in elementary education classrooms. Current classroom teachers having a greater knowledge of how gender informs their instruction will help to close the gaps that were presented previously in this chapter. By closing these gaps, the educational community is creating a more gender equal environment for students to develop in. In turn, both male and female students will leave their educational careers having had equal access to all subjects taught in the classroom. Also, by better informing teachers on gender gaps and gender bias, future primary grade students will benefit from a more level and potentially un-bias classroom setting where each student is given a fair chance at excelling in every subject area.

Summary of Chapter

Research throughout recent decades has identified the presence of gender gaps and gender bias in both math and science. Shepardson and Pizzini (1992) proposed that one reason for the differential educational treatment of girls and boys is that teachers possess a gender bias in their perception of the scientific ability of their students. A branch of gender bias within delivery of curriculum in the classroom is the ways in which teachers approach behavior and

classroom management between male and female students. Koch, Steelman, Mulkey, Catsambis (2007) found that teachers in their study believed less well behaved students to be male and better behaved to be female demonstrating that stereotyped beliefs are held regarding gender and behavior. Chapter two presents a review of the current research on the definition of gender bias, the subject areas in which gender gaps appear to be the greatest and most prevalent, the approach of classroom teachers to gender and classroom management, and the current climate on professional development that teachers are expressing. The synthesis of existing research grounds the formulation of the professional development program described in chapter four.

Definitions

For the purpose of this study, the following definitions are used to clarify the terminology associated with the purpose statement.

Curriculum. Curriculum is best defined by a limited set of ideas which may serve as a useful means of structuring the association of the student and the teacher toward the end of individualized programs (Sprandel, 1975).

Gender bias. The inequitable treatment of males and females, which is deeply rooted and perpetuated by education (Davis, 2000).

Classroom management. Observable and measureable behaviors and the practices that effectively prompt, teach, and increase desired behaviors and in turn prevent and reduce inappropriate behaviors (Freeman, Simonsen, Briere, Macsuga-Gage, 2013).

Professional development. Teacher professional development should respect the leadership capacity of teachers, emphasize individual and organizational improvement, integrate current

research in teaching and learning, provide content and strategies, promote continuous inquiry, and be evaluated on the basis of teacher and student impact (Peter, 2009).

Chapter Two: Literature Review

Professional Development for teachers covers a wide range of situations and topics that educators face in the classroom. In this author's experience these topics are most often related to curriculum, lesson instruction, and classroom management. Many of the workshops and other professional development experiences required by school districts do not always include strategies for building community in often immensely diverse classrooms, and even further they almost never contain information on gender, gender gaps, and instruction delivery related to these issues. How students of different genders perform in the variety of curriculum areas has been studied (e.g. Shepardson and Pizzini, 1992; D'Ambrosio & Hammer, (1996); Noble and Bradford, 1996). More specifically, the areas of math and science have been thoroughly studied in terms of identifying and attempting to understand gender gaps in the classroom. Shepardson and Pizzini (1992) found that both lower and upper level female elementary teachers perceived boys to be more cognitively intellectual. Cognitive intellectual skills were defined as, "those requiring mental or abstract operations. Furthermore, the elementary teaches of this study defined girls as having better cognitive process skills. These were defined as, skills related to physically completing a task, such as observing, measuring, communicating, graphing, manipulating equipment and materials, and recording.

With respect to professional development, the great deal of research on the existence of gender gaps in elementary education does not point toward the training teachers are receiving nor does much of it propose a plan to actively work toward closing the gaps in classrooms. This project created a professional development curriculum that informs teachers on the presence of gender gaps in the classroom across curriculum and behavior management. The purpose of this project is to develop curriculum for a professional development course for teachers on how to

examine and enhance the way they differentiate their approach to boys and girls in their classrooms. It will look at how teachers react to students of different genders in the areas of math, science, and language arts as well as how teachers approach resolution with regard to behavior problems in their classrooms.

This professional development project is significant because it can help to improve elementary classroom communities by better informing teachers and establishing an outline for presentation of curriculum and handling behavior and classroom management of male and female students in elementary education classrooms. Current classroom teachers having a greater knowledge of how gender informs their instruction will help to close the gaps that were presented previously in this chapter. By closing these gaps, the educational community is creating a more gender equal environment for students to develop in. In turn, both male and female students will leave their educational careers having had equal access to all subjects taught in the classroom. Also, by better informing teachers on gender gaps and gender bias, future primary grade students will benefit from a more level and potentially un-bias classroom setting where each student is given a fair chance at excelling in every subject area.

This chapter will discuss the following themes in greater detail: definition of gender bias, the subject areas in which gender gaps appear to be the greatest and most prevalent, the approach of classroom teachers to gender and classroom management, and the current climate on professional development that teachers are expressing.

Defining Gender Bias in the Classroom

Our view as a population of what gender is guides us and shapes our day to day interactions. Connell (1996) explained that one view is that masculinity and femininity are demonstrated by specific features or traits. Another is that there is a normal and abnormal view of what constitutes masculinity and femininity which is demonstrated by normal and abnormal traits. A more simplified view is that gender is a set of traits that males and females engage in daily. The way current teachers define gender bias and how it is potentially expressed in their classrooms may vary. Scantlebury (2009) looked at gender bias in relation to expectations derived from the teacher. The researchers' examples include the expectation that boys naturally exhibit boisterous, unruly behavior, are academically able, rational, and socially uncommunicative. Whereas girls are quiet, polite, and studious. Girls are also expected to possess better social skills than boys and to excel at reading and the language arts.

Barrows (2007) states that the teachers appeared to be very much aware of what constitutes gender bias; however, they did not discuss how teachers' behaviors in the classroom can affect students' perceptions of gender. By selecting boys to move desks and girls to pass out papers or by selecting boys to assist with technology related tasks rather than girls, teachers could be sending subtle messages to their students. The origins of gender bias can often stem from personal experiences. In Barrows' (2007) research, the teacher participants revealed that when considering the origins of their perceptions of gender bias, they saw their parents and their upbringing as being the most significant factors. When asked directly, several did state that teachers had influenced them somewhat. Barrows noted that what appeared to be missing from their comments regarding the factors that have influenced their perceptions of gender was any mention of education they may have had as undergraduate or graduate students in teacher preparation and any workshops they may have taken.

Garrahy (2001) researched three third grade teachers, all of whom stated that they see each child generically and very simply as just a group of children. They do not differentiate between them as girls or boys, and they do not take into account the gender of their students when teaching. However, when observed by the researcher they demonstrated favoritism of a dominant group. That is, during a math lesson the teacher would more often call on a male student to answer a question as opposed to a female student. The researchers state that a view of “gender blindness” in efforts of creating fairness in the classroom was also rather common. More directly, seeing the students in a class as a generic group was also a hindrance on delivery of materials. Martin (1991) defines gender blindness as the idea that sex is the difference that makes no difference.

Garrahy (2001) continues that there is no generic child, and an absence of recognizing gender, or perpetuating “gender blindness” can be as damaging as over recognition. The expression of gender bias is most closely demonstrated in the delivery of and expectations for achievement different classroom subject areas.

Gender Gaps amongst Elementary Students in Delivered Subject Areas

Math and Science are often the greatest areas where teachers exhibit gender bias for the successes and failures among male and female students. Shepardson and Pizzini (1992) demonstrated that both lower and upper level female elementary teachers perceived boys to be more cognitively intellectual and girls to be more skilled in their cognitive process skills in relations to their scientific abilities. That is, they were better at calculating, graphing, and manipulating objects. Their research further showed that if teachers possess a gender bias in their perception of the scientific ability of their students, such a bias perception could explain and

perhaps be the cause of the differential educational treatment of students during science. This also may result in communicating a negative message to girls concerning their scientific ability.

Students' own knowledge of gender roles in science is lacking depth. D'Ambrosio and Hammer (1996) conducted a research sampling of 240 students in a science class to see if any of those students could identify and name a famous female scientist. Only ten students were able to give an answer. The responses of these students were Marie Curie and the two authors of the article who happened to be their junior high Science teachers. Noble and Bradford (1996) noted that boys were generally achieving more strongly in math, science, and technology, but the girls made up for it in their achievement on the arts and languages. Ma (2008) researched a selection of countries and found across all spans that females performed better than males across all countries with gender differences in reading, whereas males performed universally better than females across all countries with gender differences in mathematics. However, the point is made that this supports the cognitive science perspective where gender gaps in favor of females in reading and gender gaps in favor of males in mathematics are different mostly because the learning of reading and mathematics involves different cognitive processes. And as Shepardson and Pizzini (1992) found, most teachers saw the main difference between male in female students was based on their cognitive approach to the subjects, as opposed to their abilities to overall ability to excel in a subject area.

This finding has particular relevance in instruction in the English/Language Arts because it poses the idea that students of certain genders should be reading certain materials. Brendler (2014) found that societal norms pontificate certain texts as masculine or feminine, and these practices normalize how students see themselves in relation to many activities including their studies and practices of literacy. This researcher also finds that gender essentialism creates a

norm, based on sex characteristics, for how students are expected to engage in literacy practices. Eidson and Coley (2014) define gender essentialism as the idea that certain things pertain to a specific gender. For example, boys play football and girls play with tea sets. In their research of adults who are not in the classroom, adults believed that gender determines behavioral factors like the ones stated above as opposed to more biological factors.

Current Teacher Trainings on Gender Bias

Teacher education programs can be the place to build a strong foundation of gender awareness for preservice teachers. However, research has shown that the idea of gender bias in the classroom is not being discussed during this crucial time of development for future teachers. Using a survey of preservice teachers, Mader and King (1995) received data that showed that gender related instruction was not prominent in preservice teacher education programs no matter the type, location, or size of the program. The majority of those surveyed stated that they had talks amongst their peers about gender; however, their courses did not discuss gender or gender related differences in learning styles. Mizala, Martinez and Martinez (2014) found that future teachers' anxieties toward mathematics often transfer into the classroom setting and influence those future teachers' expectations of their students. Furthermore, they found that the participants had lower achievement expectations of girls than boys. They stated that their research did not include enough males to establish whether the gender stereotype threat is more salient in male or female pre-service teachers. This is a key area to note that future research will help to substantiate the potential of gender bias among male and female pre-service teachers. Cantu (1993) asked if we as a country have exhausted all the possibilities of training teachers to handle the different learning styles of boys and girls.

Gender Bias in Teacher Approaches to Behavior Management

The way teachers approach classroom and behavior management can often include gender bias. Research shows that teachers will see girls as more quiet and rule abiding and boys as more rambunctious and trouble makers. Robinson-Cimpian, Theule Lubienski, and Ganely (2013) found that teachers expected girls to perform better in school because they were more likely to be focused, exhibit more on task behavior, and have a more positive outlook toward learning. D'Ambrosia and Hammer (1996) found that male students are receiving more of the teacher's attention in all categories. The most formidable difference was in the remediation category where male students are receiving the attention as either the result of correcting a behavior or to redirect their focus in answering a question.

Noltmeyer, Kunesh, Hostutler, Frato, and Sarr-Kerman (2012) studied beginning and veteran teachers and discovered that beginning teachers were more likely to be reactive to negative behaviors of students as opposed to their veteran counterparts. However, both groups showed higher behavioral expectations for female students. The conclusion was made that teachers may view inappropriate female behavior as more unusual or out of place than if the same behavior was exhibited by a male student. Moreover, teachers were more likely to mention the increase of teacher presence in the hallway when responding to male student behaviors. This indicates that teachers may be more proactive in dealing with male student behaviors. They also considered that teachers may see and respond to more inappropriate behavior among male students because they tend to look for and expect it.

These gender biases are also affecting how teachers place students in groups for instruction. Koch, Steelman, Mulkey, and Catsambis (2007) interviewed Kindergarten teachers in regards to their ideas of behavior as it relates to gender and how their perceptions of behavior

impacted the placement of reading groups for students. The researchers found that the participant's generally harbored stereotyped beliefs that boys are more poorly behaved than girls and that girls are better behaved and more obedient than boys. Even with only slightly naughty behavior, boys were stereotyped as the more likely to be the perpetrator and more importantly were penalized for it in terms of reading class placement for fear that they would interrupt and cause problems. In a separate set of research by Catambis, Butarro, Steelman, Mulkey and Koch (2012), it was discovered boys were underrepresented in the highest ability groups and overrepresented in lowest ability groups of their classrooms.

Professional Development Climate amongst Teachers

According to the National Center for Education Statistics, on average schools spend about \$20 billion annually on professional development (NCES 2015). Educators have long considered professional development to be something that they deserve as dedicated and hardworking individuals (Guskey, 2002). Much research is based around how to deliver different subjects within the classroom and whether or not teachers find professional development useful. Casale (2011) conducted a qualitative and a quantitative study of a large group of teachers to find out their perceptions of these types of professional development. The findings were that teachers felt they were better able to improve student learning and their instructional strategies because of professional development. Teachers also felt that collaboration, choice, and relevancy were important to their professional development sessions. Even though studies have shown that teachers respond well to and benefit from professional development, there are still areas of improvement in the eyes of teachers. In research done by Kopcha (2011) teachers expressed that the biggest barrier in their professional development was the person leading it. This gauge of climate came from evaluations done after professional development had been delivered. Guskey

(2002) held evaluations of teacher perceptions of professional development and found that professional development should be meaningful and through evaluation you can determine if the goals were met. And although it cannot be proved that professional development is directly linked to greater student achievement, a sense can be gained as to if it contributed to gains in student learning. Huffman and Thomas (2003) found that in terms of student achievement, only in the area curriculum development for mathematics was it found that relations to student achievement were made.

Summary of Chapter

Chapter two presented a review of current research pertaining to gender gaps in elementary classroom. It looked at what is known about gender bias, gender bias in the delivery of classroom curriculum, current teacher trainings on gender bias, how gender bias relates to behavior management in the classroom, and how teachers feel about professional development. Understanding how gender bias is defined in the elementary classroom can begin the discussion on the prevalence of the gaps between male and female students. The research showed the gender gaps do exist in multiple areas and are often over looked by educators. And although professional development is a common practice in elementary classrooms, it rarely includes information or guidance on gender gaps. In the next chapter the methodology including the participants and setting, design, and instruments will be described.

Chapter Three: Project Methodology

In light of the research findings on gender differences in education, the purpose of this project is to develop curriculum for a professional development course for teachers on how to examine and enhance the way they differentiate their approach to boys and girls in their classrooms. This professional development course will allow teachers to examine their individual approaches and implicit biases in their classrooms as it relates to gender in the areas of math, science, and language arts as well as how teachers approach resolution with regard to behavior problems in their classrooms.

Design

This professional development curriculum was designed to define gender bias in the classroom and included strategies that teachers might use when planning instruction based on what they know about the development of boys and girls in various subject areas. It also promotes reflection on how they approach behavior of boys and girls in their classrooms to build a community that addresses the needs of both male and female students based on the way current research shows how each group learns. It is specifically designed for K-6 classroom teachers. The curriculum handbook is created to give teachers a resource that can be used throughout the school year within their classroom. The handbook follows the goals of the professional development plan.

Participants/Setting

Participants for this project include teachers of a K-6 grade level with no maximum or minimum on how many years of service they hold. This project is designed specifically for teachers who are in charge of a self-contained classroom that teaches multiple subject areas over

the course of a school day. The project itself does not lend itself to recognizing any of the proceeding components: geographic location, political climate, community, or school type. This project can serve teachers in any type of school as long as their classrooms contain both male and female students because based on previously reviewed literature, other factors in the life of a student, be it demographics, ethnicity, or socioeconomic status do not coincide or contribute either positively or negatively to the approaches a teacher may make when teaching or disciplining students of differing genders.

Instruments

In determining the best way to design a curriculum, I looked at pre-existing research on gender bias in the classroom and was able to find reoccurring themes. Furthermore, I looked for any current curriculum on gender bias that followed the themes I had discovered. As a result of the review of literature, the following areas that require support in the classroom became apparent: defining gender bias, gender gaps amongst elementary school students in delivered subject areas, current teacher trainings on gender bias, gender bias in teacher approaches to behavior management, and professional development climate amongst teachers. Using these reoccurring themes and areas of need, an outline was created to guide the professional development. This outline shows the elements of the curriculum that will be distributed to elementary schools.

The curriculum table of contents Figure 3.1, shows the steps for the proposed curriculum. Each chapter covers a theme found in pre-existing research, and within each chapter there is a blank plan for instruction for each teacher to use to help implement the research in their classrooms.

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Summary of Chapter

The goal of this project is to create a curriculum for a professional development course for teachers on how to examine and enhance the way they differentiate their approach to boys and girls in their classrooms. It examines at how teachers react to students of different genders in the areas of math, science, and language arts as well as how teachers approach resolution with regard to behavior problems in their classrooms. The curriculum should serve as an ongoing resource for teachers that offers planning templates, considerations for instructional planning, recommendations for classroom management procedures, and individual and grade level reflections throughout.

Chapter Four: Project Presentation

The purpose of this project is to develop curriculum for a professional development course for teachers on how to examine and enhance the way they differentiate their approach to boys and girls in their classrooms. It will guide teachers to examine how they react to students of different genders in the areas of math, science, and language arts as well as how teachers approach resolution with regard to behavior problems in their classrooms. This professional development includes strategies that teachers might use when planning instruction based on what they know about the development of boys and girls in various subject areas. It also promotes reflection on how they approach behavior of boys and girls in their classroom to build a classroom community that addresses the needs of both male and female students based on the way current research shows how each group learns.



Gender Bias in Elementary Education

A COMPREHENSIVE
CURRICULUM AIMED AT
ADDRESSING GENDER BIAS
IN THE ELEMENTARY EDUCATION

EDUCATORS'
HANDBOOK

S. J. Cochran

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Introduction

Equality in education is vital to producing well informed citizens of this country. My experience as an educator over the last six years has proven to me that we must be aware of how we treat students to ensure that we are giving equal opportunities to these young learners. Teaching the whole child should be the goal for every professional educator.

Our classrooms are becoming more diverse year after year, and recognizing this diversity is vital. However, one area that is often over looked is the difference manner in which we sometimes treat our male and female students. When I began teaching kindergarten, I had a moment where I had to recognize my own gender bias. I was to be given a new student, and when I found out this new student would be a boy, I was instantly concerned. I assumed he would come with behavior issues, and hopefully those would be balanced with strong academics, however he would likely struggle with writing and my load of below grade level writers was already heavy. As I worried over how I would handle this new student whom I had never met nor knew anything about, I found myself feel ashamed. Why was I making negative assumptions about a child I had never met? And why was I doing it just because I had found out this new student was a male? I then stopped to scan my classroom and reflect on how I had handled situations with my students that day. Was I too hard on that male student for talking out of turn when a female counterpart was doing it all day with little reprimand from myself? Did I stop to make sure I called on female students during my math lesson? Did I ask a boy to read aloud during small group instruction? Was I creating an equal learning environment for these young minds?

This professional development curriculum provides a framework for teachers who want to create more gender equal classrooms. All activities are designed with the intention of teacher

self-reflection as the strongest component for improvement because it was with self-reflection that I was able to recognize and adjust my own teaching practice. It is designed to be run by teachers and can be used from year to year to re-evaluate your teaching. Because as we know, no batch of new students is the same, and each teaching year is an opportunity to grow and improve our practice. Thank you for taking this time to reflect on yours.

How to Navigate this Handbook

This handbook is comprised of three sessions. In session one there is an introduction to current research in gender bias in the classroom, an area for your personal reflection, why this is important in your classroom, and how to start collecting your own data for the second session. Sessions two examines data and helps you as a teacher and your team as a grade level develop a plan for better practices. Sessions three examines behavior management in the classroom. As previously stated, each session is designed to be teacher led with a great deal of time needed for self-reflection. Throughout each session you will see two types of reflections: one for you to reflect on what you just read because self-reflection is essential in order to move on to the next steps successfully. And another to stop and share with your grade level team. Comparing your findings to those your colleagues will help to identify any trends or areas for growth.

Session 1 provides a review of research—both seminal and current—because is important to understand what the field already knows before beginning an evaluation of your current practice. It is also an opportunity for you to stop and reflect on your own current teaching practice. You will need access to student data for this session because you will be looking at the overall performance of students and if there are any correlations to gender.

Session 2 is a chance for you to review your data that is based entirely on subject area delivery and to compare amongst your grade level team. The purpose of this data analysis is to

identify ways in which you might adjust and create a more level playing field for your classroom.

Session 3 focuses on classroom management. Here you will compare your management strategies and discipline decisions as they pertain to male and female students. This is where you will explore ways to integrate the existing research into your data analysis and decide upon the best approach for you and for your grade level team. This session concludes by creating a grade level plan, a school wide plan, and ideas for future refresher sessions.

Throughout each session there are fillable forms, which you can use as you work through the sessions. Should you need to make copies, there are masters of each fillable form in the back of the handbook.

Session 1: Introduction and Prior Research

What you will need to be successful in this session:

- Your classroom data for both math and English language arts (ELA). It is suggested that assessment that each classroom gives be used for this portion. For example: district math and ELA assessments.
- Your personal calendar to coordinate observations with either grade level team members or other teachers/support staff.
- Copies of the Data Collection for Classroom Observations form

Part 1: What the research shows

Professional Development for teachers covers a wide range of situations and topics that educators face in the classroom. In this author's experience, these topics are most often related to curriculum, lesson instruction, and classroom management. Many of the workshops and other professional development experiences required by school districts do not always include strategies for building community in often immensely diverse classrooms, and even further they almost never contain information on gender, gender gaps, and instruction delivery related to these issues. How students of different genders perform in the variety of curriculum areas has been studied (e.g. Shepardson and Pizzini, 1992; D'Ambrosio and Hammer, 1996; Noble and Bradford, 1996) in order to understand gender gaps in the classroom. More specifically, the areas of math and science have been thoroughly studied in terms of identifying and attempting to understand gender gaps in the classroom. Shepardson and Pizzini (1992) found that both lower and upper level female elementary teachers perceived boys to be more cognitively intellectual. Cognitive intellectual skills were defined as those requiring mental or abstract operations. Furthermore, the elementary teaches of this study defined girls as having better cognitive process

skills. These were defined as skills related to physically completing a task, such as observing, measuring, communicating, graphing, manipulating equipment and materials, and recording.

With respect to professional development, the great deal of research on the existence of gender gaps in elementary education does not point toward the training teachers are receiving nor does much of it propose a plan to actively work toward closing the gaps in classrooms. This is why your involvement in this professional development is so important. By working through and completing these three sessions, you are helping to close this gap and provide a classroom environment that has equal opportunities for all students.

Time to stop and reflect

1. Reading this selection of research and having had experience with a credentialing program, professional development and other forms of teacher training, would you agree that this is something that is often overlooked? If yes, why do you think this is the case? If not, why not?

2. Thinking about your own teaching practice, why do you think it is important to partake in this professional development? What do you hope to take away from your time spent doing this?

Part 2: What this looks like in your classroom

Now it is time to think about your own classroom. Using the district assessments for both math and ELA that you brought for this sessions, complete the following steps to help guide self-reflection, and then discussion amongst your grade level team:

- a. In both areas of instruction (math and language arts), identify by highlighting your top performing and below grade level performing students in two separate colors. For your top performing student group: are there any trends in gender? For example: Is the group largely made up of male or female students? What are you currently doing to ensure they continue to grow? For your low performing group: are there any trends in gender? What supports do you have in place for this group? Are these support specific to the dominant gender?

- b. Is there anything that surprises you? Do your supports show any sign of gender bias based on your readings of current research? Do you feel as though your expectations are different for your male students versus your female students in the different academic areas?

- c. Stop and share your personal findings with those of your colleagues. What are the trends? Do the trends waiver base on the gender of the student?

Part 3: Preparation for Session 2

Data collection for Session 2

Now that you have had time to review current research and reflect on your own current practice, it is time to collect data. The process of this data collection requires support from an observer as they will be the ones to collect data on your classroom. You will want to partner up with someone from your grade level to share the duties of collecting data in each other's classrooms. The job as the observer is to fill in the Data Collection for Classroom Observations: Content Area form. The goal here is to have someone else's perspective. Also, it is nearly

impossible to collect data on your own teaching practice; often times in the moment of teaching, we cannot stop and reflect on how many times we did something. Collecting your own data may leave some important aspects out. Therefore, collaboration is the key to success here!

If you are the one collecting data: Your goal is to simply collect the facts. You need to observe both an ELA lesson and a math lesson. It does not need to occur in succession however, do not share your data until both observations have happened. This will help eliminate any potential adjustment to teaching by the one you are observing based on what you find.

What you are collecting: As the research stated earlier on in this session, teachers have the potential to show bias when teaching different subject areas. Now having some knowledge in that, you as the observer are going to be marking how many times a teacher calls on female and on male students during a lesson. You will also note what methods they chose to use to call on students. Also, who (if any) they called on most frequently. This is all important because as the research showed, not all teachers are fully aware of what they are exhibiting. This will help to guide self-reflection in the third session.

Data Collection for Classroom Observations: Content Area

Name of teacher being observed _____ Date _____

Content area being observed: Math ELA

Lesson Objective _____

Number of female students called on throughout the entire lesson. To record data for this portion, you may use tally marks and calculate a total at the bottom.	Number of male students called on throughout the entire lesson. To record data for this portion, you may use tally marks and calculate a total at the bottom.
<p style="text-align: right;">Total _____</p>	<p style="text-align: right;">Total _____</p>

Method teacher used to call on students (ex: raised hands, popsicle sticks, pulling names or numbers from a receptacle) _____

List the names of students teachers called on more than once, and if possible, keep tallies of how often after the first time. The importance here is if there is reliance on one student during a lesson. This can also be noted if the lesson was conducted using small group instructions.

Lesson length _____

Name of observer _____

Session 2: Subject Area Achievement Gaps

What you will need to be successful in this session:

- Copies of the classroom observations conducted by one of your peers.
- Copies of the Teacher Self Reflection Form and the Grade Level Reflection Form if you do not want to write in this book.

Part 1: Self-Reflection and Grade Level Reflection

You should now have data about your interactions with students that has been collected by one (or more) of your colleagues. Likewise, you should have had a chance to observe two lessons of your peers as well. In the next section of this session, you will take a moment to self-reflect. Then, you will work with your grade level team to reflect on all data collected.

What method do you use to call on students? Do you feel that this method may need to be adjusted to avoid calling on a certain set of students more than others? What might you do instead?

Course of action for future lessons: Based on the data you observed in Session One, and the data you reflected on here, how might you adjust your lessons in the future?

What might your grade level do collectively to avoid gender bias with regard to calling on students in the classroom?

What are the next steps as a grade level?

Part 2: Where are the gaps?

Now that you have had time to reflect as an individual and as a grade level, where can you identify the greatest gap in your interactions with each gender? That is, between Math and ELA, which requires the most review in relation to gender? The next part of this is to sit with your grade level team and identify the greatest area of need and come up with a plan that will do the following:

- Level the playing field for both male and female students.
- Can last the entire school year.

Please use the following form for this.

Grade Level Plan for Future Practice

Area of greatest need: Math ELA

Area(s) Identified for Improvement (ex: how students are called on, expectations, overall performance of students of a certain gender):

Rationale/Sources of Evidence:

Plan begin date: _____

Date you will reassess and meet to look at new data: _____

Part 3: Plan for Data Collection for Session 3 Now that you have an idea of where your grade level needs to make adjustments for academic content areas in how each teacher interactions with students and the design of lessons to support those interactions, it is time to look at your classroom management. Much like you data collection for this session, you will need support from a colleague to observe your interactions with your students.

Before your colleague can collect data on your classroom management, please fill out the form on the next page titled, "My Classroom Management Plan." Here you will identify how you manage certain behaviors with individual students and with your whole class. Provide this for your observer before their visit.

If you are the one collecting data- Your goal is to look for the following:

- How often does the teacher reprimand students of each gender?
- Did you notice the teacher correct a student for a behavior, but not another students for the same? For example: often times when boys talk out of turn, their behavior is corrected, but for girls it is expected because "that's what girls do".
- Does the teacher follow through with their behavior plan they provided you?

My Classroom Management Plan

Teacher name _____

My plan for individual students (ex: clip chart, classroom money, individual behavior contracts, etc.):

My plan for my whole class (ex: marble jar, class points, etc.): _____

Anything else your observer needs to know:

Data Collection for Classroom Observation: Classroom Management

Name of teacher being observed _____ Date _____

Lesson Objective _____

Number of female students acknowledged for BAD behavior. To record data for this portion, you may use tally marks and calculate a total at the bottom.	Number of male students acknowledged for BAD behavior. To record data for this portion, you may use tally marks and calculate a total at the bottom.
Total _____	Total _____

Number of female students acknowledged for GOOD behavior. To record data for this portion, you may use tally marks and calculate a total at the bottom.	Number of male students acknowledged for Good behavior. To record data for this portion, you may use tally marks and calculate a total at the bottom.
Total _____	Total _____

Did the teacher follow through with their behavior plan when appropriate? If yes, how?

Session 3

What you will need to be successful in this session:

- Copies of the classroom observations conducted by one of your peers.
- Copies of the Teacher Self Reflection Form and the Grade Level Reflection Form if you do not want to write in this book.

Part 1: Self-Reflection and Grade Level Reflection

You should now have data that has been collected by one of your colleagues. Likewise, you should have had a chance to observe one lesson of your peers as well. In the next section of this session, you will take a moment to self-reflect. Then, you will work with your grade level team to reflect on all data collected. Please

How surprised are you by the number of boys versus girls that you recognized for BAD behavior? How aware do you feel you are in your daily practice of how often you acknowledge the BAD behavior of a certain gender group?

What method do you use to manage behavior of individual students? Do you feel that this method may need to be adjusted to avoid acknowledging on a certain set of students more than others? What might you do instead?

Course of action for future lessons: Based on the data you observed in Session Two, and the data you reflected on here, how might you adjust your lessons in the future?

Grade Level Reflection Form: Classroom Management as a grade level teachers acknowledged _____ girls and _____ boys for GOOD behavior.

As a grade level teachers acknowledged _____ girls and _____ boys for GOOD behavior.

As a grade level, based on the data collected here, the data observed from Session 2, and your knowledge of prior research, are there any trends related to how many boys versus girls were acknowledged for GOOD behavior? If yes, what are they and how might they be addressed as a grade level?

As a grade level, based on the data collected here, the data observed from Session 2, and your knowledge of prior research, are there any trends related to how many boys versus girls were acknowledged for BAD behavior? If yes, what are they and how might they be addressed as a grade level?

What might you do as a grade level to manage classroom behavior for individual students, and for the entire class? Might it be helpful if each teacher holds the same policies and procedures?

What are the next steps as a grade level?

Part 2: What the Research Shows

In Session One, you had the chance to review a basic outline of research. In this session, you will review more research, however the focus is geared heavily toward classroom management, and gender differences.

Gender Bias in Teacher Approaches to Behavior Management

The way teachers approach classroom and behavior management is often influenced by implicit gender bias. Research shows that teachers will see girls as more quiet and rule abiding and boys as more rambunctious and trouble makers. Robinson-Cimpian, Theule Lubienski, and Ganelly (2013) found that teachers expected girls to perform better in school because they were more likely to be focused, exhibit more on task behavior, and have a more positive outlook toward learning. D'Ambrosia and Hammer (1996) found that male students are receiving more of the teacher's attention in all categories. The most formidable difference was in the remediation category where male students receive the attention as either the result of correcting a behavior or to redirect their focus in answering a question.

Noltemeyer, Kunesh, Hostutler, Frato, Sarr-Kerman (2012) studied beginning and veteran teachers and discovered that beginning teachers were more likely to be reactive to negative behaviors of students as opposed to their veteran counterparts. However, both groups showed higher behavioral expectations for female students. The conclusion was made that teachers may view inappropriate female behavior as more unusual or out of place than if the same behavior was exhibited by a male student. Moreover, teachers were more likely to mention the increase of teacher presence in the hallway when responding to male student behaviors. This indicates that teachers may be more proactive in dealing with male student behaviors. They also

considered that teachers may see and respond to more inappropriate behavior among male students because they tend to look for and expect it.

These gender biases are also affecting how teachers place students in groups for instruction. Koch, Steelman, Mulkey, and Catsambis (2007) interviewed Kindergarten teachers in regards to their ideas of behavior as it relates to gender and how their perceptions of behavior impacted the placement of reading groups for students. The researchers found that the participant's generally harbored stereotyped beliefs that boys are more poorly behaved than girls and that girls are better behaved and more obedient than boys. Even with only slightly naughty behavior, boys were stereotyped as the more likely to be the perpetrator and more importantly were penalized for it in terms of reading class placement for fear that they would interrupt and cause problems. In a separate set of research by Catambis, Butarro, Steelman, Mulkey and Koch (2012), it was discovered boys were underrepresented in the highest ability groups and overrepresented in lowest ability groups of their classrooms.

Time to stop and reflect

1. As you reflect upon existing research, your own data analysis, and the observations of classroom management, what connections can you make to your own practice?

Part 3: Where do we go from here?

Now that you have had time to reflect as an individual and as a grade level, where can you come together as a grade level and develop a plan? That is, when it comes to classroom management, are there procedures you can put in place that ensures not one gender group is more looked at (or overlooked) than another? The next part of this is to sit with your grade level team and identify the greatest area of need and come up with a plan that will do the following:

- Level the playing field for both male and female students.
- Can last the entire school year.

Please use the form on the following page for this.

Plan for Future Practice (What will you do collectively to adjust what you have identified requires improvement?)

Measureable Outcome:

Plan begin date: _____

Date you will reassess and meet to look at new data: _____

Part 4: When do we revisit this?

I want to thank you for taking time to stop and reflect on your entire practice in terms of your approach to gender in your classroom. As educators, we do not often have the time to examine our practice in ways not mandated by our districts. At the core of our practice is the goal to make sure each child has full access to everything we can give them. Working through these last three sessions shows your dedication to that.

It is suggested that you revisit all of this as an individual and as a grade level at least one more time in your current school year. In coming years, it is suggested that as a school you work through these sessions 2 times a school year. Once during your first quarter, and again during the third. That way you can identify areas of need, adjust, and revisit to be sure your plan is working and if it needs adjustment.

Reproducible Copies of Forms

Data Collection for Classroom Observations: Content Area

Name of teacher being observed _____ Date _____

Content area being observed: Math ELA

Lesson Objective _____

Number of female students called on throughout the entire lesson. To record data for this portion, you may use tally marks and calculate a total at the bottom.	Number of male students called on throughout the entire lesson. To record data for this portion, you may use tally marks and calculate a total at the bottom.
Total _____	Total _____

Method teacher used to call on students (ex: raised hands, popsicle sticks, pulling names or numbers from a receptacle) _____

List the names of students teachers called on more than once, and if possible, keep tallies of how often after the first time. The importance here is if there is reliance on one student during a lesson. This can also be noted if the lesson was conducted using small group instructions.

_____	_____
_____	_____
_____	_____
_____	_____

Lesson length _____

Name of observer _____

My Classroom Management Plan

Teacher name _____

My plan for individual students (ex: clip chart, classroom money, individual behavior contracts, etc.):

My plan for my whole class (ex: marble jar, class points, etc.): _____

Anything else your observer needs to know:

Data Collection for Classroom Observation: Classroom Management

Name of teacher being observed _____ Date _____

Lesson Objective _____

Number of female students acknowledged for BAD behavior. To record data for this portion, you may use tally marks and calculate a total at the bottom.	Number of male students acknowledged for BAD behavior. To record data for this portion, you may use tally marks and calculate a total at the bottom.
<p style="text-align: right;">Total _____</p>	<p style="text-align: right;">Total _____</p>

Number of female students acknowledged for GOOD behavior. To record data for this portion, you may use tally marks and calculate a total at the bottom.	Number of male students acknowledged for GOOD behavior. To record data for this portion, you may use tally marks and calculate a total at the bottom.
<p style="text-align: right;">Total _____</p>	<p style="text-align: right;">Total _____</p>

Did the teacher follow through with their behavior plan when appropriate? If yes, how?

Teacher Self Reflection Form: Classroom Management

In my lesson I acknowledged _____ girls and _____ boys for GOOD behavior.

In my lesson I acknowledged _____ girls and _____ boys for BAD behavior.

Based on reflection of the data collected here, your data observed in Session 2 and your knowledge from prior research, how surprised are you by the number of boys versus girls that you recognized for GOOD behavior? How aware do you feel you are in your daily practice of how often you acknowledge the GOOD behavior of a certain gender group?

How surprised are you by the number of boys versus girls that you recognized for BAD behavior? How aware do you feel you are in your daily practice of how often you acknowledge the BAD behavior of a certain gender group?

What method do you use to manage behavior of individual students? Do you feel that this method may need to be adjusted to avoid acknowledging on a certain set of students more than others? What might you do instead?

Course of action for future lessons: Based on the data you observed in Session Two, and the data you reflected on here, how might you adjust your lessons in the future?

As a grade level, based on the data collected here, the data observed from Session 2, and your knowledge of prior research, are there any trends related to how many boys versus girls were acknowledged for BAD behavior? If yes, what are they and how might they be addressed as a grade level?

What might you do as a grade level to manage classroom behavior for individual students, and for the entire class? Might it be helpful if each teacher holds the same policies and procedures?

What are the next steps as a grade level?

Grade Level Plan for Future Practice

Area(s) Identified for Improvement (ex: individual behavior systems, whole class system, etc.):

Rationale/Sources of Evidence:

Plan for Future Practice (What will you do collectively to adjust what you have identified requires improvement?)

Measureable Outcome:

Plan begin date: _____

Date you will reassess and meet to look at new data: _____

Chapter Five: Project Recommendations

The creation of this project has been an amazing learning process that has changed my pedagogy and informed how I teach my current class of students. What started as a moment of self-reflection on a reaction to a new student has become a professional development plan that I believe will help guide instruction for teachers and in turn create better classrooms for all.

I have had many discussions with educators of every level about this project and the importance it holds. Most of these conversations resulted in colleagues stating that this was not something that they had ever thought about. The amount of research that comes with gender bias in the classroom shows that it is prevalent, and we lack opportunities for honest discussions about it at our school sites.

As I designed this curriculum, I did so with the intent for teachers to have open and honest conversations with one another about what was happening in their own classrooms in terms of potential gender bias and how they approached it. As a teacher who attends a great deal of professional development courses, I noticed a lack of opportunity to have conversations about change that was not associated with the adoption of a new math curriculum. Most teachers entered the profession to help create good, well informed, and capable citizens, and that is not always done through an innovative math curriculum.

I also kept in the mind the need for time and collaboration with any professional development that needs certain data to be collected. Here, teachers or support staff are performing the observations for data collection. The hope there was that with the observation would come a chance to see colleagues in actions and in turn create greater collaboration which can only benefit teachers and students. Also, often observations came at the hand of

administration which for many teachers just results in added stress. By having a peer perform the observation, it is likely the stress will drop and the results obtained will be much more reliable.

Educational Implications

Educators who partake in this professional development need to be prepared to talk to the members of their grade level team and be open to discussing their personal practices. This project can be used more than once throughout the year to “check-in” on best practices and make adjustments as needed.

It is suggested that every school member participate in the project and also perform at least one observation for the project on a peer. The observations do not need to be performed within a grade level, and it may be beneficial to work outside of an individual’s grade level so that difference practices can be observed. For teacher’s own comfort and stress level, administrators do not generally need to be involved in the process.

Limitations of Project

What was presented in this project was based on findings in current research and using personal experience with professional development. However, there were limitations in the creation of this project. First, there was not much research on teacher lead professional development and the best layout for it. Because of that, I relied almost completely on my own knowledge and experience to help guide the flow of the curriculum.

Additionally, within the research findings, many researchers’ suggestions were often simple statements of the need for teacher education and more research. Because of this I did not have a lot of guidance of peer reviewed findings of what would be best for teachers in terms of education on gender bias.

Future Research or Project Suggestions

It is my suggestion that from this project, research on how teachers call on students is done. I believe it will be found from working through this curriculum that teachers rely a lot on raised hands of helpful students to help maintain flow of a lesson as opposed to a more random system that can open the door for teachable moments that may detract from the flow. Working through the project can lead to more effective instruction in that teachers are asked to examine their practices and adjust according to their findings and conclusions.

Summary/Conclusion

The purpose of this project sought to develop curriculum for a professional development course for teachers on how to examine and enhance the way they differentiate their approach to boys and girls in their classrooms. It looked at how teachers react to students of different genders in the areas of math, science, and language arts as well as how teachers approach resolution with regard to behavior problems in their classrooms. Current research and personal experience helped to build the foundation for this project.

I believe that every teacher has the goal to create a learning environment where all of their students have all that they need to be successful. I also believe that all teachers have made the dedication to being lifelong learners and adjusting their teaching practice according to new findings in education. Professional development courses that allow teachers a chance to stop and remember those things can only help make better learning situations for students.

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