Mathematics Education for a New Era: Video Games as a Medium for Learning

Keith Devlin
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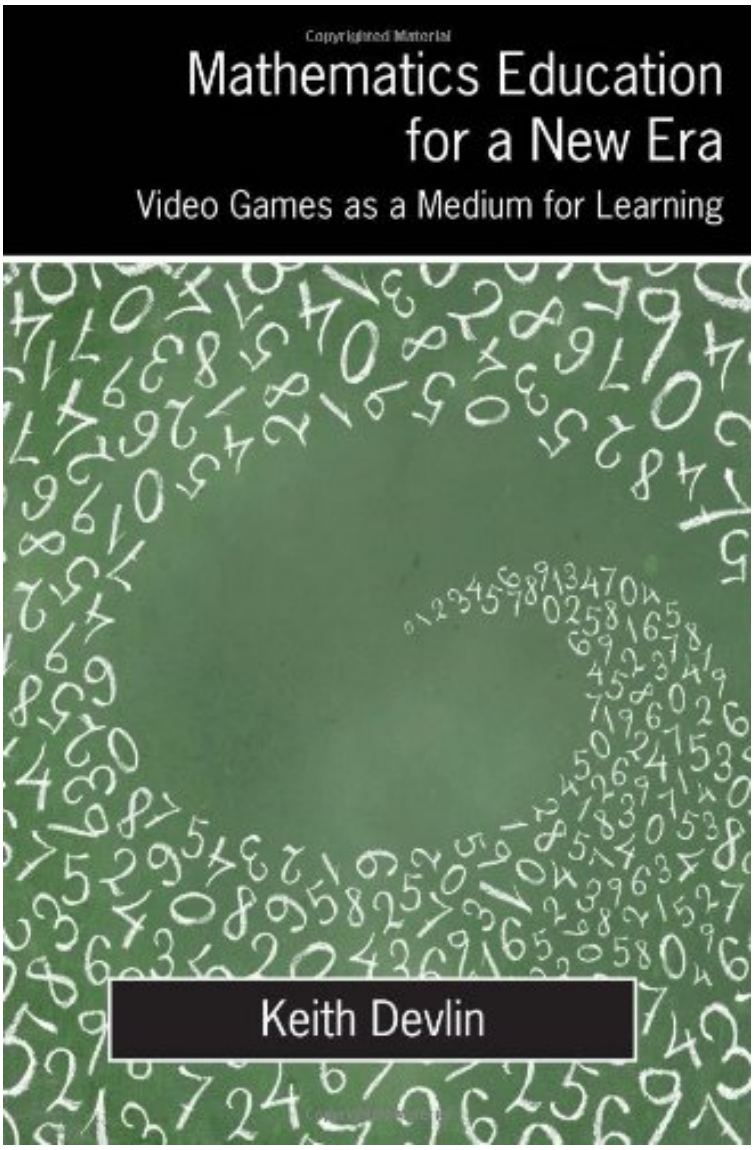

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Keith Devlin : Mathematics Education for a New Era: Video Games as a Medium for Learning before purchasing it in order to gage whether or not it would be worth my time, and all praised Mathematics Education for a New Era: Video Games as a Medium for Learning:

13 of 13 people found the following review helpful. Expert Insights and Thoughtful AnalysisBy Toby RowlandThe

use of games in K-12 math education is growing fast, and respected mathematician Keith Devlin uses this book to set out his vision of how this movement will grow and become more influential. I really enjoyed Devlin's accessible style, and appreciated his focus on 'Mathematical Thinking' rather than pure arithmetic, a common problem with the existing generation of math games. Devlin seems to play an awful lot of World of Warcraft, an online MMO, and this seems to influence a lot of his observations. My own belief is that casual math games, of the type provided by Mangahigh.com, are a more flexible medium for math education, and that combining an MMO with math could be an overwhelming task, with unreliable results. Devlin gives lots of interesting insights, although he sometimes relies overly on James Paul Gee's seemingly endless rules for education games. I enjoyed this book, and will look out for further publications from this author.11 of 12 people found the following review helpful. Tech Junkies get on the Wagon!By Mr. HendersonWith this book Keith Devlin manages to succinctly outline an idea that I have had since high school. In Math Ed for a new era, Devlin discusses how current math ed techniques fail to help students understand the place of math in the real world. Devlin argues that video games provide students with the opportunity use math in a somewhat corporeal setting and develop a conceptual understanding in conjunction with procedural fluency (doing math problems with ease).For the most of the beginning, Devlin tries to give readers a conceptual understanding of why a math ed game would work. This, to me was not quite necessary as the points he made were mostly obvious. He discusses how games would give students the chance to practice and learn at their own pace and to see math in action in a form relevant to their lives. I think here his argument would have been strengthened with the incorporation of more neurological data on the effects of gaming. This point is very briefly touched upon but given the nature of the subject matter it probably should have received more attention.He then moves into a discussion of how video games work and how one could be designed to develop math proficiency. Though, as a gamer, I found his explanations of gaming to be unnecessary, he makes a solid attempt at breaking ground for ideas to effectively incorporate math into a video game.Towards the end he discusses how the American education system is broken and how we are being outperformed in third world countries (if you read many books on education you will understand the banality of the previous statements). However, he makes a very important point which is America is known for being the place where you gain success for thinking outside the box. This point serves as an impetus to at least give gaming a shot in the educational world.Devlin claims this book was meant for educators and mathematicians. However, I was able to understand this book and I am neither. I think that this is a book not just for people in mathematics but also for gamers and computer programmers as they will be the ones to spearhead this idea. In all I recommend this book to educators and students. It is an insightful read and would benefit from extensive popularity.

Stanford mathematician and NPR Math Guy Keith Devlin explains why, fun aside, video games are the ideal medium to teach middle-school math. Aimed primarily at teachers and education researchers, but also of interest to game developers who want to produce videogames for mathematics education, Mathematics Education for a New Era: Video Games as a Medium for Learning describes exactly what is involved in designing and producing successful math educational videogames that foster the innovative mathematical thinking skills necessary for success in a global economy. Read the author's monthly MAA column Devlin's Angle

extremely thought provoking and well worth reading. I highly recommend this book to anyone interested in reflecting on why and how we teach mathematics as well as how we could bring some of the energy that students expend in video games to the mathematics classroom.Larry Feldman, Mathematics Teacher, November 2012 Well-written and accessible, with a few illustrations, the book delineates characteristics that teachers might look for when examining games, types of mathematics ideally suited for such an environment, and advantages that such a transformation might have, specifically a self-paced learning environment and motivation for reluctant learners. Devlin includes a collection of resources, both Web and print based, for those interested in further exploring the topic. Highly recommended.S.T. Schroth, CHOICE, November 2011 Keith Devlin makes the case for embracing video games as not just an opportunity for teaching mathematics, but as an ideal medium for doing so. The opportunities gaming provides for learning mathematics are illustrated in great detail. Devlin makes the case with care, repeatedly drawing on documented studies and educational principles.Bill Wood, MAA s, September 2011 Keith Devlin is well qualified to explore these important questions. Devlin makes the seemingly subtle but very important distinction between doing Math and being Math. I hope that educational games designers use his ideas in crafting educational opportunities. And, in the meantime, teachers (and Math circle leaders) would do well to borrow some of the ideas of what works in the virtual worlds for their classrooms.Sol Lederman, Wild About Math blog, June 2011 Keith Devlins highly readable book sets the foundation for a new approach to learning mathematics where everyone can learn math and finally lose their math fears and phobias. The book is based on empirically well supported and lucidly explicated theories of learning, teaching, and gaming. It will become a classic.James Paul Gee, Mary Lou Fulton Presidential Professor of Literacy Studies, Arizona State University and author of What Video Games Have to Teach Us About Learning and Literacy Keith Devlins latest book does a thorough job exploring the affordances that video games can provide to the teaching and learning of mathematics. He covers the current state of affairs and how games provide a great forum for math

education. Drew Davidson, Director, Entertainment Technology Center, Carnegie Mellon University Mathematics Education for a New Era connects Devlins deep understanding of mathematics education to the new research in digital-games-based learning to pave a path for re-energizing mathematics education.Kurt Squire, author of Video Games Learning: Teaching and Participatory Culture in the Digital Age Keith Devlin makes an engaging and persuasive argument that online computer games can be a great way to teach basic math skills. Educators and parents who think of video games as empty frivolities will be surprised at the significant educational potential lurking within these complex activities. Game designers can use this book as inspiration for creating new kinds of games that reward players not only with fun experiences and real math skills, but also the important knack of thinking like a mathematician (and liking it!).Andrew Glassner, author of Interactive Storytelling: Techniques for 21st Century FictionAbout the AuthorDr. Keith Devlin is a senior researcher and the executive director of the Human Sciences and Technologies Advanced Research Institute (HSTAR) at Stanford University. He is also a cofounder of the Stanford Media X research network and a regular contributor to NPRs Weekend Edition Saturday. His current research focuses on the use of different media to teach and communicate mathematics to diverse audiences. He also works on the design of information/reasoning systems for intelligence analysis.