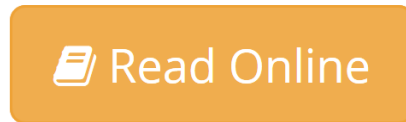


## The Invent To Learn Guide to 3D Printing in the Classroom: Recipes for Success

By David Thornburg Ph.D., Norma Thornburg MA, Sara Armstrong Ph.D.



**The Invent To Learn Guide to 3D Printing in the Classroom: Recipes for Success** By David Thornburg Ph.D., Norma Thornburg MA, Sara Armstrong Ph.D.

This book is an essential guide for educators interested in bringing the amazing world of 3D printing to their classrooms. Learn about the technology, exciting powerful new design software, and even advice for purchasing your first 3D printer. The real power of the book comes from a variety of teacher-tested step-by-step classroom projects. Eighteen fun and challenging projects explore science, technology, engineering, and mathematics, along with forays into the visual arts and design. The Invent To Learn Guide to 3D Printing in the Classroom is written in an engaging style by authors with decades of educational technology experience.

The projects in this book are connected to both the Next Generation Sciences Standards and Common Core State Standards in Mathematics, making it of even greater value to educators.

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### Editorial Review

#### Review

Whether you are new to 3D printing or an experienced maker, the Invent to Learn Guide to 3D Printing in the Classroom is an essential project-based resource for integrating 3D printing in classrooms. Designed as lessons built on NGSS and CCSS competencies, the 18 projects provide a wealth of learning opportunities that are perfect for students and teachers alike.

*Carl Heine, Illinois Mathematics and Science Academy*

This is a MUST HAVE book for any educator interested in 3D printing in the classroom. This book takes the next step in integrating 3D printing across the curriculum.

*Todd Whitlock, CEO Standard For Success & District Administrator North Daviess Community Schools*

A key idea--supported throughout this book--is that students are not just 'doing' mathematics and science, they are actively engaged as mathematicians and scientists in their own right. As such, when they encounter difficulties, they need to tiptoe back through their thinking by revisiting their designs and seeing what bugs in their processes they need to fix.

A 'must have' for those interested in 3D printing with students!

*Peter Skillen, Educator, Ontario College of Teachers*

The Invent to Learn 3D Printing in the Classroom: Recipes for Success is an effective guide for anyone who would like a step-by-step tutorial that covers all the important aspects of 3D printing, including differences in the machines themselves, the printing materials, and the software options necessary to create a wide variety of projects. For anyone who has thought about exploring 3D printing, but thinks the software is daunting, these "recipes" will have you creating like a master chef in no time.

*Roger Wagner, developer of Hyperstudio*

There is a rapidly growing interest in schools for 3D printing, however until now there have been few resources for teachers in the way of instruction or professional development to support full adoption of 3D printing. David, Norma and Sara's book does an excellent job of introducing educators and students to 3D printing and how it can support current curriculum as well as the new Common Core and Next Generation Science Standards.

*John Westrum, Vice President, Afinia*

#### About the Author

#### **David Thornburg, PhD:**

Through presentations, workshops and books, Dr. David Thornburg uses his expertise in emerging trends to

help educators build the skills needed to use technology as a tool to teach for understanding, backed by solid research and a coherent vision of an educational future in which every learner thrives. A staunch advocate of STEM education, he sees 3D printing as a powerful tool in the hands of all students.

**Norma Thornburg, MA:**

Norma Thornburg is an exceptional educator. Using her knowledge of emerging trends in technology, she helps teachers develop constructivist strategies to engage students in learning activities that build valuable life skills for the 21st Century. Her interest in making covers a wide range. She has taught robotics courses, and is now working in the area of "soft circuits" - fabric creations with embedded circuitry - and in the crafting of ceramics using specialized 3D printers.

**Sara Armstrong, PhD:**

Dr. Sara Armstrong is an educational consultant, keynote speaker, presenter, and writer working to provide resources and tools for change in education. With over 40 years as an educator, Sara has developed and implemented workshops on many topics, including project-based learning, information literacy, digital and oral tradition storytelling, technology integration, and global resources for education. She sees 3D printing as a powerful tool for bringing inquiry and project-based learning into the classroom.

## **Users Review**

### **From reader reviews:**

**Carissa Taylor:**

This The Invent To Learn Guide to 3D Printing in the Classroom: Recipes for Success book is absolutely not ordinary book, you have after that it the world is in your hands. The benefit you receive by reading this book will be information inside this guide incredible fresh, you will get details which is getting deeper anyone read a lot of information you will get. This particular The Invent To Learn Guide to 3D Printing in the Classroom: Recipes for Success without we know teach the one who reading through it become critical in pondering and analyzing. Don't end up being worry The Invent To Learn Guide to 3D Printing in the Classroom: Recipes for Success can bring if you are and not make your bag space or bookshelves' turn into full because you can have it within your lovely laptop even mobile phone. This The Invent To Learn Guide to 3D Printing in the Classroom: Recipes for Success having very good arrangement in word as well as layout, so you will not experience uninterested in reading.

**Barbara Saddler:**

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