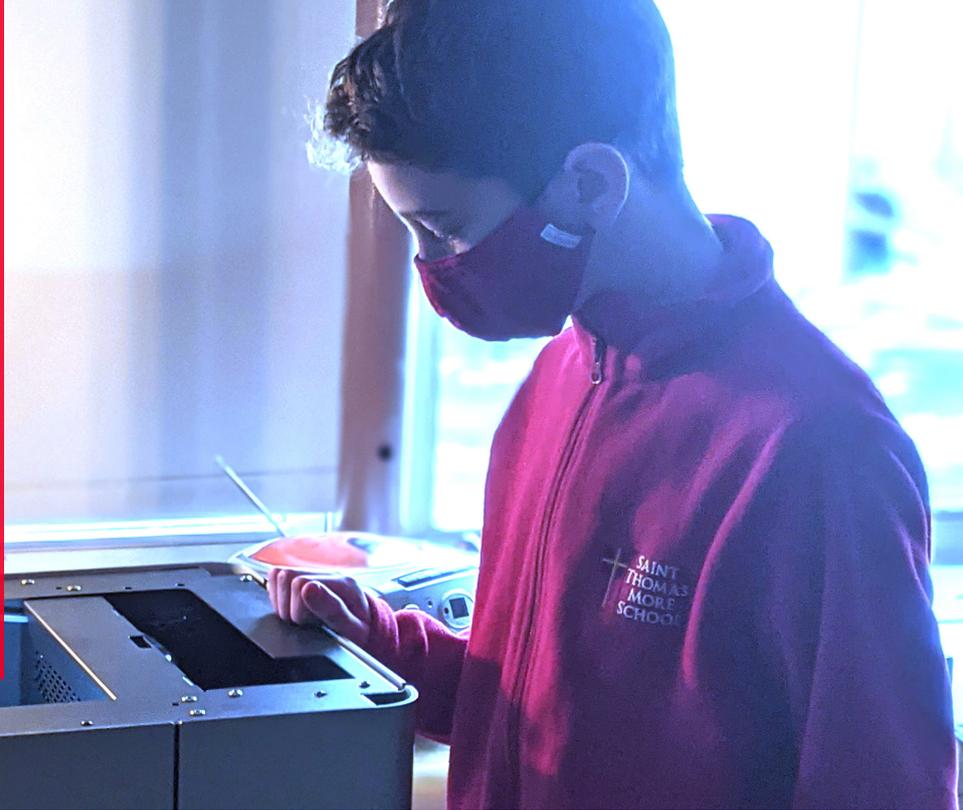


YSOFT
**BE3D
EDEE®**

CASE STUDY



STTM CASE STUDY

BE3D eDee enables school to bring classroom value with 3D printing.



SCHOOL PROFILE

St. Thomas More School in Cincinnati, Ohio, serves the Catholic faith community as part of the St. Thomas More Parish. The K-8th grade school's mission is to ground students in their faith, inspire them to wonder, and encourage them to give their best to the world. The school maintains a strong set of educational beliefs including that technology is an important part of 21st century teaching and learning, and that a variety of teaching and learning methods promotes students' learning. The school has over 250 students with caring parents who are primary educators and role models working with school staff to fulfill the school's mission.

THE INTRODUCTION TO 3D PRINTING

When a parent approached teacher Amy Dugan with the idea of 3D printing in the classroom, it sounded intriguing. However, Amy's primary concern (beside the cost) was making sure that any technology introduced to the classroom had to have a role in the class curriculum.

"We didn't want a 3D printer for the sake of learning how 3D printers worked. We've been to conferences; we know 3D printing is cool, but we were not

looking for a toy that may later sit and gather dust. It had to have value in the context of learning," said Amy, who teaches junior high-aged students social studies, STEM and health. Amy is also a technology coordinator for the school and, along with Marsha Barnes an administrative assistant, they agreed to try BE3D eDee.

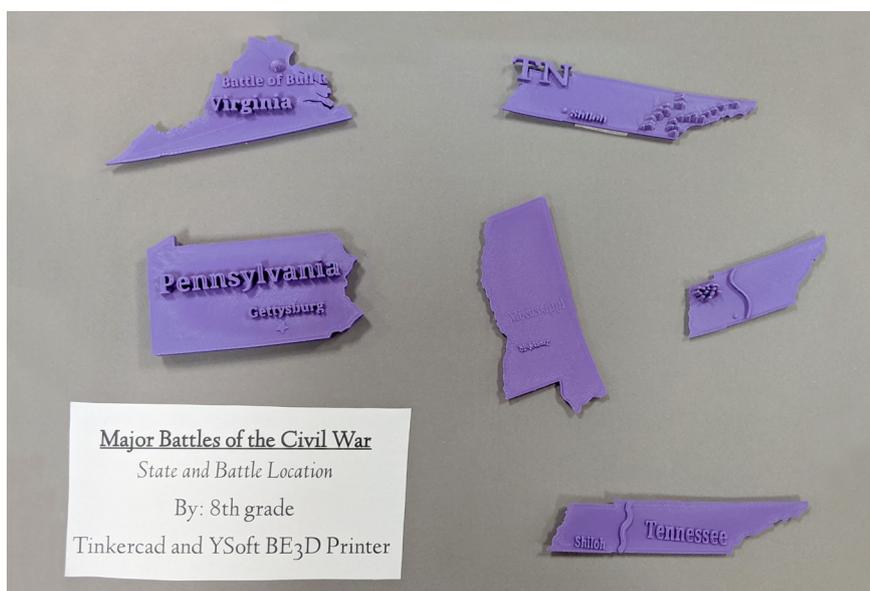
As a teacher used to working with technology with her junior high students, she knew that the kids would take to 3D printing easily. "They are digital natives, and I knew they would be able to use it right away. I was more concerned if I would be able to learn it easily. However, it's intuitive and the interface is really good." Soon Amy was confidently printing her student's models.

USING BE3D ACADEMY AS A CURRICULUM

To get started incorporating 3D printing with her curriculum, Amy looked at the lessons in BE3D Academy. BE3D Academy is included with the BE3D eDee solution and contains 3D lessons and models in STEAM subjects for a range of school age grades. She decided to start with the 3D Mapping lesson as it would fit in nicely with her class study of U.S. battles during the Civil War. She used Google Classroom to distribute the BE3D Academy lesson materials to her students. "The students needed to do some research on the battles we were studying – something that they normally would not be excited about – but knowing that they would be doing some 3D printing, it got students very excited, and they completed their research quickly."

Amy was pleased that BE3D eDee could take the files students created in TinkerCAD or MicroBit and simply drop them into eDee's software. "eDee and these design programs all worked very well together. It all went faster than I expected", she noted. "I plan to use the Archaeological Dig lesson next."

With the 3D Mapping lesson adapted for use in studying US battles, the students covered many topics including identifying the state in which the battle took place and its geographical location, spelling of the state, identifying states by their shape and even math as the students had to work out scaling the model for 3D printing. With the lesson completed, the models are now on display and students can later take them home.



3D printing has to have value in the context of learning. Students needed to do some research on the battles we were studying – something that they normally would not be excited about – but knowing that they would be doing some 3D printing, it got students very excited about the subject matter.

Amy Dugan

Teacher, St. Thomas More School

WHAT'S NEXT FOR ST. THOMAS MORE?

If not for COVID, Amy would have her 7th graders working on projects with 3rd graders. "The lessons in BE3D Academy have really good short videos; the fact that the lessons are ISTE-certified is wonderful. BE3D eDee was a great first experience." The teachers are excited about 3D printing now and Amy knows if she can get more 3D printers, the more the students will use them and even more students will be able to use them.

True to their belief that technology can be a great learning tool but only if it contributes to learning, Amy noted that her principal, Candace Hurley, will want to know what "Professional Development" will be required to expand 3D printing use in the school. Amy said, "I'm able to tell her that it's easy and will take far less PD time than other high-tech options available." Amy also noted that 3D printing is especially useful for students who do not take to pencil and paper or lecture methods. With 3D printing, it adds a spark in them.

CARES ACT

St. Thomas More is planning to apply for CARES Act funding to, among other things, add more 3D printers. "We have three buildings in our school and our goal is to have three other grade levels using 3D printing by the time the school season ends."

The CARES Act, a U.S. federal government assistance program has, as part of its scope, assistance for schools to address potential learning loss during COVID by adding critical technology to the classroom.

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Amy Dugan

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