

NASA Tank Tops and Gender Equality in STEM

Scientist Katie Hinde created some buzz recently when she moved NASA tank tops from the boy's to the girl's clothing section of a big-box retailer.



Hinde was making a statement about how gender stereotyping can impact children from a young age, expressing her concern as a female scientist about the “scarcity and disparity of science and science fiction-oriented toys, clothes, and outreach for girls.” The act was more controversial than Hinde could have anticipated, drawing both cheers and criticism. [Her essay response](#) is well-researched and thoughtful. Hinde says that as a female scientist, she “spend[s] a lot of time thinking about the pipeline.”

Widespread gender norms impact girls in many areas, including STEM (Science, Technology, Engineering, and Mathematics) education. There are challenges at the institutional level and at the classroom level, but there are also solutions.

Institutional Solutions

Title IX is an important tool for advancing gender equity in STEM fields. [The National Women’s Law Center calls STEM “The Next Generation of Title IX.”](#) Title IX is historically thought of as promoting gender equality in athletics, but the law is not limited to athletics. It prohibits sex discrimination of any kind in schools that receive federal funding, which means that it applies to equality in STEM programs. And with STEM fields offering greater earning potential, women must have equal access and opportunities to advance in these fields.

Title IX can improve the rate of women thriving in STEM careers by helping provide support at a higher level. Teachers do what they can with limited resources, but Title IX can help hold the schools accountable for equality in this area. The National Women’s Law Center [offers a few suggestions](#):

- First, the U.S. Department of Education’s Office of Civil Rights, which is responsible for Title IX enforcement, should conduct compliance reviews of schools. The schools should be offering equal access to STEM fields and classes.
- Second – and this is the challenge that Hinde was trying to combat – schools “should conduct regular trainings for teachers/professors and administrators about Title IX, stereotypes, and implicit bias and should address negative climate issues that may discourage or intimidate girls and women, including harassment, isolation, lack of mentorship, and lack of feedback.” (see below for some practical tips on interrupting bias in the classroom)
- Finally, the NWLC suggests that schools focus on hiring and retaining more female STEM faculty, to provide more female role models for students.

Classroom Solutions

A recent [study](#) proves the importance of teachers being trained on biases, even though their biases are largely [unconscious](#). Teachers may be [unintentionally favoring boys over girls in the classroom](#), with studies showing that teachers are spending “up to two-thirds of their time talking to male students. . . interrupt[ing] girls but allow[ing] boys to talk over them. . . acknowledge[ing] girls but [prais]ing and encourage[ing] boys. . . [and] spend[ing] more time prompting boys to seek deeper answers while rewarding girls for being quiet.” [“Female teachers anxious about their math ability affect the math abilities of their female students. And girls are more likely than are boys to think their teachers think they are bad at math.”](#)

Teachers must be given the tools to interrupt unconscious bias. Other than videotaping classrooms so teachers can see their unintentional behaviors, here are some [practical solutions](#) for encouraging classroom equity:

- Avoid hand-raising to call on students. Instead, use notecards with every student's name on a card to rotate through students. Or, give every student 2-3 poker chips to use for their speaking allotment. These methods help to ensure that every student participates in discussions.
- Move through the classroom and change student seating to encourage equal participation.
- Avoid pitting genders against each other in the classroom.
- “Acknowledge the accomplishments of women. Teach that Catherine Greene had as much to do with inventing the cotton gin as Eli Whitney, but could not hold a patent.”
- Consider supporting an accelerated education if appropriate for a student. Some advocates for accelerated education say that [allowing super-bright students – particularly women - to accelerate their education](#) means that prime career years and child-bearing years will not coincide.

Title IX can be a critical tool in helping boys and girls have equal access to careers as scientists, mathematicians, or software engineers. To be competitive in a global economy, the United States must produce more females in STEM. And it begins in the classroom.