

Helping Boys Learn

Over the past several decades, boys' behavior and performance in school has continued to decline. Researchers like Michael Gurian say these are indications that schools are not structured to accommodate how boys' brains work and how they learn. **Included: Strategies for making classes more "boy friendly"**

A few decades ago, the assertion that schools need to do more to help boys succeed would have raised a room full of eyebrows.

But today, clearly boys are struggling in school. The majority of special education students in the U.S. are boys. Most of the discipline problems in schools are attributed to boys, and according to some figures, boys comprise 80 percent of all high school dropouts. Less than 50 percent of the college population is male.

A large part of the problem, according to Michael Gurian, therapist, researcher, author, and founder of [The Gurian Institute](#), is that schools are run counter to how boys learn and how their brains operate. The language centers of girls' brains develop earlier, so reading and writing comes easier to them, while boys' brains are better at spatial-mechanical tasks and males learn better when they are active.

The Gurian Institute researches learning differences between the genders and provides training for educators about how the brain learns and the differences between how boys and girls learn.

In the book, [The Minds of Boys: Saving Our Sons from Falling Behind in School and Life](#), Gurian and co-author Kathy Stevens examine why boys are having more problems in school than girls, and offer classroom strategies and activities for motivating boys, without affecting the education of girls. Gurian talked with Education World about why boys are falling behind and what schools and communities can do to put them on the path to success.

Education World: In what ways do boys learn differently from girls?

Michael Gurian: The whole brain system is different. Boys tend to be more kinesthetic, more hands-on, more spatial-mechanical. They don't tend to sit still to learn as well as girls do. Of course, this is an average; there are some who can. They don't tend to use as many words, they don't produce as many, and they don't think in words as much. Boys have about half the verbal centers girls have, so they don't rely as much on the words. They don't utilize their fine motor skills as much, and they don't develop in the brain as quickly or as much, and that goes well into adulthood, too. They rely more on gross motor skills, so that means more physical movement

Then there is another profound thing that readers seem to find very interesting, which is the rest state. A boy's brain goes into a rest state many times during the day, so he tends to be the one who "check out." He's almost half asleep. Even in a rest state, girls have about half-active brains, so they are taking notes more, and they don't zone out or check out as much. That in itself is actually quite profound, because the classroom exacerbates that rest state. So we lose more and more of these guys.

And when teachers understand that, when they get that rest state, when we show them the brain scans and they say, "Wow, look at that, that brain is completely shut off," then they also see what's going on in relation to that more kinesthetic, spatial-mechanical brain, and how much more it needs to move around, that it can't just sit and listen to words.

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EW: The basic classroom learning environment/structure has been the same for decades, serving both boys and girls. I'm sure we've all heard the stories about 60 kids and a nun or one teacher in a room and no problems. Why has it only been in the past few years that many schools have been found not to be "boy friendly"?

Gurian: It has not worked for many boys for many decades (girls began to outpace boys in the 1970s in college attendance and high school graduation) --it's just that the media and politics have caught up now.

Yeah, that [system] did not work for a lot of boys. It's still an example of this industrial [educational] system. If you interview those boys, and I get mail from them, who are now men my age, or the next generation, in their 60s and 70s, their stories are so poignant. They say, "Boy, you hit the nail on the head. I went to school in Hoboken, New Jersey... and I was bored out of my wits. I hated it, I was truant, the cops were coming for me"... See, this has been developing for a couple of hundred years, I would say.

I would say, though, if you are looking at traditional education or classical education, one thing it did better than we do now is that it included children constantly in relevance. Whatever they were learning was linked to some relevance for them, whether they had a debate, or if they were reading a book. [What was being taught] was important to your life. If you're reading Plato, you'd better think about Plato.

The thing that we've done over the past several decades because we are so wonderfully experimental is that we've just thrown all this stuff in there, a lot of which is not relevant. So that's a difference.

Another thing that's different is that the authority system that was set up 50 or 100 years ago to support this industrial education of kids did a lot of good for teachers in schools. Because if a kid talked back to a nun, or did not perform, or at least didn't fake performing in the way we wanted him to, the mom or the dad would punish him, or the head of school would punish him. Well, that authority system is kind of gone, and that's a big difference. Industrial schooling can work better for more people when you have a very authoritarian system behind it. When we look back to the nuns [and teachers] we want to remember that they were working with an "advantage" that doesn't exist now that could get us through a few decades of this schooling system.

But our public school system right now is not authoritarian; obviously, people are worried about doing anything because they'll get sued.

But it's gone so far the other way that it's a second major element that has changed. Now any child who is not performing very well can get away with it for years, because the authority system is not set up. The parents are often not set up to punish the child, and the school system can't really do much to punish the child.

EW: What about boys from some other cultures, who don't seem to have as many behavior and attention problems in school?

Gurian: Certain elements are cultural. The brain differences are not. The brain differences are chromosomal, so they are genetic; our research is from everywhere. If you scan guys in Japan, or do brain scans of guys in Japan or India, where I used to live, you see the same brain differences. Those brains still go to a rest state. In those countries, and Japan is a very good example, the test scores don't actually track boys who are being lost in the system, because those boys leave the system. They have the Y track, so at a certain point, say 10 or 12 years old, there's a fork in the road; the boys and girls who are succeeding are going to go to the right, let's say, and move on to higher secondary education and then college. The boys who go to the left side, then, are not. They are going to move them as quickly as possible into vocational education. So Japan is losing as many of these boys as we are. So is India.

But there's a reason people will say, "Well, look at those...boys, they just sit there and learn." That's some of the stereotyping. But they don't understand the Japanese system. They don't notice that so many of these guys get culled out. But when you do that, [and look at] the scores for all the kids when they are 15 years old, they found the same gaps we've got between their boys and their girls.

Still, there is a cultural difference in the way that people mentor and teach these kids. Take Japan -- in Japan, they are going to school six days a week. For those guys who go to school six days a week, school is life. And there are a lot of mentorial relationships and tutorial relationships. All those guys are getting tutoring, so they are integrating the master-apprentice relationship into that school system. Also, the parents, generally the mom in that culture, are completely devoted to supervising the education of those boys. And cultural expectations of those boys...is that school is life and that college is how they are going to get the job, and this they must do. Now that's a cultural difference. We in the U.S. are confused or unsure of how much to educate our kids, and a lot of our parents don't breathe down their kids' necks and say, "You must do your homework now, and that's it."

The culture differences...are in how we guide children to get educated. But the brain differences are robust wherever you go.

EW: How has the declining number of male teachers, especially at the elementary level, affected the education of boys?

Gurian: Boys need males to help them find footprints to follow into manhood. In elementary years, male teachers sometimes understand boy energy better than some female teachers. In middle and high school, puberty and adolescence makes it even more important that boys find men to model from. Female teachers do and can do a great job, but must be trained in how boys learn -- and how they learn differently from girls.

EW: What are some ways an elementary school teacher can motivate the male students and make the classroom more "boy friendly"?

Gurian: We've got ten years of action research and success data that shows that the first thing you should do is get professional development training [for teachers] in how the male brain actually learns. Now the reason that's the most important is that the teachers already are really smart people. They don't need an expert to tell them what to do. What they need the expert to do is to provide them with the developmental training in the area in which they have the empty spots, the blind spots. Because the schools of education don't at this point provide it -- there are a lot of politics in schools of education and a lot of gender politics. Actually, many of them haven't even caught up to the fact that there is this problem. So they are just throwing the teachers out there with all sorts of great training, but not any gender training.

[After the training,] they'll come up with some innovations. They'll end up allowing more physical movement, and the girls don't mind, and there's always one girl who like to move around. too. Some girls don't fit the normal verbal girl model. That will keep the brains out of rest state. That will compel these brains to keep working, and that leads to better education.

There are many ways to facilitate physical movement; a boy can just pace a little. I got an e-mail recently from a teacher who had an old exercise machine she was going to throw away, and she brought it into the class. She let this one guy who was causing so many of the problems walk on the exercise machine while he was listening to the lecture and that took care of most of the problems she was having with this boy.

Another thing is teachers will look at how they are teaching reading, writing, and language arts. Once they see the scans, and see how much less of the boys' brains is working in these verbal areas, and see how much more is working in the spatial, they will utilize more graphics. A key way of doing this in the third and fourth grades is during the brainstorming phase [before students write] is to let the kids who want to and who think visually and graphically draw with colored pencils. They will draw what they are going to write about. And we have great data on this -- in the chapter on reading and language arts, we have all sorts of success from folks who have done this. And the kids' grades will go up, because they now will have sensory detail once they start writing.

A third thing that they can do is become more project-driven and less strand-driven. Right now, one of the innovations we did to help girls is we decided to make mathematics more strand-driven. So not only do kids write more in math class to get more female verbals in, and get the parity there for girls, but they also teach math in

strands, so you have five, six, seven things going on at once to get to a conclusion. Now that's a much more female way of teaching math. The male way is much more task-focused, single focused, because the male brains lateralizes activity. We do a task in one part of the brain while females do the same task in a number of parts. So in order to help the boys, we don't give up the strand thinking for the girls; but we make sure that we do project-driven thinking, in which we do one thing, one strand, and the kids who want to, will just focus on the project, and they don't have to multi-task the strands.

And the teachers know how to do both these, because most teaching in math initially was project-driven, it was point A to point B calculations. Now they know how to do the strands as well. So they can do both. As with everything, we're saying, "Meet in the middle." We have to go back to some project thinking.

And the last little thing is boys learn in master-apprentice relationships. They have for almost a million years. We need to bring more of the retired men from the community into our classrooms to read to our second graders and third graders. And we need to bring more of these mentors and more of these people in to help the teachers in the classroom, all the way through middle school, to get this other voice, this second person, this second mother, or this second grandfather in there, helping to be there for these kids. Boys don't learn as well with 30 people to one teacher. Boys' brains are not as adaptable to that framework. They are more adaptable to the one-on-one, single project [approach], which I call the master-apprentice.

EW: Boys seem to be drawn more to video and computer games than girls. How does "screen time" affect boys' development, and how can teachers and parents lure them away?

Gurian: Neurally, it's the prolonged time in front of the screen that we have to worry about. The reason we devoted most of one chapter in *The Minds of Boys* to screen time is because now the science-based research is clear that this is affecting brain development... [Some research has shown that young children who watch a lot of television are at greater risk of developing Attention Deficit Disorder (ADD).] Generally, we're finding there's an awakening among parents. They understand that the male brain is very mesmerized by any screens and spatial...but they're also realizing that this must be done in moderation. A gun is attractive to someone who is spatial, but we don't give him a gun.

I think the role educators can play is in the parent-teacher conferences, especially in pre-school and early childhood classes, when they can say, "Hey, check out this research. You have to look to at this. Your son really could be affected."

Then for those middle and high school teachers, if the child is having trouble in school, I think immediately, one of the big five the teacher would talk about with the parents is screen time. Obviously, nutrition is one, as is whether there are crises at home, those are very big. But based on the new research, I would put in screen time in the big five.. Because a lot of middle schoolers now are just too distracted to learn because they are even watching movies while driving down the road with their parents. I'm begging parents not to do that. I'd love the carmakers not to put theaters in cars. But that will never happen. But we're begging.

EW: What do you think is behind the high dropout rate and decreasing college attendance rate for boys?

Gurian: I think the deep reason that these guys are not succeeding is that we are starting to lose them so early. This [male brain] is a chromosomally hard-wired system that learns in a way that is at a mismatch with school. The way the conventional schooling system is set up -- sit down, learn, read, write -- we lose so many of these guys so early, because the guys' verbal centers come in a year to a year and a half later.

By the time they get to high school, a number of them are bored out of their wits; they don't see any relevance to the way they think and where they are going in life. They're reading books like *Pride and Prejudice*, stuff which I liked because I'm a writer and so on, but for most of these guys, this is not

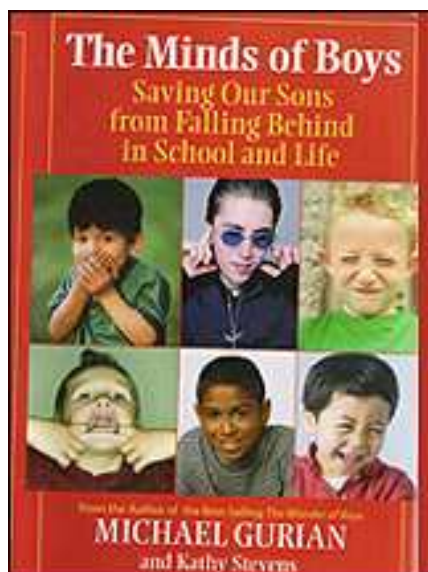
relevant to them. They are learning nothing from this.

So they don't see the relevance, they have been bored and mislabeled and misdiagnosed for about a decade now. I don't think we can hang onto these guys. They look at college and they say "College? I'm going to get more of the same." So what's too bad about it, as you know, is if they don't go to college there are a lot of ramifications. And so that's why we would like to change the school system from pre-school forward and get it to accommodate the male brain, so by the time they are in high school, they like it.

This e-interview with Michael Gurian is part of the Education World Wire Side Chat series.



Michael Gurian



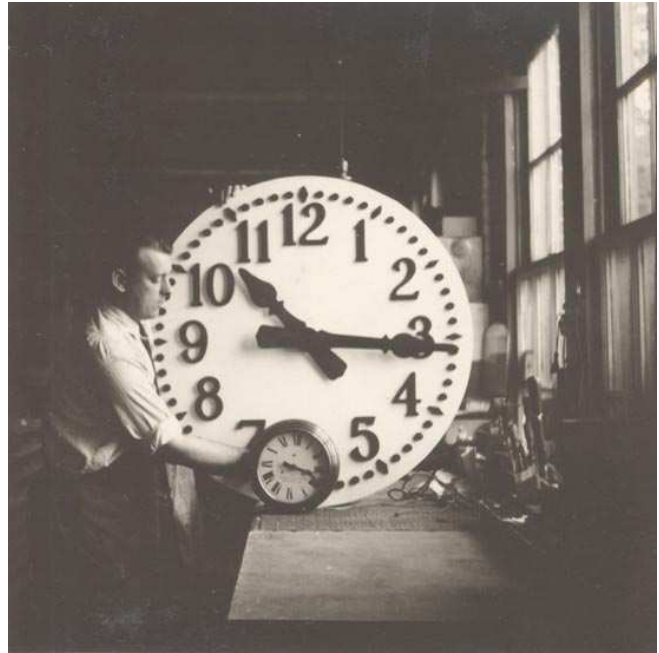
Ways to Help Boys Learn

Some tips from Michael Gurian and Kathy Stevens for improving the academic success of boys:

- * Change curricula: Schools should adopt more male-friendly language arts programs to encourage boys to read and write. Teachers also should introduce more movies, videos, or other forms of multi-media in the classroom.
- * Change reading requirements: Allow more choices. Offer personal-choice reading assignments so that boys can select topics of interest, such as sports, adventures, or fantasy.
- * Encourage students, when possible, to take notes and write papers using laptop computers. Many adolescent boys can't take handwritten notes as well as the girls around them.
- * Both at home and at school, employ physical movement when students are reading and writing. When used properly, allowing boys to move around while thinking about assignments stimulates their brains. Incorporate physical movement into math and science classes with activities such as math Olympics and interactive science projects.
- * Encourage community discussions on school start times and class sizes. Research has shown that starting school later and reducing class sizes, particularly for adolescents, can improve school performance and behaviour.

Some food for Thought

Boys are like
clocks they
need to **Run**



We must allow them

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