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Press Release:

New Buffalo High School Students First in Country to Build their own 3-D Printing Classroom!

New Buffalo High School Physics students started off the year experience Science, Technology, Engineering, and Mathematics (STEM) by building their own classroom set of ten 3-D printers. New Buffalo High School Teacher Richard Eberly won a funding grant from the Society of Plastic Engineers for students to build the 3-D printers. The students started construction after Thanksgiving and the printer construction should be finished by Christmas break.

The students followed the construction guidelines from open source on Appropedia, and the printer's components were provided by Jerry Anzolone from Michigan Technological University and 3-D 4 EDU. The construction of the printers is all open source. This is unique because if the construction isn't clear or if the students find a better way to explain the process, they have their own accounts and they can just edit the Most Delta Printer construction directions.

During construction they have been making video supported logs of the construction steps and integrating their Physics labs into the construction process.

Square One Educational Network has also supported this STEM program with funding for a 3-D printer, PLA and ABS plastic, and a student built Filabot for successful recycling purposes. For these endeavors, we have also received letters of support from Whirlpool and Dane Systems. They all recognized the need for student understanding of present and future plastic manufacturing processes.

Michigan Technological University has also already supported the program with Square One Network Education funded training to teachers in the construction and commissioning of the 3-D Rep Rap Delta printers. This summer, Richard Eberly from New Buffalo High School with Janet Jackson from Triton Middle School attended their Innovative Additive Manufacturing Workshop for this training. They also presented New Buffalo High School's 3-D printing ABS recycling system to the workshop.

The Society of Plastic Engineers previously supported New Buffalo's plastics program in 2003 with a grant for thermoplastic sealing and forming. This support led to student and staff comfort with thermoplastics and eventually to these 3-D printing successes.

Students have designed and operate a complete plastic recycling system at New Buffalo High School. The system includes a plastic grinder and an extruder to remake filament for further printing.

Students will design and print their ideas, test them, and then recycle them into their next idea. The printers use Polylactic acid (PLA) plastic so the constructs are completely biodegradable and made from corn starch.

With continued support, we expect New Buffalo Area Schools to become a hub of 3-D printing and manufacturing success. Students have already designed and printed lab equipment and teamed with local business on modeling projects. We see a future with 3-D PLA Delta printers operated and maintained by high school students in the elementary and middle school engaging students of all ages with the Next Generation Science Standards for Engineering. This is the kind of innovative STEM educational program we foresee as needed for continued rejuvenation of manufacturing in Michigan.