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Gender Differences in the Classroom:

*How do boys and girls differ in regard to a stress factor within the classroom?*

 For my research, I wanted to test the theory that boys and girls differ from each other in how they respond to a stress factor within the classroom. Based on the book, Why Gender Matters, Dr. Leonard Sax, M.D. studies various differences between the two genders. I honed in on one part in particular when he writes,

 “[studies] have demonstrated that stress improves learning in males while it impairs learning in females” (p 89).

 This was fascinating to me! With research showing a difference in both sex’s brains, I suppose it’s no wonder that such a difference could exist. Sax goes on to say,

 “moderate stress improves boys’ performance on tests – the boys do better than you might expect – whereas the same stress degrades young girls’ performance on tests. Differences in the effect of stress on test performance may explain one of the most robust findings in educational testing: namely, that girls on average don’t do quite as well as you might expect on standardized tests such as the SAT, based on their grades in school. The girl who gets straight A’s in school doesn’t necessarily get a perfect score on the SAT or even a score above the ninetieth percentile. Conversely, boys often do better than you would expect on time-constrained, stressful standardized tests such as the SAT” (page 92).

 Based on what Sax writes from valid research along with other research I have found, I wanted to see what the results would be when I observed my own students. Would I find the same to be true?

 First, I had to come up with what my assignment would be and then how I would create a stress factor on top of that. I decided I would administer two ‘pop computation quizzes’. My students are used to weekly computation quizzes, so I knew when they saw the math problem(s), they would recognize the format and know how to solve it. On that particular day, my class was composed of 18 students, 10 girls and 8 boys, all of which are Caucasian and upper socio-economic status. The experiment took place in my 4th grade classroom where I teach math and social studies.

I passed out the first quiz face down to each student (all students had privacy folders up at their seats as well). I told them that they were not allowed to begin until I said to and that they would be given forty-five seconds to complete it (they were unaware at this time that there would be a second quiz following the first). I also told them that this would be graded and go into the grade book. After the forty-five seconds were up, I collected the papers and told the students they would be taking one more very similar looking quiz, only this time it would be untimed. I passed out the second quiz and allowed the students to start when they got it. As the students finished and turned their papers in, I labeled each quiz in the order it was turned in. For example, the first child to turn in their quiz happened to be a boy, so I wrote #1 on his paper and so on. After all papers were completed and turned in, I told the students that the quizzes weren’t really for a grade, but instead they were just part of an experiment.

This type of assessment that I used was paper-pencil and teacher-developed, created by myself for my own students. It was also somewhat norm-referenced, because I was testing how the students performed in comparison to the others. It was both informal and formal in a way; informal because it was spontaneous and I was observing, but it was also formal, because it was preplanned on my end and I was able to gather data from it.

I found the results very interesting. The minute I told the students that they would be taking a pop quiz, the expected gasps around the room occurred. I continued and told them that they would have forty-five seconds to complete it (i.e. the ‘stress factor’) and that it would be counted as a grade, and what happened next was exactly what I was thinking would happen if my experiment results matched up with the research I’d read; that the girls’ performance could be degraded due to the stress. Immediately, one female student raised her hand in a panic, needing me to explain the directions again; another female kept saying,

“Wait, wait, Miss Moore, please don’t start yet, I need time to get my name on it”.

No responses came from any male students, which I thought was interesting; it seemed as though some of them were able to look at the assignment as a sort of competition, creating a sort of ‘rush of excitement’ for them. We started the quiz, and I took note of those that were able to finish within the allotted time and those that weren’t. Out of the first four students to finish, three of them were males. Was that due to the fact that some of the girls were slowed down due to the timed stress factor and it didn’t affect the boys? I would wait to see if the results would be different the second time around when the next quiz was untimed. On the first quiz (timed), 5/8 *boys* in the class finished the quiz and got the answer correct, while 5/10 *girls* finished the quiz and got the answer correct. That broke down to 62% of boys answering correctly vs. 50% of the girls.

When I told the students they would be taking another quiz but it would be untimed, there were sighs of relief, specifically from the girls. Maybe they are just more vocal in general, but it definitely was significant. All students, 100%, finished the untimed quiz and all answered the question correctly. Of the first ten students who turned in their quiz, 6 were males. So, even though the girls weren’t necessarily turning in their quizzes quicker than the boys, more were able to finish them and answer the question correctly than when they took the timed quiz.

My overall results did coincide with most of what the research I found says. The girls’ performance was hindered due to the stress factor. I don’t know that the boys’ performance was necessarily improved like the research tended to find, but I know my results showed that it wasn’t hindered, so that to me proves the research findings to be overall accurate.

I think if I did this experiment over again, there are some things I would the keep the same and some things that could have skewed my results that I would likely change the next time around. One thing I would keep the same is administering two separate quizzes; one timed and one untimed. Also, I would keep the quizzes short and to the point. One thing that I would change would be to possibly change the quiz to a multiple choice format instead of open-ended; that could prevent skewed results caused by students who have trouble with handwriting or keep their work neat. Additionally, I have to ask myself if giving two different math problems is really fair and equal. Even though they are in my opinion the same level of difficulty, would everyone agree and think the same as I do? I’m not sure about that; so, I might consider getting a second opinion on whether or not the separate quizzes are equal in difficulty.

My findings really fascinated me. I want to be a teacher who creates an environment where all of my students can thrive and do well. So, my question for myself now is:

How do I provide the most nurturing and challenging environment to both my male and female students when both learn differently? It’s a tough question to answer, because in reality, is there anything I can do to teach the boys and girls separately if I work in a co-ed school and have a class comprised of both boys and girls? Technically, no there is not anything I can do to change the make-up of my class, but I might be able to change the style of my teaching to best benefit my students. The book, Gender Matters, discusses many more ways that boys’ and girls’ learning abilities are different within the classroom. What I might want to consider is grouping my students into ‘boy’ tables and ‘girl’ tables as opposed to mixing them up like I do now. It might make sense that since boys learn similarly to other boys and the same is true for girls learning similarly to other girls, that I group them accordingly to see if that enhances their learning at all.

One approach that I may consider taking if some sort of stressor is presented in the classroom in the future is to remember how that stress factor(s) affects males and females differently. Because girls tend to have a more negative reaction, I could consider approaching the situation with some sort of calming technique. For example, in the book it talks about,

“Amy Van Dragt – who teaches at an all-girls school… told me about her routine on test days. ‘I have the girls start by taking their shoes off, relaxing,’ she said. ‘We sit in a circle and just help each other chill for a few minutes. Then I pass out the tests. But I *never* use timed tests,’ Ms. Van Dragt said. ‘I let each girl have as long as she needs’” (page 91).

Although, I probably can’t eliminate all timed tests, I bet I could tweak some of them, and when eliminating them isn’t an option, I can think about calming techniques to consider prior to the test or assignment to keep the stress to a minimum.

Overall, this research and experiment in my classroom has taught me that males and females do learn and respond to stressors differently. What’s most important as a teacher, in my opinion, is figuring out what each of your student’s needs are and doing the best you can to meet those needs. No one classroom out there is perfect, but I bet if we took the time to pay close attention to what our students need most, we would start seeing changes within the classroom and individual learning and test results.

References

Sax, M.D., Ph.D., Leonard. (2005). Why Gender Matters: What Parents and Teachers Need to

 Know About the Emerging Science of Sex Differences. New York: Three Rivers Press.

Miss Moore’s A.M. math class, personal experience/experiment, November 1, 2012.