

Developing a Growth Mindset

Many children today have been fed a steady diet of praise and unearned trophies to the point that they have difficulty figuring out how to learn. Girls especially seem to feel that the success they achieve is due more to luck or inborn talent than to hard work or effort. This has a negative influence on their approach to persevering when academic subjects such as advanced math and science become more difficult. Subjects that came easily to them when they were younger become more difficult as the concepts being taught grow more complex and abstract. Students must work harder and may struggle.

Research has shown that girls in general tend to have a “fixed” mindset” while boys in general tend to have a “growth” mindset. What does this mean for you and your GEMS club?

Well, if girls think that success in difficult subjects comes from luck rather than hard work or effort, they may give up more easily and shy away from or opt out of these subjects and career paths. After all, luck is a difficult thing to change. And if you are not born with that “math gene,” you are never going to understand this stuff. But if girls learn that intelligence can be improved, and that hard work can pay off, they can approach these increasingly complex subjects differently and can move ahead and achieve their dreams.

GEMS can help change the fixed mindset by providing opportunities to both succeed and fail, to learn to grow from failure, and to give girls chances to watch others make mistakes and recover from them. That is why saving time in GEMS meetings to reflect and discuss is so central to the desired outcomes. Yes, doing the science is important, but talking about the outcomes and the expected/unexpected results is essential. It is also imperative to talk with girls about how talents and intelligence change over time. This is where guest speakers and mentors become invaluable. Having that young engineering student who looks like a big sister tell GEMS members that she had to review her math assignments over and over because they were difficult, but she did, and now she is becoming a biomedical engineer, means more to them than your comments ever will. Knowing that other young people keep trying and learn the hard stuff gives a young girl hope.

One example I use is from my own experience. I am a latecomer to technology, and was thrown into it by a wonderful job opportunity with Apple Computer in 2001. But even though I am extremely comfortable now, and fairly skilled, I still suffer from what I call “blank screen phobia”. You know, when you open up programs like Photoshop or Illustrator and there is nothing but an empty screen with a lot of tools on the top and side. For the longest time, I would just shut the program and sigh. It was intimidating. I have worked hard through tutorials and books to overcome this problem. So, whenever

we do something in the technology area with my GEMS clubs, I always tell them about this problem of mine. I tell the girls how I would open up the screen and be too scared to touch anything. And I always see at least a few girls nod or smile a little as they silently agree with me. And then I work with all the girls to show them that they can't break software and they can click on anything they see and always get back to where they want to be. Developing a growth mindset is not impossible. It takes practice and support, but it is a goal worth achieving both personally and in GEMS.

There is a great deal of research out there around this subject. Reading some of it can help you with the messages you give to the girls, and you can share it with the parents, also.

<http://www.aauw.org/learn/research/whysofew.cfm>

<http://mindsetonline.com/index.html>

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