



Math Phobia

By JOHN BICKART, Ph.D. | *Science Education and Spiritual Transformation* | Chapter 12: Naming, Categorizing, and Labeling

I. See everything as if for the first time - including yourself.

Society and Self

Scholastic subjects like science, technology, engineering, or mathematics can have a social impact on outer society and also on your own 'inner society'. If only our education could include pauses to get in touch with our original, inner belief in ourselves, we might get our own house in order, then learn better with unfettered attention. This then leads outward to our effect on the world. If we are at peace inside, we can spread that to our work outside.

I don't believe there exists completely objective studies. Why? Because they are done by people. People can hurt or heal, so the inner life of the person who is learning a STEM subject is already coming with baggage of what that person is going through at the time. I know for myself, when I first learned chemistry, my attention was captured much more by two personalities in the class than the factual material. To tell you the whole truth, I was worried about an illicit affair. My mind was constantly clouded with this issue, and I therefore nearly failed the class. I wish that course included concentration exercises in parallel to the pure subject matter.

I have seen many people get virtually stopped by a seeming inability to learn algebra. This is sometimes

called 'the algebra gateway'. The belief in it causes many students to halt their education. Once again, parallel parts of a STEM course could address such inner baggage and help students manage their inner life. Let me show you what I mean through a story about Robert. Robert (we'll call him - that was not really his name) was of a race, sexual persuasion, age and religion that was not respected in his hometown, with his wife and children, nor in the prison, where I met him. On top of this, he was absolutely convinced that he could not do algebra - the very thing I was hired to teach him so that he could enter a college and get two years of support upon being released from prison that very year. I wrote about him in the book, *The Next Version of You* (Bickart, 2018, Chapter 6, "Math Phobia"). My heart went out to Robert. Here is his chapter in its entirety.

Math Phobia

What is math phobia? Robert had a whole book about it. He showed it to me, I think it was sometime in the first week of classes. "Trust me, Dr. Bickart, I have math phobia. *And it's real!*"

I looked him in the eye and said, "I really don't know about such things. But I know what I'm going to do. I'm going to respect you, watch you, and give you everything I've got. But I really don't know about that math phobia. To tell the truth, I don't think I believe in it. Not for you. Maybe for someone else, but not for you."

"But you don't know me. I've had it since I was young." Robert was 47 years old. "Trust me, Dr. Bickart. My teachers believed in it, my parents believed in it, and

I've tried for years, here in prison, to shake the problem and I know I just can't do any math beyond arithmetic."

Robert explained how algebra was definitely in the phobia area. My job, however, was to get Robert to qualify for college level classes, so that when he got out of prison he could go to college. Robert was one of 16 men I had in class for six hours a day. But we had more obstacles than math phobia to overcome. Our classes were right here in the prison, so we had the comfort and protection of our dysfunctions. Basically, everywhere around you were reminders that you could not succeed. The prison guards made you feel you were unworthy of respect. The walls and fences reminded you that you did not deserve to move on. And the other inmates' convictions were a constant reminder that you had done something bad and probably could not change. My job was to take the time from September until December to go around, against, over or under those reminders so that the guys could pass a test. An algebra test. For college.

"Dr. Bickart, don't get me wrong, sir. I'll do anything you say. I just know that I can't do certain kinds of abstract thinking. My brain just doesn't do it. I test somewhere around the level of a grammar school math student. I've been in prison, released, and sent back to prison. I would like not to come back a third time. But I don't think I can do math, so ... isn't there a way around that part of the test? I'll do anything extra if we can just skip the algebra."

"I don't know, Robert. A way around the test? I'm not sure about that. But, I do know this. I am so glad that I met you.

You just gave me a chance to grow. Don't you see, Robert? You're the poster child for math phobia. You said it, defined it, believed in it, and you're real, standing in front of me right now, right here. You just gave me - and the whole class - and yourself - a gift. You gave us the key to everyone doing well. Basically you handed us our

success on a golden platter. After your objections, I don't think anyone else can top your conviction about math. If we can unlayer your belief that you can't do it - your disbelief – I'll bet we can get the whole group to pass the test. Thank you. I am sooooo glad we have met."

Clearly Robert was not prepared for this answer. You could see him retreat, already beginning his preparations for the next battle. Oh yeah, he wasn't done. It wouldn't be that easy. After all, if someone could walk up to him and say a few flowery words, he would have found answers long ago. No.

Nevertheless, Robert remained polite. He said something like,

"Thank you Dr. Bickart." But, his whole being was saying, "Sure, sure. That's what you think. I'll show you. I'll fail. I'm good at failing and I know it; and you can't stop me." And he was good to his word, that is, the words he thought. He tried to have problems in class, after class, and at night when he worked on his homework with a buddy inmate, Michael. Michael would come to tell me how Robert just couldn't do it. I asked Michael, "Do you think he really can't do the math, or do you think he stubbornly believes that he can't do it, and we are battling a conviction, without even finding out his true abilities?"

Michael thought Robert was being stubborn. "But Dr. Bickart, Robert's an old coot. He might not break out of such ingrained habits."

"Yeah," I said, "it looks like he's stuck, doesn't it? But how things look on the outside and how they really are behind the scenes are two different things. I don't know." Michael kept working on Robert at night, and I kept on him in class.

At the six-week point in the semester, around mid-October, we were to have a pre-test to see how the guys were coming along. As the test approached, I made sure that all of the types of relevant math problems were

introduced. Several guys were making strong complaints by now. What started out as 'not so bad' was becoming '*that algebra*'! You have to understand, they were using it like a curse-word. They were not allowed to use any form of profanity, so they simply looked at me each day and said, "Dr. Bickart, is it time to do *that algebra*?" I don't know how, but they could make you afraid when they said it, like a threat and a curse and something you better-not-do-or-else. And they ganged up on me in a subtle way, where one guy would say it, but they would all look at me in unison and put the pressure on. I guess you had to be there to feel the pressure. And Robert. Oh man, he was digging his heels in. His polite objections were becoming serious displays of emotions and sighs.

Finally, one day, Robert threw his pencil down and said, "I just can't do this stuff!" Mind you, he had come along somewhat. He had actually made some progress on certain portions of factoring polynomials. And that isn't easy. But he was throwing up his hands on the problems where he had to simplify complex algebraic fractional expressions. (I hope as I write this, that the reader is reminded of fond memories of math classes.) So clearly, it was time for me to raise the stakes. Up till now I had used cautious encouragement, but as they responded with increasingly negative feedback, I felt the need for a change in direction.

I launched an attack. I came in from three doors. I said out loud to the group, "Look! The mid-semester test is in a week. You are all going to qualify. We have until December, but we are not waiting until then. We are going to kill this thing now." That was the first door. Then I said, "Robert. See me after class. You are going to do this." That was the second door. "And I'm increasing the homework. Work in groups at night and get this done. Do not wait for me. Do it yourself. You all have the ability. The only blockage is belief. Do you or don't you believe you

can do it?" And that was door three. Door three was belief. Door three is always belief. When all else looks as if it is failing, I fall back on belief. If I can't see outer signs that things will work out, something inside tells me to try belief. I guess it's a good idea. After all, when the answers are not coming from something in sight, where else is the only hope of an answer? Plus, I somehow actually did believe they could do it. How? I don't know, but a prompt seemed to come into me at this moment, and it said something like, "Tell them to believe in themselves." So I did.

Now I had to talk to Robert after class. You have to understand something about Robert in order to understand how our conversation went. Robert always agreed a little too quickly with everything you said. He was passive aggressive. He chose to disagree with you in secret, behind the scenes. So, when we talked and he outwardly defied me, it was really interesting. "Dr. Bickart. I respect you, but I told you there were things I just could not do and here they are. I just don't think you should try to push me any farther."

"Alright. Then, how about this? You push you. What about that?"

"What?"

"You push yourself," I said. "You know how you always agree with everyone so much? Well I think you're actually saying, 'I disagree!' I think you are using an incredibly stubborn will to defy lots of people, a lot of the time." I told Robert this because I had observed how he was always alone, fighting against tall odds. In his class, Robert was one of a small number of incarcerated individuals for several reasons: his religious beliefs, his sexual orientation, his race, and his age. He handled being the odd man out by agreeing quickly with anyone who showed signs of opposition. But he always agreed too quickly and too much. I think he was using a great

deal of restraint to act passively when he really felt aggressive. So my comments were basically saying, 'I see you.' I was calling out his stubborn - but very strong - ability to remain staunch in his beliefs.

He got pensive. I went on. "I think that you are constantly saying to the world, 'Go ahead, I dare you to try to move me. I'm not going anywhere!' And I think that takes real strength. I think that you are incredibly strong." Now Robert is looking at me with considerable intensity. Tears are welling up in his eyes. I have been speaking with some feeling. I launch into the next statements with even more feeling. "What if you take this defiant strength and decide to use it in favor of yourself instead of against the world? What if you tried on the idea that maybe you *can* do this thing, then redirect all of the power you are using to dig your heels in and throw it at the problem? Or, Robert - look me in the eye - what if you use your incredible power to let go of your problem? Yes, man, let go of math phobia! I don't care if you have said it to yourself for forty years, since you were seven years old. I know, and you know that you are strong enough to perform the ultimate act. LET GO OF YOUR DISBELIEF!"

Robert didn't just agree; he looked me in the eye, then he spoke to himself as much as he answered me, "Yes," he said. Then he left.

The sixth week, the last week before the mid-semester test, Robert was a new man. All of a sudden his head was down over his paper, and his pencil was flying. His voice was calm and firm. He was trying. He was moving on. He was either beginning to believe or perhaps letting go of disbelief. Whatever it was, it was contagious. The whole class felt it. The group got more intense than ever. Let me take this moment to say to you what I repeatedly told the algebra class. I don't care about

algebra. I don't even think it should be a required subject in schools. I think that we could construct a great curriculum to teach students to think logically and do the necessary arithmetic to get by in life without algebra. But the fact is that almost 40% of the formerly incarcerated population in the U.S. experiences recidivism - they go back to prison. And so, for now, if mastering algebra represents a step in believing in oneself, I say, "Bring it on." If we can metaphorically conquer some of our demons by doing some challenging math, why not head into the storm?

A week later officials from the state administered the test. 100% of the 16 students scored high enough to be eligible for college work. This was a 46% increase from the pretests that were given before our semester began. Several students' scores were so high that they were out of the range of the test. This caused a problem in that there would be no way to measure their progress from mid-October to mid-December, when the course would be over. So a second test was given the next day, the highest test available. Again all 100% scored eligible, and even more students - 75% of them -- scored out of range. I wish you had been there to see the students! They did not look like the inmates I had met six weeks prior. Robert looked like a new man. He might have been the most gratified of all of them. He stood tall and walked tall among the others, part of a group he had never thought he belonged to.

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So, what have we learned here? That *opposition* and *alignment* must go hand in hand. Robert had a powerful passive aggressive nature that was oppositional. But he was playing this hand alone and it was undermining his ability to be whole and align with himself.

He couldn't believe in himself because he was so busy opposing math, it leaked over into opposing Robert himself. But, on the other hand, he couldn't simply go over to alignment and believing in himself; he had to access his strength in opposing things to make a forty year change like that! So, here is Robert - the (47 year old) poster child who - perhaps for the first time in his life - used both opposite sides of his nature to conquer his math phobia!

It's interesting. Research has increasingly shown that the human brain needs both the left side and right side in concert to function. Traditional studies have shown the left side to be good at separating things by seeing one idea *as opposed to* another. This side is great at math, analysis, and mechanical thinking. The right side sees all those separate parts as a whole. It is great at aligning ideas, intuitive leaps of thought, and seeking relationship and unity. But the more we research the brain, the more we see how one side needs the other. It's fascinating to read some of the case studies of people who have had a brain injury to just one side. These studies clarify the differences I've mentioned, but they also underscore the interdependence. Robert was in prison for the second time. He was 47 years old. He had to be careful. His oppositional nature had to be employed to 'watch his back'. So he had plenty of exercise for his oppositional tendencies. Therefore, it looked to Robert like a sign of weakness to let go of anything. Even letting go of his disbelief in math phobia felt to him like giving in.

So, it took a moment of intuitive teaching to meet his challenge. Intuitive teaching marries right brain alignment to left brain opposition, and that is what enabled me to have the needed *commitment to Robert and conviction that he could succeed*. This conveyed a strength to believe in himself, which he could not muster on his own. Lacking those qualities, I might have said the

same words, but without the same effect. His over-emphasis on being an individual had him shooting himself in the foot, when he wanted to believe that he could let go of his math-phobia. Yes, he needed to hold onto a firm lookout for danger and be his own man; but he also had to let go of forty years of rigidity. And he did. I believed in Robert, and Robert taught me that even a forty-year habit of disbelief could be transformed. And I have grown because of that. Thank you, Robert.

References

Bickart, J. (2018). *The next version of you: 12 stories that highlight the use of intuition to update your life.*