Gender Bias In Math And Engineering; What Is Being Done? Essay, Research Paper

As a woman, mother, and, future teacher, I am worried about the future of young girls. Female students consistantly score lower then boys on standardized tests and take fewer advanced math courses. Some schools have implemented single-sex classrooms to ensure that girls receive the attention and modified instruction that they sometimes need. Others have chosen to modify already existing programs. Still others, have done nothing. This problem has become a source of controversy and frustration. As a future teacher, I feel it is important for me to recognize the problems , and to the best of my abilities, ensure that students have a non-biased classroom.

Up to the high school years, girls and boys score equally in overall achievement. However, by the end of high school, the majority of girls take fewer math courses than boys, preferring English or history. Around the seventh and eight grade, girls and boys have the desire to fit in. Girls’ self-esteem and confidence in their ability drops significantly around this time as well. In the majority of mathematics courses, these are required attributes to succeed. Young girls who excel in math during this time are likely to not choose advanced math courses because very often they will be the only girl. She won’t fit in, thus, lowering her self-esteem further.

In is during the middle-school years that young girls make their first career moves, and they don;t even realize that they have. They decide to cut advanced math out of their schedules, thus, limiting their career opportunities. This is a problem which could be solved simply by educating young girls of the importance of math for any given occupation. For example, when surveyed middle-school girls felt they would be capable of becoming doctors or veterinarians, but did not want to have math or science related careers. All children need to be made aware of the skills they will need for these and other careers (Pettitt).

When searching for why girls tend to lag behind boys in math, the attitudes of parents, teachers and society plays a significant role. The foundation of girls’ attitudes begins with parents. Parents of boys indicate that their sons will be capable of solving mathematical tasks sooner than what the parents of girls indicate (Bleuings-Knabe). Parents have a tendency to rescue their daughters when math becomes to difficult where they expect boys to tough it out. Parents need to be made aware of the subtle ways they can discriminate by way of their expectations. Children generally know when they are expected to succeed or fail. Once the expectations are realized, it is only a matter of time before it becomes a self-fulfilling prophesy.

Teachers my contribute to girls’ problems by giving them less attention or a lower quality of attention. Often times, girls are cut off when discussing a problem. Teachers have the responsibility to realize possible unintentional gender-bias. Once this problem is recognized and the teacher is aware of the bias, it is often stopped. Teachers need to understand that girls generally have a different learning style than what current curriculum states. Girls view math more positively when doing collaborative work, rather than competitive work. Implementing the use of manipulatives increases understanding, as does implementing the use of English. This is an area where girls excel. These approaches prove to be beneficial to girls. With exposure to more than one way of learning, young boys would benefit as well.

Society plays an important role as well. Positive role models of women who enjoy their exciting career, dealing with math, should be more pronounced. Over the past few years, there has been a few Public Service Announcements with such women. However, the message is confusing to young girls who play with their Teen Talk Barbie that states, “Math class is tough!”

I do not feel that the bias and discouragement that girls receive is in any way intentional on the part of the parents or teachers. A guidance counselor who does not protest when a female student wants to drop Algebra, is not necessarily attempting to discriminate. However, if he were to encourage her and help her get past her difficulty, he may have helped create a future engineer. But by not encouraging her, we will never know what was lost. I believe that if we all raise our own expectations of girls and mathematics, we will be surprised at how much we can gain as a society.

Pettitt, Lisa, “Middle School Students’ Perception of Math and Science; Abilities & Related Careers.” Diss. 61st Biennial Meeting of the Society for Research in Child Development, Indianapolis, Indiana, March 30-April 2, 1995.

Bleuins-Knabe, Belinda, & Musun-Miller, Linda, “Parental Beliefs about Developement of Preschool Children’s Number Skills.” Diss. 53rd Biennial Meeting of the Society for Research in Child Development, Seattle, Washington, April 18-20, 1991