



Manufacturing Externship – Application in the Home School Acknowledgement*

1. Educator Name: Wendy McKain
2. School District and School: Cranberry Area School District, Cranberry Jr/Sr High
3. Date(s) of Manufacturing Unit: 3/25 - 3/31
4. Length of lesson or unit: 1 week
5. Number of students: 26
6. Grade level of students: 10th grade Algebra 2

Description of Activity:

The students were tasked with researching the tuition costs of various levels of degrees for manufacturing jobs at PCT, and researching average salaries for jobs based on education level. They compared earnings vs. cost of education to determine when a higher level degree would "pay off."

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

We discussed the various levels of education available in the welding and manufacturing programs, and the job availability for people graduating with various degree levels. I used information gleaned from the Manufacturing Externship in discussing jobs at Lycoming Engine and advancement opportunities based on degree. We also discussed the opportunity for returning for an advanced degree at the expense of the employer.

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

The students were very engaged in this "detour" and were very interested in determining the "break even" points or how many years it took for someone with a higher degree to surpass the certificate or lower degrees in terms of net earnings. The hands on activities were basically just the research and the posters or spreadsheets or powerpoint presentations that that they made to present their findings.

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

The students were interested to see the difference between salaries for higher degrees, and I believe some of them realized that these degrees are within their grasp. They also commented that a welder wouldn't earn much or keep his/her job if he/she wasn't skilled. We discussed that someone probably wouldn't be able to earn a bachelor's degree without becoming pretty highly skilled. We also discussed how someone with a more advanced degree might be eligible for supervisory positions or have more job availability geographically, even if the pay wasn't significantly higher at first.

How did students respond to the unit?

The students seemed to really enjoy this venture into real life and real world applications of math. They are sophomores, and are certainly at a point where they are beginning to think about their life post high school graduation.

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

The parents were not involved in this unit. While I'm sure some of the students discussed the project with their parents, I am not aware of an reactions from the parents yet.

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.

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