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Math and Gender Equity

Gender Equity in Today's Math Classroom

Most educators would agree that the goal for today's classroom is to create an environment conducive to learning; an environment enriched with individualized differentiated learning activities, and an environment free of stereotypes: racial, ethnic, socioeconomic status, disabilities and gender. "Most teachers, parents and administrators agree that in the past girls lagged behind boys in Math, Science and Technology (Jobe, 2003, p. 64.) Have we reached gender equity in today's math classroom? The International Association for the Evaluation of Educational Achievement (IEA) conducted three studies from 1964 through 1997. Each study looked at various groups of students from different backgrounds and cultures. What these studies showed was a major improvement in gender equity in the past 30 years. But, how has the increased emphasis to incorporate technology into today's classroom helped to created gender equity in the teaching of mathematics?

"Gender stereotyping has negative consequences for both sexes. It narrows the scope of boys and girls dreams and limits their life options" (Gilbert, 2002, p. 522.) The way society sets expectations for male and female students, in the professional fields that involve mathematics, plays a crucial role in how teachers and

educators subconsciously discriminate in this area in the today's classroom. In order prevent this inequity one must consider the areas that encourage girls, as well as, boys to succeed in a subject that was previously considered taboo for female students. According to an article, "Challenges in Implementing Strategies for Gender-Aware Teaching," there are four teaching strategies that need to be employed in today's classroom in order for teachers to achieve a balance in the teaching of boys and girls and the learning of mathematics: combating gender stereotypes, empowering students as knowers, establishing equality in the classroom and acknowledging students' experiences as vital sources of knowledge.

What caused this inequity achievement in the area of mathematics? Original research attempted to make biological factors responsible for this imbalance (Hanna, 2003, p. 204.) However, later research "suggests no physical or intellectual barrier to the participation of women in mathematics, science and technology. (Hanna, 2003, p. 205) What the study showed is that boys were given more attention than girls in these areas. And what studies such as these did, more than anything, was to bring awareness to this very important issue of gender stereotyping. Parents, teachers, school administrators, as well as, technology play an important role in helping to promoting a positive attitude, early on, toward math. In an article titled, "Helping Girls Succeed" Jobe writes "we must encourage girls in these areas early." Today's schools and school administrators must set high expectations for all students. Technology has made resources available for teachers to

promote girls involvement in mathematics. For example, Gemsclub.org encourages Girls Excelling in Math and Science. The Girls Scouts' site Girlsgotech.org lists careers for girls in math, provides links to educational games and gives tips for parents.

Jobe also writes "low self-esteem can lead to poor academic performance and diminished ambitions," and that "girls suffer from a well-documented decline in self-esteem during their adolescence years." Today's teachers must continue to motivate and encourage and empower boys and girls. For example, today's teachers can and do motivate *all* students by incorporating famous historical female mathematicians or having students meet and/or interview women working in the field. Technology is a great motivator. Not only does using it in the classroom motivate students, but it can also be a venue for educators to show how women have made significant advancements in the fields of mathematics and technology. By using technology, students have the opportunity to research these professionals; also they can speak with some of these experts via the Internet.

In an article titled "Reaching Gender Equity in Mathematics Education," Hanna states that "In the past 30 years, many changes have been made to the curriculum, organization of the classroom and attitude toward math." Today teachers have a teaching philosophy that demands equality in the classroom. Technology has given teachers access to more resources than ever, in order to achieve this equality. Teachers can create interdisciplinary lessons that incorporate math into all other subject areas. Teachers can use

technology to enhance the content of their curriculum by using educational software that can create visuals and manipulatives to accommodate students with various learning styles and needs. Sites such as Marcopolo-education.org or Illuminations.nctm.org/ are invaluable resources, in which teachers have access to standard-based lessons plans that incorporate technology and real-life applications.

Teachers can also use example of real life problems in teaching mathematics to students. This can be done by using hands-on, collaborative learning and project-based learning activities that relate math to the real world while making math more meaningful to girls and boys. By acknowledging student's experiences as an important source of knowledge in teaching math, teachers recognize how each student is an individual and how these individual differences play a role in how student's learn math. Teachers can use technology's resources to break down these barriers and accommodate to student differences.

The movement to encourage gender equity in math and science started in the late 1960's with the feminist movement to position woman in the fields of math and science (Hanna, 2003, p. 204.) The Gender equity issue became a hot topic for educators. It made teachers become more aware of their own biases and stereotypes in their classrooms. This awareness in turn brought educators to employ teaching strategies to promote this equity. Today's teacher use technology to implement these strategies. And, while this movement started out making use of strategies that encouraged

girls, today's teachers now focus of strategies that will benefit *all* students, boys and girls. We have come a long way since the 60's, but there is still work to be done in order achieve equity. Without this equity, there will still be a lower percentage of girls in college studying math and technology, as well as, less females entering these professional fields. Technology will continue to assist teachers to combat stereotypes, motivating and empower students, establishing equality in the classroom and incorporating these students' real life experiences into the teaching of mathematics.

Works Cited

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