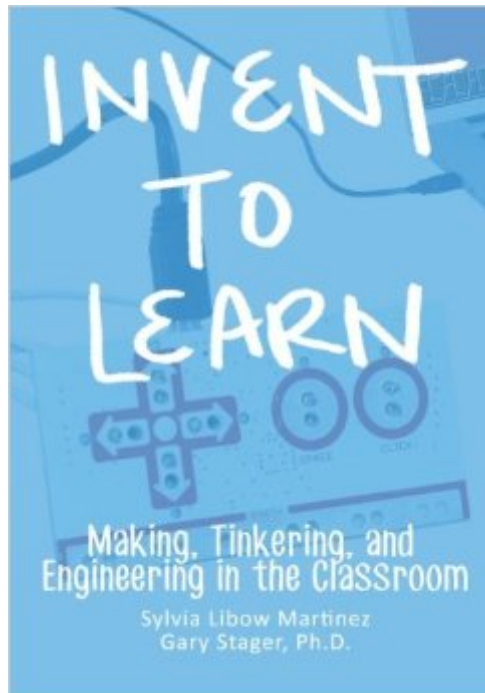The book was found

Invent To Learn: Making, Tinkering, And Engineering In The Classroom

Synopsis

Join the maker movement! Thereâ ™s a technological and creative revolution underway. Amazing new tools, materials and skills turn us all into makers. Using technology to make, repair or customize the things we need brings engineering, design and computer science to the masses. Fortunately for educators, this maker movement overlaps with the natural inclinations of children and the power of learning by doing. The active learner is at the center of the learning process, amplifying the best traditions of progressive education. This book helps educators bring the exciting opportunities of the maker movement to every classroom. Children are natural tinkerers Their seminal learning experiences come through direct experience with materials. Digital fabrication, such as 3D printing and physical computing, including Arduino, MaKey MaKey and Raspberry Pi, expands a childâ ™s toy and toolboxes with new ways to make things and new things to make. For the first time ever, childhood inventions may be printed, programmed or imbued with interactivity. Recycled materials can be brought back to life. While school traditionally separates art and science, theory and practice, such divisions are artificial. The real world just doesnâ ™t work that way! Architects are artists. Craftsmen deal in aesthetics, tradition and mathematical precision. Video game developers rely on computer science. Engineering and industrial design are inseparable. The finest scientists are often accomplished musicians. The maker community brings children, hobbyists and professionals together in a glorious celebration of personal expression with a modern flare. When 3-D printing, precision cutting, microcomputer control, robotics and computer programming become integral to the art studio, auto shop or physics lab, every student needs access to tools, knowledge and problem solving skills. The maker movement not only blurs the artificial boundaries between subject areas, it erases distinctions between art and science while most importantly obliterating the crippling practice of tracking students in academic pursuits or vocational training. There are now multiple pathways to learning what we have always taught and things to do that were unimaginable just a few years ago. Making for every classroom budget Even if you donâ ™t have access to expensive (but increasingly affordable) hardware, every classroom can become a makerspace where kids and teachers learn together through direct experience with an assortment of high and low-tech materials. The potential range, breadth, power, complexity and beauty of projects has never been greater thanks to the amazing new tools, materials, ingenuity and playfulness you will encounter in this book. In this practical guide, Sylvia Martinez and Gary Stager provide K-12 educators with the how, why, and cool stuff that supports classroom making.

Book Information

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Customer Reviews

For a book that asks you to jump right into a great mode of teaching and learning, it takes a while in the book to get there. Presumably, if you have picked up the book, you don't need to know the philosophy and history of the movement- you already are a believer! Other than that, a good, useful book with good connections to a lot of online resources.

Want to start "making" but don't know where to begin or what to buy? This book is a great and practical resource for educators who are looking to incorporate meaningful play, tinkering, and STEAM initiatives into the classroom experience. (STEAM = Science Technology Engineering Art Math) Full of information, examples, and anecdotes from makers and teachers, this book will help you take the plunge and set up a mini or full-fledged Fab Lab.

"Invent to Learn" provides an overview with lots of examples of how "making" can be incorporated into the classroom, but it's written by two education technology experts who don't seem to have much experience in K-12 classrooms with students, and doesn't provide the kind of useful information I'd expect in a book written for an audience of classroom teachers.Don't judge the book by the introduction or first chapter, which are much less useful and interesting than the later chapters. This book is a great example of how misleading 's free preview feature can be; for this book, it includes only the Introduction, which is frankly not as interesting and engaging (and certainly not as useful) as some of the later chapters. Chapter One is a dry, unhelpful history of "making."

You must grind forward to find the content that's actually insightful and useful.This book provides a broad overview and could certainly be useful to some teachers who believe their knowledge of technology is weak. Some of the later chapters might be useful to more teachers who already incorporate technology and "making" in their classrooms.

Sylvia and Gary do a great job in this book explaining why tinkering is such an important part of the learning process. Most adults would agree if they just slow down to think about how they learn best when in unfamiliar territory. This book should be part of educator prep programs. Well done, Sylvia and Gary.

Very nice book about making/inventing, based on constructionismo (constructivismâ ™s version from Papert). Papert, as Piaget, were also epistemologists, so they knew learning is not simply making. Learning is an elaborate process, autopoietic, from the inside out, as author. Thereâ ™s some lack of this discussion in this book, but, in all, it is a worth reading piece. The most important side is the accurate study of making with computer (Papertâ ™s idea that computer is â œmaterialâ • for making).

Invent to Learn is the perfect book for educators, administrators and community leaders who are invested in real educational changes in their schools. Gary and Sylvia seamlessly connect the ideas of progressive education to the current maker movement. Children crave creative, interesting and challenging projects, and the pressure is on for schools to develop a more STEM-centered learning environment. If you are ready for change, there's no need to start from scratch. Invent to Learn is an invaluable collection of ideas and resources to help both new and experienced educators grow professionally. Once you read this book, you will discover there is no end to the exciting things you can do with your students!

Invent to Learn is a book long overdue, as it will serve to refocus so much of the distracting triviality that has overtaken much of our use of computers in schools in recent times.This a game-changing book through which Gary Stager and Sylvia Martinez will reshape the conversation around our expectations of what computers truly make possible for young people. They have grasped the essence of what really matters and what our students should really be doing with computers.They have taken some of the best ideas of people like Piaget and Papert and turned them into practical, tangible opportunities for young people to be inspired learners. I believe Invent to Learn will become

a foundation textbook in undergraduate teaching courses in Colleges around the world, and should be a core reference for any teacher who sees computing as way of creating hard fun with their students.

Invent to Learn serves as a guide to the maker movement and why making matters in education. After a quick overview of the constructivism and constructionism philosophies, Martinez and Stager dive into tinkering through fabrication, physical computing, and programming. Complete with supply lists and Maker Day instructions, this book encourages people of all maker inclinations to jump in and start creating not just consuming.Encouraging a less us, more them approach, Martinez and Stager suggest that TMI should mean Think, Make, Improve and not "too much information, too much instruction, too many interruptions, too much interventionâ •. A fair statement given the book's focus and the overall condition of our education environment but it should be noted that Martinez and Stager spend little time considering the interplay of subject matter consumption and personal creation or forms of creation beyond fabrication, physical computing, and programming.Invent to Learn is a book for those of us that would like to see students given the time and chance to develop and use higher order thinking and non-cognitive skills in an authentic environment.

Invent To Learn: Making, Tinkering, and Engineering in the Classroom Soap Making: 365 Days of Soap Making (Soap Making, Soap Making Books, Soap Making for Beginners, Soap Making Guide, Soap Making Recipes, Soap Making Supplies): Soap Making Recipes for 365 Days The Invent To Learn Guide to 3D Printing in the Classroom: Recipes for Success Learn German Step by Step: German Language Practical Guide for Beginners (Learn German, Learn Spanish, Learn French, Learn Italian) Google Classroom: The 2016 Google Classroom Guide (Google Classroom, Google Guide, Google Classrooms, Google Drive) The Urban Biking Handbook: The DIY Guide to Building, Rebuilding, Tinkering with, and Repairing Your Bicycle for City Living Jewelry Making: Jewelry Making Instructions to Easily Create Beautiful Pendants, Bracelets, Earrings, and Necklaces (Jewelry Making Books, jewelry making for dummies, jewelry making tools) Jewelry Making: 33 Tips and Advices For Making Unique Earrings (jewelry making, jewelry making books, jewelry making kits) Open: How Compaq Ended IBM's PC Domination and Helped Invent Modern Computing The Game Inventor's Guidebook: How to Invent and Sell Board Games, Card Games, Role-Playing Games, & Everything in Between! The Science, Art and Discipline of Technology Development: How NOT to Re-Invent the Wheel Wine Making: Beginner Wine Making! The Ultimate Guide to Making Delicious Wine at Home (Home Brew, Wine Making, Red Wine, White Wine, Wine Tasting,

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