

GENDER & MATH

Student Context

As early as grade 2, children are aware of and potentially agree with the stereotype that math is for boys rather than girls.

Girls identify themselves as being good at math, and of enjoying math, far less than boys do.

Students under- or overestimate their previous grades and achievements based on the gender stereotypes they encounter.

Parents consistently think of their sons as being better at math (and most academic subjects) than their daughters.

Parent influence & gender stereotypes can predict how well teenagers do in math education.

Gender stereotypes mean that fewer women pursue STEM courses and careers, but there is no actual difference between the academic success of the ones who do and their male counterparts.

by *Marina Beshay & Miranda Skirrow*

We present an overview of the current state of gender bias in mathematics in primary/junior classrooms, based on research and our own experience. We then connect this situation to that in STEM fields in further education (the scarcity of female students and the unique challenges that they face in male-dominated and often hostile academic fields). We will examine closely the microaggressions that female students face in the classroom and present various practical solutions to address this issue in the course of practice. We will also provide questions and guidelines that we have used to target this inquiry, and that other teachers could use to examine their classroom math practices.

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*The whole purpose of
education is to turn mirrors
into windows*

- Sydney J Harris -

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CLASSROOM SOLUTIONS

Introducing the conversation

Ellen's "Bic for Women" sketch.

Building off of this video, teachers can introduce the students to being critical thinkers towards gender norms in general. From there, the teacher could prompt the students to think of what gender stereotypes exist in math/ if they exist at all. Building upon class knowledge, teachers could address the topic with the students.

Addressing the issue

Having an open dialogue with the students addressing this issue

Comparing class dynamics and seeing if there is a common ground that should be worked on collaboratively

Asking students what they think the topic may be and creating a concept map

Building off of their knowledge to explain certain gender stereotypes known about in mathematics

What are your students' feelings about how these issues may have affected them in math? Do they have any experiences to discuss (potentially in an anonymous format?)

Creating the environment

Foster a growth mindset in math education so that all perspectives and methods are seen as equally valuable

Providing materials that show diverse representations of 'what a mathematician looks like' (e.g. Rosie Revere Engineer) and discussing historical role models who demonstrate the universality of math (e.g. Hedy Lamarr, Dorothy Vaughn, Ada Lovelace)

Equitable examples - no 'princess in the tower' problems: try and make word problems that do not reinforce gender stereotypes, especially for younger students.

'Household Math' - (budgeting, groceries, measurements) helps students to see the immediate, real world use for the math they are learning in the classroom, and both to feel capable of using this math in their lives, and to see its importance as they progress.