

The Effect of Gender-Specific Instruction on Enhancing Student Learning according to Educators' Perceptions

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Abstract

This study aims to allow educators to give their opinions, perceptions, and interest level regarding gender-specific education in the public-school setting. The researcher drew participants from the school district treating it as a sample. The school district serves a diverse population of 6,233 students with varied socioeconomic backgrounds and ethnicities. Fifty-four percent of the students received free or reduced-price lunches. Approximately 49% of the students were African American, 47% Caucasian, and 4% other, consisting of a mixture of Asian, Hispanic, and other nationalities.

The demographics for the 157 participants in the current research were as follows: 57 elementary educators, and 100 secondary educators. Of this sample, twenty-five were men and 132 were women, with an age range of 24-64. A questionnaire was designed consisting of four research questions to address teachers' perceptions regarding the implementation of gender-specific education. The researcher employed two different surveys, one specifically to gather data about boys and another to acquire data about girls. A school district in the southeast United States was chosen to garner K-12 educators' perceptions. The Gender-Specific Education survey was used to collect data from all teachers in the district and is composed of two parts: the first part of the survey ascertains demographic information, while the second part utilizes a five-point Likert scale that addresses teacher's perceptions, opinions, and level of interest regarding the implementation of gender-specific education.

The researcher performed all data analysis using (SPSS) Statistical Software for the Social Sciences version 19. Frequency statistics were performed on the survey instruments, with percentile values. The researcher calculated the dispersion using standard deviation, variance, and mode while noting minimums and maximums. The researcher performed a distribution analysis of skewness and kurtosis, while all results were displayed in pie charts on percentage values. Finally, the order of frequency was noted and in ascending values, with the multiple variables organized by variable numbered output.

The findings suggested that: (a) participants perceived gender-specific classes as being positive for male students, (b) the number of neutral responses indicated the lack of knowledge about the effects and outcomes of students in gender-specific settings, (c) participants at the secondary level would consider working in a gender-specific setting.

Although this research study resulted in neutral teacher responses and yielded non-significant results, this study will serve to provide a basis for the implementation of other studies and to help policymakers in this school district to provide staff development on gender-specific strategies to the staff currently teaching gender-specific classes.

Keywords: achievement gap, co-education, gender-specific education, single-sex education

1. Introduction

Since the beginning of public education in the United States, coeducation has been the norm. Coeducation is a system of education in which both men and women attend the same classes and or schools. Coeducation began not because of some firm belief in its sound educational effect, but rather because of financial constraints (Riordan, 1990). Interest in public gender-specific education has increased over the years, especially after the topic was explored by Lee, Marks, and Byrd in 1994. These researchers looked at the topic as a means of removing "perceived barriers to girls' academic success. According to Riordan, 1990, mixed-gender schools were historically, and economically more efficient. In America, boys and girls usually attended the same public

schools. This practice originated with the "common" school (p.10).

Up until the mid-1970s, gender-specific public education was viewed as an obsolete approach to teaching boys and girls (National Association of Single-Sex Public Education (NASSPE, 2008). According to Martino, Mills, and Lingard, (2005), gender-specific education is a reform that has been implemented by some leaders in some districts and is now being advocated as a strategy for addressing the educational and social needs of children in public schools.

There are very few formal studies on the effects of gender-specific schools and classrooms however, reviews conducted by Moore, Piper, and Schaefer concluded that "there is sufficient evidence to support the proposition that single-sex schools may produce positive outcomes for young women, and that countervailing evidence to reject that proposition is not sufficiently convincing" (1992, p.42).

In 1992 a study commissioned by the American Association of University Women Educational Foundation reported on "How Schools Shortchanged Women." This study reported on more than one thousand publications about girls and education and concluded that bias against females remained widespread in coeducational schools and was the cause of lasting damage to both the educational achievement and self-development of girls.

Public school systems across the nation are plagued by low student achievement, lack of student motivation, and discipline problems, which more times than acceptable, lead to violence. (American Association of University Women Educational Foundation, 1998). Educators are concerned about the quality of education that students receive. Some researchers are advocating the implementation of gender-specific education as a solution to the problems of low student academic success.

In response to the demands to improve educational systems in the United States, policymakers advocated for school choice. This movement led to the implementation of gender-specific schools and classrooms (Datnow and Hubbard, 2002).

One of the questions, this study addressed was that of teachers' perception regarding students in gender-specific classes. For example, do students in gender-specific classrooms have better attitudes toward education than their peers in non-gender-specific classes, and the idea that gender-specific instruction enhances student learning? In a study conducted by Black (1998) regarding principals' perceptions of gender-specific schools, he states "By and large these principals claim that gender-specific programs run smoothly and have fewer discipline problems because they take away the tensions that spring up when boys and girls mix in classrooms" (p.31). The research questions developed in this study were based on a review of the literature on gender-specific education.

The role that teachers play in the implementation of gender-specific classes is critical to its success. For example, Bowden, Lanning, Pippin, and Tanner (2003) discussed the importance of teachers' attitudes, characteristics, the conception of self, and intellectual and interpersonal dispositions in program evaluation. Abrams, Medulla, and Madaus (2003) conducted a study where they solicited the opinions of teachers based on how they impact classroom practices, the amount of pressure placed on them to improve student achievement, the amount of influence they have on student morale, and motivation and their views of accountability. There is evidence that students who are in gender-specific classes have better attitudes toward schooling and in general, have better test results. For example, Datnow and Hubbard (2002) state that the research is "exceedingly persuasive" in demonstrating that single-sex schools are effective in terms of providing both greater equality and greater achievement, especially for low-income and working-class students, most particularly for African American and Hispanic American boys and girls" (p.13). These studies by Thompson and Ungerieder (2004) suggested that girls repeatedly reported that they enjoyed the gender-specific environment more than the coed environment when given a choice, and they felt more comfortable and less disturbed by disruptive behaviors in a gender-specific classroom. Comments such as the following were common in the literature.

Girls reported that they felt more comfortable and liked science and mathematics more in a gender-specific setting. They were more likely to take risks even if they resulted in mistakes because they were supported by their classmates and free from the embarrassment that may have been caused by the presence of boys. The gender-specific environment made the girls feel empowered and smart. Girls and boys were viewed as having different skills, interests, and learning styles; thus, they are better served by gender-specific schooling is one of the prevailing reasons why gender-specific schooling is so often seen as the answer (Baker, 2002, p19).

Efforts to reduce the gender gap in subjects such as math and science or to promote co-ed environments that serve both boys and girls have not been successful, so single-sex classes have been the only option left for addressing the inequities. On January 8, 2008, when President Bush signed into effect the No Child Left behind Act (NCLB), he reauthorized the Elementary and Secondary Act of 1965. One of the provisions of this act

permitted public schools to use more flexibility to improve educational outcomes for children. Some school districts used local or innovative program funds to offer single-sex schools and classrooms consistent with applicable laws. Subsequently, the U.S. Department of Education published amendments to the Title IX regulations in October 2006 that provide school districts additional flexibility to implement gender-specific programs. The new regulations allow public school districts to offer gender-specific classes—or entire schools—if they continue to offer parents and students a coed choice. Some of the perceived benefits of gender-specific schooling cited by teachers and principals in these schools include a greater degree of order and control and fewer distractions in the classroom.

2. Purpose of Study

Teachers are seldom asked their opinions about programs or strategies that affect the lives of the students they teach. Yet, the role that teachers play in the implementation of any new strategy, program, curriculum, or gender-specific classes is critical to its success. For example, in 2003 Bowden, Lanning, Pippin, and Tanner discussed the importance of teachers' attitudes, characteristics, conceptions of self, and intellectual and interpersonal dispositions on program evaluation. Another study by Abrams, Pendula, and Madaus (2003) solicited the opinions of teachers based on how they impact classroom practices, the amount of pressure placed on them to improve student achievement, the amount of influence they have on student morale and motivation, and their views of accountability. This study aimed to allow teachers to give their perceptions about gender-specific education and interest level in gender-specific education in the public-school setting

3. Research Methodology

It is also essential to examine the influence of teacher perceptions. Thus, this study allowed public school teachers to give their opinions about gender-specific education. The researcher used an investigative qualitative research design method to gather data from K-12 educators regarding their perceptions of gender-specific instruction. A survey was administered requiring teachers to answer twenty-five questions using a five-point Likert scale about how they view gender-specific instruction.

All data analysis was performed using (SPSS) Statistical Software for the Social Sciences version 19. Frequency statistics were performed on the survey instruments, with percentile values. The dispersion was calculated using standard deviation, variance, and mode while noting minimums and maximums. The researcher performed a distribution analysis of skewness and kurtosis, and all results were displayed in pie charts for percentage values. Finally, the order of frequency was calculated and displayed in ascending values, with the multiple variables organized by variable-numbered output.

The professional teaching staff was the focus of this research study in providing answers to questions one through three. Surveys were distributed to the professional teaching staff in a K-12 school district in the southeastern part of the United States. Educators from five elementary two middle and two high schools were given The Gender-Specific Education survey to ascertain their perceptions of student attitudes and their perceptions about the implementation of gender-specific education.

The survey provided the researcher with data regarding K-12 educators' interest, or lack thereof, in the implementation of gender-specific schooling within public schools and whether they would consider working in such an environment. The survey also provided the researcher with demographic information about the participants. To preserve the anonymity of the participants, neither schools nor individuals participating in the study were identified within the context of the study, and data were collected without names. To evaluate research questions, the researcher used qualitative methods because with the survey method participants can be anonymous, which is useful for sensitive topics. Survey data can be collected and analyzed quickly, and Surveys can provide dependable (i.e., repeatable) direction for planning programs.

This study examined data based on K-12 schoolteachers' perceptions about the implementation of gender-specific education, their level of interest in having gender-specific education as an option in public schools, and their interest in working in a gender-specific setting. In this instance, it is considered investigatory as it explored educators' perceptions of gender-specific education and comparative in that it will compare public school educators' perceptions of the academic and non-academic effects of gender-specific education

The Demographic and Gender Specific Education Survey used was created in 2006 by Dr. Seazante' Oliver to assist her in analyzing teachers' perceptions and their level of interest regarding the implementation of gender-specific education. Alreck and Settle (1995) state, "Survey research may be an easier, quicker, less expensive, or more accurate way to get required information" (p.3). They further explain, "Most people welcome the opportunity to respond, to record their opinions and reactions, and to have some effect on the sponsor" (p.4).

Another benefit of utilizing a survey is that "the researcher usually has greater control with a mail survey than interviewing. "Each respondent was presented with the same instructions and tasks, eliminating the chance of serious interviewer bias" (p.34).

Both the Demographic survey and the Gender Specific Education survey were deployed twice, the first-time educators completed the survey as it related to male students in gender-specific settings and the second time as it related to female students in gender-specific settings.

The school district selected for this study is a small urban school district in the southeastern part of the United States. The school district currently has 529 certified staff members, 454 are female and seventy-five are male. Of the staff, two are Asians, 164 are African Americans, 343 are Caucasians, nineteen are Hispanics and 1 is Native American. The student population of the school district consists of approximately 49% African American, 47% Caucasian, and 4% other which is a mixture of Asian, Hispanic, and interracial.

4. Criterion Measures

Part one of the survey consists of demographic information consisting of ten questions that asked participants to respond to information regarding demographic variables: gender, age, number of years in education, the level of students they served (elementary or secondary), and whether the participant had been a student or employee in a gender-specific classroom or school. Part two of the survey consists of twenty-five statements relating to male and female students.

The survey was designed to provide the researcher with information regarding educators' interest or lack of interest in the implementation of gender-specific education and whether they would consider working in a gender-specific environment. Surveys were numbered, and demographic information was tabulated by the researcher.

The first twenty statements as well as statement number 24 related to gender-specific and non-gender-specific education for (a) male students and (b) female students' education. Ten statements assessed the beliefs public school educators held regarding the strategies that promote the scholastic success of students in gender-specific classes. Eight statements assessed the perceptions held by public school educators regarding nonacademic aspects (behaviors, attitudes, and socialization) of participation in gender-specific schools for male students and female students. Educators responded to seventeen statements regarding their perceptions of the strengths and weaknesses of gender-specific education. Four statements assessed educators' level of interest in the implementation of gender-specific classrooms and schools and their level of interest in teaching in a gender-specific setting at elementary, middle, and high schools. Analysis of the scores was completed using SPSS applications (Statistical Software for the Social Sciences version 19).

Part I consisted of ten questions and part II consisted of twenty-five questions.

The Gender-Specific Education survey uses a Likert style with a range of 1-5 points and ranged from 1-5, 1= strongly disagree (SD), 2 = disagree (D), 3 = neutral (N), 4 = agree (A) and 5 = strongly agree (SA). The Likert Scale is used with a five-point spread because typically teachers tend to select values of three or four when asked to complete a survey. A wider response set facilitates teachers to use a critical process in their selection for each response. This researcher used the Gender-Specific Demographic Survey to gather demographic information regarding the participants. Ten of the survey statements assessed teachers' perceptions regarding academic aspects of gender-specific education for male and female students. Twelve statements accessed teachers' perceptions regarding nonacademic aspects such as behaviors, attitudes, and socialization, and the remaining three statements assessed teachers' level of interest in the implementation of gender-specific education in K-12 public school classrooms.

5. Data Analysis

The table 1 represents the number of participants who returned Part I (The Demographic Survey). One hundred participants returned completed surveys. Of the 100, 53 were elementary educators and forty-seven were secondary educators.

Table 1. User Elementary or Secondary Teacher

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Elementary	53	53.0	53.0	53.0
	Secondary	47	47.0	47.0	100.0
	Total	100	100.0	100.0	

6. Demographic Survey Results

The demographic information obtained from the surveys included gender, age, the highest level of school completed, ethnicity, the type of certification held, and the level of students served. In addition, participants were asked if they had been a student in a gender-specific classroom or school had worked in a gender-specific classroom or school, have had any formal training in teaching gender-specific classes, or ever attended staff development sessions on gender-specific education.

There were fifty-seven elementary educators and one hundred secondary participants who returned surveys. The sample was majority female. The percentage of female participants was 84.1% while the percentage of male participants was 15.9%. The return percentage rate for the elementary educators was 36.3 and a percentage rate of 63.7 for secondary educators. All the participants held at least a bachelor's degree; however, 47.8% of the participants also held master's degrees.

Table 2. Gender-Specific Demographic Survey Results: Target Population

	Frequency	Percent	Valid Percent	Cumulative Percent
Elementary educator	57	36.3	36.3	36.3
Secondary Educator	100	63.7	63.7	100.0
Total	157	100.0	100.0	

Of a total researched population of one hundred participations, just shy of 60 percent were of White ethnicity, while the Black participants were a third of the population at 33.3%. One participant identified themselves as Asian while six other participants selected others as their ethnic category. Finally, five participants decided not to identify their ethnic heritage. Survey results indicated participants' ages range between 24 and 64. There were more participants ages 42 and 49 who returned surveys.

Table 3. Gender-Specific Demographic Survey Target population Ethnicity

	Frequency	Percent	Valid Percent	Cumulative Percent
White	93	59.2	59.2	59.2
Black	53	33.8	33.8	93.0
Asian	1	.6	.6	93.6
Other	6	3.8	3.8	97.5
Should have answered, did not	4	2.5	2.5	100.0
Total	157	100.0	100.0	

Of the 157 participants who returned part one of the Demographic survey, 91% (143) had not been students in any gender-specific classroom, while 8.9% (14) stated they had been a student in a gender-specific classroom.

Participants were asked if they had worked in a gender-specific classroom or school, 18 or 11.5% indicated they had worked in a gender-specific classroom and or school, while 139 or 88.5% indicated they had not worked in a gender-specific classroom or school. When participants were asked whether they had any training on gender-specific education or attended a staff development session, only 11.5% had worked in a gender-specific environment. While not one of the participants had received any formal training, 6% stated that they had received some type of staff development in gender-specific instruction.

6.1 Results Part II

Part II of the instrument used to answer questions one through three was the Gender-Specific Education Survey. Participants were asked to complete two surveys, one regarding male students and the other regarding female students. Statements 1 through 20 and number 24 related to coeducational and gender-specific education. Teacher perceptions regarding the academic aspects of gender-specific education for (a) male students and (b) female students were assessed. All survey items were used to analyze teachers' opinions, beliefs, and interest levels regarding gender-specific education for students.

Following are the results of the surveys:

Frequency statistics were performed on the survey instruments, with percentile values. The dispersion was calculated using standard deviation, variance, and range while noting both minimums and maximums. Mean, median, mode, and sum was used to analyze data relating to what teachers believe are strategies that promote the scholastic success of students in gender-specific classes.

Statements 1,2,3,4,6,8,9,10,20, and 24 provided results as to whether teachers perceived gender-specific classrooms promoting scholastic success. Of the one hundred participants who responded to the ten statements, more than one-half of the responses were neutral. However, one-third of the participants agreed or strongly agreed that some strategies in gender-specific schools provided scholastic success. The data showed that 34% of the respondents agreed that students in gender-specific classes have higher grade-point averages which was a contributing factor to scholastic success. When asked about distractions, more than one-half of the respondents agreed that there were more distractions in co-educational classes. The data showed that 56% agreed as it related to male students and 42% as it related to female students.

Question 1

Do teachers believe that gender-specific classrooms promote scholastic success?

Table 4. Teacher Perceptions about male students in gender-specific classrooms

Item #	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	F	%	F	%	F	%	F	%	F	%
1	3	3.0	7	7.0	55	55.0	29	29.0	6	6.0
2	3	3.0	11	11.0	50	50.0	30	30.0	6	6.0
3	17	17.0	40	40.0	37	37.0	3	3.0	3	3.0
4	5	5.0	12	12.0	49	49.0	29	29.0	5	5.0
6	5	5.0	22	22.0	68	68.0	4	4.0	1	1.0
8	4	4.0	11	11.0	29	29.0	36	36.0	20	20.0
9	4	4.0	13	13.0	50	50.0	27	36.0	7	7.0
10	3	3.0	12	12.0	52	52.0	27	27.0	6	6.0
20	5	5.0	12	12.0	56	56.0	23	23.0	4	4.0
24	5	5.0	17	17.0	65	65.0	11	11.0	2	2.0

Table 5. Teacher Perceptions about female students in gender-specific classrooms

Item #	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	F	%	F	%	F	%	F	%	F	%
1	4	4.0	6	6.0	55	55.0	30	30.0	5	5.0
2	3	3.0	8	8.0	56	56.0	28	28.0	5	5.0
3	9	9.0	32	32.0	48	48.0	8	8.0	3	3.0
4	4	4.0	10	10.0	52	52.0	30	30.0	4	4.0
6	3	3.0	16	16.0	66	66.0	10	10.0	5	5.0
8	2	2.0	13	13.0	43	43.0	30	30.0	12	12.0
9	4	4.0	11	11.0	51	51.0	25	25.0	9	9.0
10	3	3.0	10	10.0	59	59.0	22	22.0	6	6.0
20	6	6.0	12	12.0	57	57.0	18	18.0	7	7.0
24	6	6.0	14	14.0	65	65.0	13	13.0	2	2.0

Table 5 show that on average 5% of the participants disagreed and 5% strongly disagreed that male students in gender-specific classes achieve lower scholastic success than their counterparts in a co-educational setting. Ten percent of the respondents disagreed or strongly disagreed that female students achieve lower academic success than students in coeducational classes. Results show that 29% agreed and 6% strongly agreed that male students in gender-specific classes experienced higher math achievement thus leading to higher scholastic success than their peers in a co-educational setting.

Regarding female students in gender-specific classes, 34% of the respondents agreed that female students had higher grade point averages, and 42% agreed that female students experience fewer distractions than their peers in co-educational classes. As it related to male students 36% agreed and 20% strongly agreed that students in co-educational classes had more distractions than their peers in gender-specific classes. From this data, the researcher can infer those females in gender-specific classes were academically stronger because of being in gender-specific classes. A little over one-third agreed or strongly agreed that female students in gender-specific classes receive more support from their instructors. Thirty-four percent agreed or strongly that male students receive more support from their instructors in a gender-specific classroom. Even though the majority of those who responded were neutral, more of the participants agreed than disagreed that students in gender-specific

classes were more successful academically. Overall, one-third, or 33% agreed that strategies in a gender-specific setting provided scholastic success for both male and female students.

Question 2

Do teachers believe that students in gender-specific classes have better attitudes toward schooling than their peers in non-gender-specific classes?

Table 6. Teacher perceptions about Male students

Item #	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	F	%	F	%	F	%	F	%	F	%
5	4	4.0	15	15.0	54	54.0	23	23.0	4	4.0
7	2	2.0	8	8.0	37	37.0	39	39.0	14	14.0
11	11	11.0	37	37.0	47	47.0	2	2.0	3	3.0
12	4	4.0	27	27.0	33	33.0	30	30.0	5	5.0
13	13	13.0	26	26.0	48	48.0	11	11.0	2	2.0
14	4	4.0	15	15.0	48	48.0	27	27.0	5	5.0
17	9	9.0	25	25.0	44	44.0	20	20.0	2	2.0
18	30	30.0	18	18.0	47	47.0	2	2.0	3	3.0

Table 7. Teacher perceptions about female students

Item #	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	F	%	F	%	F	%	F	%	F	%
5	3	3.0	15	15.0	61	61.0	17	17.0	4	4.0
7	2	2.0	8	8.0	49	49.0	32	32.0	9	9.0
11	11	11.0	33	33.0	56	56.0	3	3.0	3	3.0
12	4	4.0	22	22.0	43	43.0	20	20.0	6	6.0
13	15	15.0	18	18.0	52	52.0	13	13.0	2	2.0
14	5	5.0	14	14.0	53	53.0	24	24.0	4	4.0
17	10	10.0	25	25.0	51	51.0	12	12.0	2	2.0
18	5	5.0	8	8.0	56	56.0	27	27.0	4	4.0

Tables 6 and 7 show the same data relating to male and female students' attitudes in gender-specific classes. Although responses were neutral, respondents agreed regarding perceptions about students in gender-specific classes displaying better attitudes towards schooling than their peers in non-gender-specific classes.

Students in gender-specific schools have positive attitudes toward academics. At least 42% believe this to be true for male students and 31% for female students. Respondents believed students in coeducational schools have more distractions than their peers in gender-specific schools. 56% of the respondents agreed this was true for male students, while only 41% agreed this was true for female students.

Sexual harassment is less common in gender-specific classes than in co-educational classes. Of those who responded, 54% felt that sexual harassment was less common for males and 41% agreed that this was true for female students in gender-specific classes. This data certainly confirms that students in gender-specific classes have better attitudes toward schooling because of fewer distractions and are less fearful of sexual harassment because of the support received from their teachers.

Research Question 3

What are teachers' perceptions of the strengths and weaknesses of gender-specific education?

The statements related to this question included: Students in gender-specific classes are less likely to express interest in mathematics, and Students in gender-specific classes feel that they receive less attention from their instructors than students in co-educational classes. Gender-specific structures perpetuate gender discrimination and unequal treatment of students, and academic achievement is lower in gender-specific schools than in co-educational schools for students.

Table 8. Teachers' perceptions about strengths and weaknesses as it relates to male students

Item #	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	F	%	F	%	F	%	F	%	F	%
3	17	17.0	40	40.0	37	37.0	3	3.0	3	3.0
11	11	11.0	37	37.0	47	47.0	2	2.0	2	2.0
13	13	13.0	26	26.0	48	48.0	11	11.0	2	2.0
19	10	10.0	33	33.0	47	47.0	7	7.0	3	3.0

Table 9. Teacher perceptions about strengths and weaknesses as it relates to female students

Item #	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	F	%	F	%	F	%	F	%	F	%
3	9	9.0	32	32.0	48	48.0	8	8.0	3	3.0
11	11	11.0	33	33.0	50	50.0	3	3.0	3	3.0
13	15	15.0	18	18.0	52	52.0	13	13.0	2	2.0
19	11	11.0	31	31.0	49	49.0	5	5.0	4	4.0

Fifty-seven percent of the respondents disagreed or strongly disagreed that male students in gender-specific classes were less likely to express interest in mathematics, while 41% disagreed or strongly disagreed this was true about female students. When asked if students in gender-specific classes feel that they receive less attention from their instructors than students in coeducational classes, over 45% disagreed or strongly disagreed this was true about male students and 44% disagreed or strongly disagreed this was true about female students. Although 50% of the respondents were neutral when asked if gender-specific structures perpetuated gender discrimination and unequal treatment of students, at least 39% disagreed or strongly disagreed that this was true for male students and 33% disagreed or strongly disagreed this was true for female students. Respondents also disagreed or strongly disagreed that academic achievement is lower in gender-specific schools than in coeducational schools. 43% perceived this was not true for male students while 42% disagreed or strongly disagreed this was true for female students.

Although the four statements attempted to ascertain teachers' perceptions of the weaknesses of gender-specific education, however, the response rate indicated strengths and not weaknesses of gender-specific education as less than 10% agreed there were weaknesses with gender-specific instruction.

Of the one hundred participants who responded to the ten statements relating to this research question, more than one-half of the responses were neutral. Although there was an average of 51% neutral responses to many of the statements about male students and 56% neutral responses relating to female students, at least one-third of the participants gave positive responses about the strengths of gender-specific education. Respondents were also positive when asked if gender-specific instruction should be at the middle school, over 43% of the participants agreed or strongly agreed that it should be offered for male students and 47% agreed that it should be offered for female students. The data also showed that 54% would consider working in a gender-specific school for male students and 44% stated that they would consider working in a gender-specific school for females.

7. Discussion

Robinson and Gillibrand (2004) stated that the learning gap that exists between girls and boys is important enough to continue to analyze whether there is some legitimacy and benefit of single-sex classes. They further noted that traditionally single-sex science and mathematics classes were aimed at girls while single-sex classes for boys were geared toward foreign languages and English. In both instances, the implementation of single-sex classes was targeted toward closing the achievement gap in those areas.

This study allowed K-12 educators to express their views regarding gender-specific education and to answer the question of whether they would consider teaching in a gender-specific setting. Three research questions were used to address teacher perceptions, opinions, and levels of interest.

A total of fifty-seven responded from the elementary schools and one hundred responded from the secondary schools. The demographic data from the surveys indicated that 91% of the participants were female. The average age of the participants was between the ages of 41-50 (41%) and 17% were between the ages of 51-60. 53% of the participants held a master's degree. Demographic data from the secondary schools indicated a return of 81% female participants and 19% male participants. The average age of the participants was between 31 and 41 years old. Only 6% of those responding was aged sixty-one and older. Fifty-four percent of the participants held

bachelor's degrees while 44% held master's degrees, and 87% of the secondary participants had no experience as a student in a gender-specific setting. The majority of both the elementary and secondary participants had extraordinarily little teaching experience or formalized training in a gender-specific setting.

The results of this study revealed that most educators believed that students in gender-specific settings had fewer distractions than students in non-gender-specific settings. K-12 educators responded positively that students in co-educational settings were more distracted than students in gender-specific settings 80% for male and 88% for female students. Educators also believe that gender-specific settings assist teachers in eliminating sexual harassment and that students participate more and are more on task than their counterparts in non-gender-specific settings. At least one-third of the participants gave positive data about the strengths of gender-specific education. Positive responses were given for statements such as students in gender-specific classes have higher grade point averages than students in co-educational classes, students in gender-specific classes have fewer distractions from the educational experience than students in co-educational classes and gender-specific structures do not perpetuate gender discrimination and unequal treatment of students. When asked if gender-specific instruction should be at the middle school, over 43% of the participants agreed or strongly agreed that it should be offered to male students and 47% agreed that it should be offered to female students. The data also showed that 54% would consider working in a gender-specific school for male students and 44% stated that they would consider working in a gender-specific school for females.

Since many of the responses were neutral, the researcher concluded that respondents did not have enough knowledge about gender-specific education but about 49% of the respondents would consider teaching in a gender-specific school. This inquiry served to unveil teachers' attitudes, beliefs, perceptions, and, inadvertently, their prior knowledge about gender-specific instruction.

8. Implications

Overall, the responses were neutral. These findings may be an extraordinarily strong indication that the K-12 educators in the district surveyed are not familiar with the performance and outcomes of male and female students in the gender-specific classrooms in the district. Additionally, they may not have sufficient knowledge about gender-specific education, to make informed opinions on the subject. At least two teachers include a comment conveying that they did not have enough knowledge about gender-specific education for either male or female students to give an opinion about their participation in gender-specific settings. These statements coupled with the findings of this study suggest that public school educators might benefit from acquiring knowledge about gender-specific education.

The current study utilized descriptive and correlative measures. It served to describe the level of interest in the potential implementation of gender-specific education in public classrooms or schools. The data also provided results regarding public school teachers' perceptions of gender-specific education. Supporters of gender-specific education such as Leonard Sax, director of the National Association for Single Sex Public Education, all believe, "Single-gender classrooms promote self-esteem, can boost test scores and break down gender stereotypes" as cited in Pearson, (2008). Researchers such as (Jackson, 2002; Salomone 2004) found that girls in gender-specific classes claimed to have more confidence than girls in mixed-sex types. Still, other studies report positive effects on girls in gender-specific classes. Robinson and Smithers (1999) found that boys perform better in gender-specific classes as did Hamilton in a 1985 study. Rennie and Parker's 1997 research concluded that both teachers and students viewed gender-specific classes as providing a more supportive environment for girls, but less so for boys. Arms conducted a study in 1999 and found that teachers' beliefs concerning gender-specific education supported other studies on gender-specific education. Arms found that teachers demonstrated their beliefs in how learning is organized for their students, their expectations of students, and their differential classroom management for boys and girls. This research served as an additional study to support this theory.

9. Recommendations for Future Practice

Data from this study indicated that 42% of the teachers perceived gender-specific classes to be positive for male students. More than half of the respondents believed that students in gender-specific have fewer distractions than their counterparts in non-gender-specific classes. In another statement relating to respondents' beliefs about students' experience of sexual harassment being less common in gender-specific classes, the responses were 54% in agreement for male students and 41% in agreement for female students.

While this study did not provide statistically significant data to support gender-specific instruction to improve academic achievement in mathematics and reading, there was practical significant evidence to suggest that gender-specific instruction did positively impact the environment and make it conducive to heightening student achievement. Gathering the opinions and perceptions of students concerning gender-specific public classrooms

and schools, preferably at the secondary level, might prove to be beneficial before planning and before the development stages of the implementation of gender-specific education in public classrooms and schools. An extension of a study of this nature could compare students' opinions and perceptions with those of educators.

Future studies may even deal with the preferences of elementary educators versus secondary educators regarding gender-specific education. Such a study might reveal differences in educators' level of interest in working in a gender-specific classroom or school.

Since there is limited research focused on the effects of gender-specific instruction as it relates specifically to male students and/or female students, a study would be beneficial to public school educators. There are a few studies that focus on gender equity for female learners; however, the focus is heavily centered on the stereotypically male-dominated courses of mathematics, science, and most recently computers and technology. Few studies also exist that address the other content areas. Future research may follow other avenues as well. For example, to gain a clearer understanding of the impact of gender-specific instruction on student achievement, future studies can be conducted with larger participant groups.

Further research could also study student achievement after students are enrolled in gender-specific classes for three or more years to determine if the increased length of instruction may reveal significant differences in achievement. Further study may address the question of the academic performance of male and female students in similar instructional situations, especially of students whose ability levels are at the upper or lower end of the spectrum. Comparisons of the academic achievement of students in gender-specific classes compared to students of the same gender in coed classes may also provide valuable insight into the gender-specific and coed debate.

Another influence which may be studied is that of staff development. The AAUW (1998b) noted that "the appeal of gender-specific classes to policymakers often has little to do with the classes' effectiveness". Several researchers agreed that simply creating gender-specific classes, without providing teacher training or other support, would not be enough to create meaningful change. Future research could seek to determine what actions and instructional strategies will work for schools and districts considering implementing gender-specific classes.

Although this research study resulted in neutral teacher responses and yielded non-significant results, the study will serve to provide a basis for the implementation of other studies on the effectiveness of gender-specific education.

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Gender-Specific Education Survey

Directions: Select a number from the scale below to show how much you agree or disagree with each statement as it pertains to male students. Columns to the left of the statement are provided for responses as they relate to male students. Please respond to each statement for males. Circle the corresponding number in the space provided. Please answer thoughtfully. The scale is as follows: (1) Strongly Disagree (SD) (2) Disagree (D) (3) Neutral (N) (4) Agree (A) (5) Strongly Agree (SA)

STATEMENTS

SAMPLE:	1	2	3	4	5
Coeducational schools outperform for _____ students in single-gender schools	SD	A	N	A	SA
1. Students in gender-specific classes experience higher math achievement than students in coeducational classes.	1 SD	2 A	3 N	4 A	5 SA
2. Students in gender-specific classes experience higher reading achievement than students in coeducational classes.	1 SD	2 A	3 N	4 A	5 SA
3. Students in gender-specific classes are less likely to express interest in mathematics	1 SD	2 A	3 N	4 A	5 SA
4. Students in gender-specific classes have higher grade point averages than students in coeducational classes.	1 SD	2 A	3 N	4 A	5 SA
5. Students in gender-specific classes have better attitudes than students in coeducational classes.	1 SD	2 A	3 N	4 A	5 SA
6. Gender-specific schools for students offer more of a variety of academic subjects to study than coeducational schools.	1 SD	2 A	3 N	4 A	5 SA
7. Sexual harassment is less common in gender-specific classes than for students in coeducational classes.	1 SD	2 A	3 N	4 A	5 SA
8. Students in coeducational classes have more distractions from the educational experience than students in gender-specific classes.	1 SD	2 A	3 N	4 A	5 SA
9. Students in gender-specific settings feel that they have more support from their instructors than students in coeducational settings.	1 SD	2 A	3 N	4 A	5 SA
10. Students in gender-specific classes experience higher success in Language Arts/English than students in coeducational classes.	1 SD	2 A	3 N	4 A	5 SA
11. Students in gender-specific classes feel that they receive less attention from their instructors than students in coeducational classes.	1 SD	2 A	3 N	4 A	5 SA
12. Students in gender-specific schools are free from sex-based harassment, participate more, and are more on-task than their coeducational counterparts.	1 SD	2 A	3 N	4 A	5 SA
13. Gender-specific structures perpetuate gender discrimination and unequal treatment of students.	1 SD	2 A	3 N	4 A	5 SA
14. Students at gender-specific schools continue to have higher educational aspirations than their coeducational counterparts.	1 SD	2 A	3 N	4 A	5 SA
15. Students at gender-specific schools attend more 4-year colleges than their coeducational counterparts.	1 SD	2 A	3 N	4 A	5 SA
16. On average, gender-specific schools are less effective than coeducational schools for students.	1 SD	2 A	3 N	4 A	5 SA
17. Gender-specific schools are more likely to foster stereotypical attitudes towards gender than coeducational schools.	1 SD	2 A	3 N	4 A	5 SA
18. Gender-specific schools for students have positive effects on student attitudes towards academics.	1 SD	2 A	3 N	4 A	5 SA
19. Academic achievement is lower in gender-specific schools than in coeducational schools for students.	1 SD	2 A	3 N	4 A	5 SA
20. Students in gender-specific schools perform higher in mathematics than students in coeducational schools.	1 SD	2 A	3 N	4 A	5 SA
21. Gender-specific classrooms should be made available to students at the elementary school level.	1 SD	2 A	3 N	4 A	5 SA
22. Gender-specific classrooms should be made available to students at the middle school level.	1 SD	2 A	3 N	4 A	5 SA
23. Gender-specific classrooms should be made available to students at the high school level.	1 SD	2 A	3 N	4 A	5 SA
24. Students in gender-specific schools spend significantly more time on homework than their coeducational counterparts.	1 SD	2 A	3 N	4 A	5 SA
25. I would consider working in a gender-specific school.	1 SD	2 A	3 N	4 A	5 SA

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