



Video

FULL DETAILS AND TRANSCRIPT

The Importance of Female Role Models

Nona Reimer • November 2007

Topic: Encouraging Girls in Math and Science

Practice: Female Role Models

Highlights

- Exposure to positive role models can offset some of the negative stereotypes that girls have about themselves.
- After-school clubs and activities that focus on math, science, and related careers can be a great way to expose students to role models.
- Girls get excited when given an opportunity to learn about women involved in math and science related fields—it sparks an interest, and may lead to their pursuit of related careers.
- Teachers and parents are important role models who can steer girls in positive directions in math and science.
- It's important for role models to emphasize the struggles and hard work they have faced—that it has not been an easy path.

About the Interviewee

Nona Reimer has been teaching elementary school for over twenty years in the Capistrano Unified School District located in Orange County, California. She currently teaches fifth grade at John Malcom Elementary, a National Blue Ribbon School, located in Laguna Niguel, CA. She also teaches a biology class at the California State University in Fullerton, CA particularly designed to prepare students pursuing careers in education.

Nona is passionate about teaching science and has been involved in numerous district, county, and state systemic initiatives to improve science education at the elementary level. For her efforts, she has been recognized as teacher of the year two times, named the Orange County Elementary Science Teacher of the Year, and received Project Tomorrow's Vision of Excellence in Teaching Award. Dr. Henrietta Mears once said, "The teacher hasn't taught until the learner has learned." Nona strives to create a positive learning environment where students are challenged to discovered new truths every day!

Full Transcript

Exposure to positive role models can negate some of these negative stereotypes that girls have. I've seen it, and it's exciting. When you give a girl an opportunity to learn about the fantastic women that are out there today—currently doing research—that are involved in so many wonderful fields in math and science, girls get excited. It sparks an interest. They want to learn more. As an elementary schoolteacher, I can expose them to biographies. I can give them opportunities to follow that trail of interest. It motivates them. It encourages them to want to learn more, to do better in school.

Another example would be I happen to serve on a panel here in the south Orange County area with the Dana Point Ocean Institute, and every year we put on a Girls in Ocean Science Conference. The exciting thing is the conference is planned and run by middle school and high school girls. We as adult women sit back and watch them choose the women they want to come and be the speakers at the conference. They sit with spreadsheets, "This one I'm excited about," and we bring in core women in various fields—even from the chemistry of how make-up is put together, to geologists that are studying phenomenon on the ocean floor, to marine biologists—and the girls spend a day interacting in small groups with these scientists in the field. And I know, I'm confident it encourages them to want to pursue these careers in math and science. It's my job to set the table, and if a teacher does it well, the girls will come to the table, they'll be fed, and they'll want those careers.

When I watch this group of high school and middle school girls working with the veterinarian from Sea World—she shared with them the struggles she had in high school. She told them specific courses that she took that prepared her for her college entrance exams. She also explained to them different colleges that

would provide the avenues for them to pursue this career, and it was just so nice to see her sit there and make herself so available to those students and be so real with them. Sometimes we get the idea that it's just all so easy for these women, and I think it's important—especially when there's these negative stereotypes that the boys are better than the girls—for them to see here's a woman who struggled, who worked hard, who succeeded, and now who's met her dream and gets to be in the water with Shamu.

As a panel member for the Girls in Ocean Science Conference, it's always a joy to watch these girls as they graduate from high school and then actually do pursue these careers in science. And then in the several cases I have seen where these role models before—for instance the one we've been discussing from Sea World, has definitely influenced these girls. They've stayed in contact. They are at the university. They are pursuing marine biology careers. They're looking to be able to fulfill those dreams that started years before because a role model made themselves available to them.

Some of the different ways teachers can expose girls to role models in math and science begins by looking in the mirror. 80 to 90 percent of the role models that young girls will see from the time they're in kindergarten through high school are women. If an elementary, middle school and high school teacher's excited about the opportunity to teach math, to teach science, to expose them to engineering, that's the role model they're going to see in action.

Obviously, another incredibly important role model is that of the parent. And I see the role of the teacher engaging with the parent, making sure the parent knows, "Your child is an excellent student and has the potential to pursue these careers in math and science." So when teachers work hand in hand with parents—setting positive role models for the girls—the girls are going to be more aware that there are women out there in these fields. Now follow that with the biographies, the opportunities for distance learning today on the computer—it's unbelievable the experiences that children can have today dialoguing with researchers in the field. And many of those are female researchers.

For instance, my elementary class right now is working with a research scientist down in Antarctica studying penguins. We can get online on the Internet and dialog with her, and every day she's sending back pictures of Adele penguins to my class. If you don't think that doesn't raise excitement in an elementary classroom when you see a female role model in Antarctica studying Adele penguins.

So, again, I cannot stress enough the role that the teacher plays—the elementary teacher can play in helping young women turn those misconceptions around and realize that they're capable of pursuing any career they want, and no doors are closed if you're willing to put the work at it and go beyond. And it's just so exciting as a teacher—both at the elementary campus and the university campus—to be able to follow the lives of those students and see those girls pursuing careers.

There are many after school activities that can expose students to role models. I think of Jane Goodall's wonderful program that's been established throughout the United States for a number of years now called Roots and Shoots, where it begins to get students involved being responsible, caring citizens within their community—helping to develop sustainable communities. And, again, these relate to the fields of math and science as well. There are other after school programs, for instance FSEA—Future Scientists and Engineers of America—where local engineers and scientists come to schools after school and run clubs. And it's so wonderful to see these men and women leave their offices early to come to the elementary school and design and build projects with the students.

I recently heard that one-third to one-half of the jobs that girls will hold in the areas of engineering haven't even been invented yet. When principals hear statistics like that, it has to encourage them to want to work with their staffs to provide opportunities for students to be exposed to positive role models. The fields of science and engineering and computer science are developing at rapid pace, and school districts and principals have to be aware of the need to provide the funding to provide the resources for the classroom teachers to be able to expose students to these kinds of role models. And it's an exciting potential that lays ahead for these girls in the future.

And teachers, never forget that the most positive role model these young women will see is you. Do your best and encourage them, and they will pursue these careers.