

# YSOFT **BE3D™** **IN EDUCATION** **CASE** **STUDY**

**LEARNING AND  
RETENTION IMPROVES  
WITH 3D PRINTING**



## **3D PRINTING PROVES TO BE A GREAT WAY TO LEARN**

**Mathias Lerch Gymnasium (GML), a Brno, Czech Republic school, offers general education courses in a 4-year program, a French bilingual in a 6-year program and German in an 8-year program. With over 800 students and 80 teachers, the school is considered a significant and modern regional educational institution.**

3D modeling as a teaching aid has been an interest to Robert Havlásek, a mathematics and informatics teacher at GML, for over 20 years. Mr Havlásek explains, "Looking at a 3D model on a computer screen is not enough for students. They need to be able to touch an object, manipulate it, rotate it and really get a sense of the 3rd dimension." Along with fellow mathematics and informatics teacher, Lukáš Rýdlo, the school purchased a build-it-yourself 3D printer kit.

As with many build-it-yourself 3D printer kits, the moving mechanisms are exposed which poses safety issues. Additionally, its use requires technically-abled students who don't mind the constant fiddling needed to keep the printer properly calibrated. As it became apparent that 3D printed models were highly interesting to their students, the two teachers began to explore 3D printers that all students and teachers could easily and safely use.

GML already uses YSoft SafeQ to manage its 2D paper printers. "When we learned that Y Soft also provides 3D printers and uses the same YSoft SafeQ to manage

**The 3D printers are in constant use. eDee is enclosed so no moving parts are exposed making it safe for students of any age at our school to use without needing direct supervision of a teacher.**

**– Robert Havlásek**  
mathematics and informatics  
teacher

them, it just made sense to us," said Robert Havlásek. Now GML has several YSoft be3D eDee printers. "The 3D printers are in constant use. eDee is enclosed so no moving parts are exposed making it safe for our students to use without needing direct teacher supervision," he explained.

## AN IMMERSIVE LEARNING TOOL FOR BETTER RETENTION

At GML, students and teachers are using 3D printing as an enjoyable learning tool. "Students are able to design, print and make design adjustments. It's a great way to learn," said Robert Havlásek. "With 3D models, students learn better and most importantly, their ability to retain what they are learning increases," he added.

## EASE OF USE

In addition to being safe to use for school-aged children, ease of use is important. Whether using 3D printing as part of specific classroom work or for printing their own designs, such as mobile phone covers and complicated mechanical parts, eDee makes printing 3D models easy. "The thing I like the most is that it is easy, and anyone can do it," said Josef, a student at GML. "I can upload a model into DeeControl and go to any eDee printer and start printing," he added.

Another GML student, Ester, commented, "I like 3D printing because you can print anything you imagine. I'm delighted that a real thing is created from a computer model." Lukáš Rýdlo commented further, "YSoft SafeQ tracks all the 3D printing that is done, and we can keep an eye on how much filament is used. We even printed a special holder of curling stones in coordination with several of our handicapped curling players. Even our students realize that 3D modelling skills and knowledge of 3D printing will be useful in their future."

## TANGIBLE OUTCOMES

Both Lukáš Rýdlo and Robert Havlásek recognize the value that 3D printing brings to education. Robert noted, "We are continuously amazed at what students create. The teachers here are happy that students are learning with an immersive tool and are developing useful skills." Lukas adds, "3D printing gives children the freedom to collaborate, experiment and iterate. And, they can express themselves with very tangible outcomes."

YSoft be3D eDee printers are easily suitable for classroom desks or lab tables. The eDee printer is fully enclosed providing safe use and its intuitive user interface makes printing and reprinting easy for school children of all ages. The eDee solution is a comprehensive solution including DeeControl, the layering software, and YSoft SafeQ software for managing and monitoring access, use and material usage. An optional built-in card reader allows access to the 3D printer through school badges.

» [Watch the video of eDee at this school](#)



We are continuously amazed at what students create. The teachers here are happy that students are learning with an immersive tool and are developing useful skills.

– **Lukas Rýdlo**  
mathematics and informatics  
teacher

The thing I like the most is that it is easy, and anyone can do it.

– **Josef**  
student at GML