



Manufacturing Externship – Application in the Home School Acknowledgement*

1. Educator Name: Marie Gibble
2. School District and School: Troy Area School District, Troy Area Jr. Sr. High School
3. Date(s) of Manufacturing Unit: May 18, 2021
4. Length of lesson or unit: 30 Minutes plus additional time for creating project.
5. Number of students: 41 – Service Learning
6. Grade level of students: 10, 11, 12

Description of Activity:

I used my Canvas course to present information (video of my robot and history of manufacturing) and assign tasks to my Service Learning students. The students completed pre and post surveys regarding their thoughts on the manufacturing industry. They viewed a few videos about the manufacturing industry and programs at Penn College and engaged in a discussion thread in Canvas. They then created an item in Tinkercad to later be printed on a 3D printer.

What elements from your Manufacturing Externship were used in the preparation or delivery of the unit? (i.e. robot, PPTs provided, information gathered from discussions or tours, etc.)

Knowledge gained from tours and classes, PPTs. Video of my robot working.

How were students engaged with the unit? What hands-on activities occurred?

The students were given the opportunity to try their skills at creating an item to be 3D printed. Unfortunately, the 3D printer was unusable at the time of “production”, so actual items were not created.

Explain connections that were created/discussed between manufacturing careers and higher education.

They watched the video, “Success in the New Economy” and at least 3 videos at the following link: <https://blog.thomasnet.com/industrial-videos>. I also had them use the Penn College Virtual Career Day link to have them research programs at Penn College in the manufacturing industry. They then engaged in a discussion using a discussion thread in Canvas. Question: What jobs did you witness in the videos you watched and what education do you think is needed for those jobs? Do research if you have no idea!

How did students respond to the unit?

The students were relatively engaged. It would have been better in person, but I do not have a set classroom space due to the nature of my class.

Were parents involved or aware of the unit? What was their response to the activities?

I am not sure how aware parents were of the activity. I did not get feedback from them.

*The Manufacturing Externship program at Penn College was supported by the
National Science Foundation under Grant No. 1902379.*

A goal of this program is to make advanced manufacturing education and information available to high school students. As such, Penn College is attempting to build a repository of activities that can be used across the K-12 environment. In the subsequent pages, please provide additional information on the lesson/units you implemented so that others can implement similar activities in their classrooms. Please be sure to include any material lists, photos/evidence of student work (not of student participants), and any other relevant information required to implement in another school.

*By submitting this form, you acknowledge all information is accurate and correct to the best of your knowledge and you agree to the sharing of this information via publicly accessible websites.