CROSS-CURRICULAR COLLABORATION

Mathematics and Welding programs · Fall 2023-Present

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PROBLEM

Identify the specific shortcoming in student achievement you wish to improve. What problem or challenge to student learning did your assessment project aim to address?

Between Fall 2018 and Fall 2022, the pass rate in Technical Math for Pueblo Campus students was 60% (194/323). The goal is to improve the pass rate without lowering academic standards.

PLAN

Summarize your plan to improve your students' learning, measure student performance in the problematic area, and assess improvement.

One of the reasons students are not successful in their math courses is because they do not see how the theoretical math they are learning applies outside of the classroom. The plan is to increase content relevance by including degree-specific projects in Technical Math.

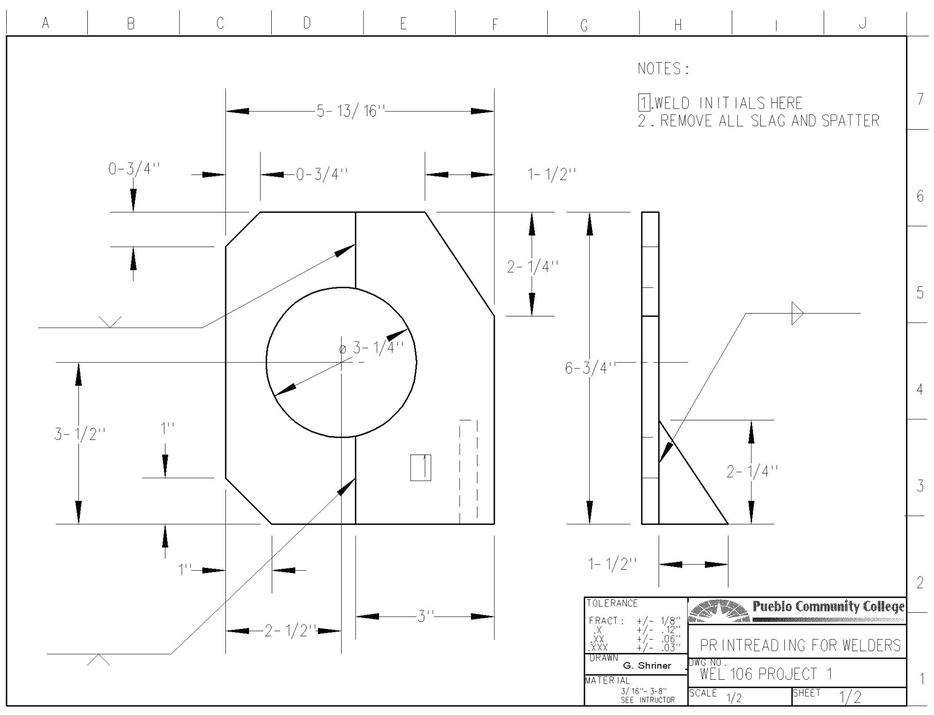
ASSESSMENT ACTIVITY

Provide further details on your assessment activity. How was your plan implemented, how was evidence of student learning gathered, and how was the data analyzed?

Starting in Fall 2022, students in Technical Math were tasked with "grading" a project from WEL 1006 (Blueprint Reading). In this activity, students took measurements of actual weldments and checked tolerances against a blueprint provided by the Welding department.

Student Testimonials:

- "I liked how the project was hands-on. You actually had to get involved instead of just writing on paper. And you use it in your daily life too."
- "I think this project was very good for us because it made us learn measurements by using it in a real-world aspect."
- "I liked that it was hands-on and could pertain to real life scenarios, like home decorating or remodeling."



RESULTS AND DATA

Discuss the results of your assessment activity, identify key findings, and provide relevant supporting data, including tables, charts, and graphs as relevant.

Based on anecdotal comments and feedback, students appreciated seeing how theoretical math applies in a practical situation. The pass rate for classes given this project was 69% (24/35). While this is an improvement on the previous pass rates, the improvement is not yet statistically significant. More data needs to be collected. It is important to note that this project is not the only variable impacting the change in pass rate.

CLOSING THE LOOP AND NEXT STEPS

Discuss the results of your assessment activity, identify key findings, and provide relevant supporting data, including tables, charts, and graphs as relevant.

More collaboration is needed between math and other departments. The goal moving forward is to design projects in Technical Math that align with coursework in Computer Information Systems, Machining, and Manufacturing.