3D Printing, STEM & Integrated Education

At Discovery School, 3D Printers are starting to integrate with the rest of the school’s curricula and are bringing STEM concepts to bear on 7th and 8th grade projects like English Language Arts. Students are using the capabilities of the 3D printers to reinforce and augment what they are learning in other classes as the 3D printers themselves become “transparent” in the process. The printers are also helping drive interest in additional topics and concepts that might have previously not gotten any traction with the students.

Last Spring, one of the teams in the 3D printing class decided to integrate their semester 3D printing project with their English Language Arts assignment on Greek Mythology. They had been reading, writing and discussing the gods and their various activities around Greece and Mt. Olympus. There was also some interest in the architecture of Greek temples and monsters, like the hydra, got tossed into the mix for too.

The team needed to create a diorama as part of the English class and they decided to use the 3D printers to create the elements rather than other handcrafting. We thought it was a great way to expand the use of the printers and encouraged them to make it happen. They came up with the concept of a ruined temple with one of the gods and a monster or two.

To add a little architectural depth to the project, we required them to learn about the different types of “classical” Greek columns and then pick one style for their work. As a result they learned the difference between Doric, Corinthian and Ionic Columns and selected the correct column for the time period.

* They created a temple from scratch
* Designed monsters that fit the scene
* Learned enough CAD to create their diorama

The 3D printer was integral to the project and completely transparent. Much in the way that LaserJet printer is transparent when writing a paper, the 3D printer is becoming transparent to the students as simply another tool in their portfolio.