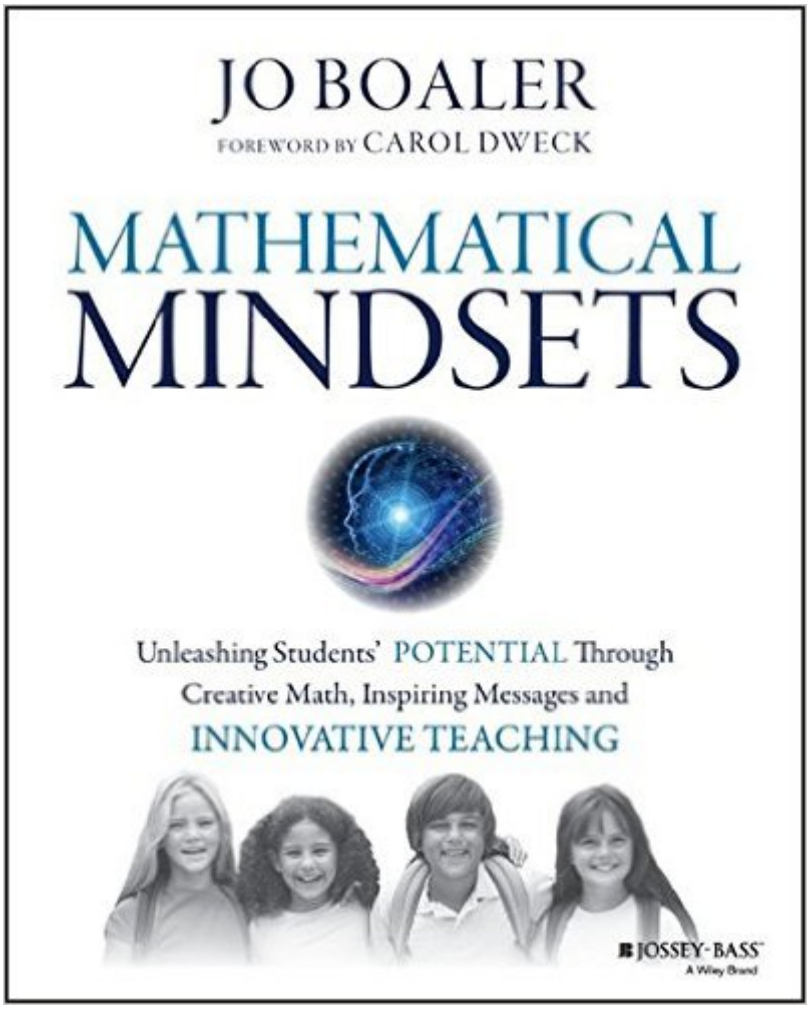
Mathematical Mindsets: Unleashing Students' Potential Through Creative Math, Inspiring Messages And Innovative Teaching



Synopsis

Banish math anxiety and give students of all ages a clear roadmap to success Mathematical MindsetsÂ provides practical strategies and activities to help teachers and parents show all children, even those who are convinced that they are bad at math, that they can enjoy and succeed in math. Jo Boalerâ ”Stanford researcher, professor of math education, and expert on math learningâ ”has studied why students don’t like math and often fail in math classes. She’s followed thousands of students through middle and high schools to study how they learn and to find the most effective ways to unleash the math potential in all students. There is a clear gap between what research has shown to work in teaching math and what happens in schools and at home. This book bridges that gap by turning research findings into practical activities and advice. Boaler translates Carol Dweck’s concept of ’mindset’ into math teaching and parenting strategies, showing how students can go from self-doubt to strong self-confidence, which is so important to math learning. Boaler reveals the steps that must be taken by schools and parents to improve math education for all. Mathematical Mindsets: Explains how the brain processes mathematics learning Reveals how to turn mistakes and struggles into valuable learning experiences Provides examples of rich mathematical activities to replace rote learning Explains ways to give students a positive math mindset Gives examples of how assessment and grading policies need to change to support real understanding Scores of students hate and fear math, so they end up leaving school without an understanding of basic mathematical concepts. Their evasion and departure hinders math-related pathways and STEM career opportunities. Research has shown very clear methods to change this phenomena, but the information has been confined to research journalsâ ”until now. Mathematical Mindsets provides a proven, practical roadmap to mathematics success for any student at any age.

Book Information

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Customer Reviews

As a High School math teacher, I cringe when I hear two things. The first is the damaging mindset of Ã¢Â Âœ I am not a math personÃ¢Â Â•. How is this response even acceptable in our world today? Ours is a world that is relationship driven, and math describes those relationships. The second thing that is cringe worthy is when I hear an opinion of the next best thing in education without providing ample and relevant research that backs it up Ã¢Â Â“ even though research abounds as to what works best in education. Jo Boaler succeeds in addressing both these areas. She attacks the damaging mindset head on by offering practical advice based in research evidence. Boaler provides a means to alter the math conversation into one that embraces confusion and error on the way to developing understanding and math proficiency.

A must-read for parents, teachers, and anyone involved in schools and education policy, especially as it relates to math! It’s impressive how well the book addresses all these different audiences. There’s not a lot of education jargon, and Boaler has plenty of relevant anecdotes to illustrate her ideas, making the book completely accessible to non-educators. There is is a good overview of the recent math education and mindset literature, without going too far into the arcane world of education research. At the same time, everything is well cited, so anyone who wants to delve into the details can flip to the references and find what they need. As a math teacher, I can say that this book really fills a void. In one readable and well-integrated volume, Boaler takes on such diverse topics as how people learn math; the importance of mindset and how it relates to math; how best to serve students at many different levels of math achievement; what math has to do with educational equity, and more.Parents of students who are struggling in math will welcome learning about the research on math phobia and will find that Boaler provides much practical advice on how to change course.Parents of high-achieving math students need to read this book since it provides an important counterpoint to the default of channeling "gifted" students into accelerated math tracks, often without ever giving them a chance to explore math beyond an algorithmic level. You’ll have a much better idea of what you might want to advocate for in order to serve your child well through their educational career.Anyone interested in advancing educational equity will find that Boaler has much to say about how the teaching of math has historically contributed to inequity, and how it

needs to be part of the way forward.Teachers and administrators interested in de-tracking their math programs will want to read this book because it not only provides important rationales for creating heterogeneous classrooms but also explains the comprehensive changes in pedagogy that are necessary for all students to be empowered and challenged.

Reading this as part of a math teachers book club before the next academic year starts.Pros: Well written with lots of good information on the psychology of learning as it relates to mathematics (brain plasticity, growth mindsets, etc.) I really like the positive reinforcement message given here, as well as how to help students overcome some negative attitudes with respect to education in general, and math in particular. There are also some good examples of teachers and students who have had some success in inquiry based learning.Cons: No overall big problems, but a lot of little things that detracted for me.The author kind of likes to toot her own horn. Dr. Boaler is a subject matter expert with lots of good experience to share, but it sometimes comes off as smarmy "look what I've discovered that no one else seems to realize!" Call me cynical, but not everyone is oblivious to the issues being presented here.I'm not sure we benefit from more of a message that math would be easier if only teachers would open their eyes to what maths really are and would teach it differently. No kidding. However, until teachers have professional discretionary judgement within their classroom, i.e., not being told what to do by politicians with political motives or administrators who have to toe-the-line with school boards, not much is going to change. Get the monkeys off my back and let me teach the math classes I want and life would be a lot better for not only myself but my students. (Granted, in that case I probably would introduce more of the techniques in this book :)The bigger problem I have it that I'm not at all a fan of the "inquiry based education model " which seems to be advocated by this book. It is one of many systems of education that with certain teachers under certain conditions with certain students may be highly effective. But it is not a cure-all for math education reform. Much of my dislike of inquire based education is based on my own experiences with it, mostly as a student but also as a teacher without the resources to pull it off. For example, this summer I took several math classes pseudo-under-cover to try them out. I wanted to see how the material has changed since I was in class and compare what they do with what I need to do in my own classes. I found it a miserable experience. Group work was just as painful now as it was when I was "just" a student in school -- you only have a few people interested in actually doing the work, you have a few that would rather talk about pop-culture and goof off, and there is always at least one joker who doesn't care about their own grade nor bringing everyone else down with them. I'm not at all the fan of the mentality that students will not be told the material having the material

formally presented to them. Maybe I'm just old-fashioned, but I kind of want a subject matter expert there to actually present the material to me and help guide me through the work, not just set up explorations for me to stumble through and never know key concepts of the material. If not for needing an official record of taking the class, a person would be better off with a library card and someone to work with.So, I do think anyone interested in math education should pick up the book to read. It is valuable. But take some of it with a grain of salt and realize that different teachers have strengths and weaknesses, different students have different strengths and weaknesses, and when we give teachers the autonomy to teach their subject the best they can we can do wonders.

My whole math class has changed!! Teacher should read this book! I am not someone that reads chapter after chapter without putting a book down so I have to say this was a great surprise!!! I couldn't wait to share the information and ideas with my fourth grade team and my principal!!! We even started a book study! Highly recommend!

What a fabulous book! Jo Boaler has written an incisive and wonderfully thorough book on approaches to teaching school mathematics. Jo is leading a revolution in how math (or "maths" as she would say) should be taught so all learners can be successful at learning math at the highest levels. Very inspiring!

Jo Boaler's work is transforming the way I teach mathematics. This book makes her case for why mathematics education must change, and gives a plethora of ways to do it. Be a part of the mathematics revolution and purchase this book!

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