

Northwest State Community College National Science Foundation Grant Project Project Website: https://ate.is/Scaling_CBE

ATE Project #: 1902225, "Scaling Elements of a Competency-based/Hybrid Instructional Model into Advanced Manufacturing Courses" is a 3-year project, awarded 6/1/19, and currently in a one year no-cost extension. NSCC (located in Archbold, OH) trains college faculty across the country, how to improve the effectiveness and access of their lecture/lab technical courses, by scaling (implementing) elements of successful competency-based/hybrid instructional models, into their courses.

In year 1 four partner colleges (listed below) have identified one faculty that the project works with to implement one of the elements into one of their courses and measure the impact of the change. These elements are listed in the graphic below (around the outside of the circle), which have all been implemented at NSCC's Competency-based/hybrid model in their Industrial Technologies program.

In years 2 & 3 of the project, faculty professional development workshops were offered to faculty at colleges in multiple states. These workshops focused on improving courses using these elements, as well as to develop the faculty skillset to develop and utilize the elements effectively (impact is shown below). Year 4 the project will focus on mentoring faculty on how to implement curricular changes (examples shown below). If you have any questions, or you want more information about this project, reach out to the project PI, Tom Wylie at twylie@northweststate.edu.



Project Impact Data:

Colleges receiving Professional Development: **45**

College Faculty receiving Professional Development: **135**

Mentoring session with other college Faculty: **18**

College students impacted by the project (nationally): *Spr. 21: 397; Fall 21: 620; Spr. 22: 782; Spr. 23: 900*

Yr. 1 (College Partners)

Yr. 2 & 3 (Faculty Workshops)

Yr. 4 (Mentoring Examples)



Virtual PLC Simulator:
Northwest State, OH



Process Trainer:
South Ark CC, AR

College Partners:

South Ark CC, AR
Implementing OER
Henry Ford CC, MI
Creating Instructional Videos
Robeson County CC, NC
PLC OER and Virtual Machines
Northwest State CC, OH
Creating Hybrid Courses

Free Faculty Scaling CBE Hybrid Workshops:

9 workshops were ran using Zoom technology by the project PI (allowing more Faculty access).

Workshop attendees include:
20 Faculty from Ohio
17 Faculty from North Carolina
13 Faculty from Michigan
12 Faculty from Arkansas
2 Faculty from New Hampshire
1 Faculty from Nevada

Post workshop surveys indicate:

1. 100% of the participating faculty found "**Immediate Value**" from the workshop.
2. 100% of the faculty planned to implement something learned from the workshop into their curriculum: "**Potential Value**".
3. 52% of the participating faculty contacted 6 months after workshop have implemented a change in their curriculum: "**Applied Value**".

Terra State CC, Fremont, OH:

Project PI assisted the college to:

1. Implement performance assessments in their PLC courses.
2. Implement Rockwell Certification into their PLC courses.
3. Migrate their PLC courses to a hybrid model.
4. Implement Virtual Machines to allow students access to PLC software 24/7

South Arkansas CC, El Dorado, AR:

Project PI assisted the college to:

1. Converting a traditional technical course to a hybrid course.
2. Implement electrical and fluid power online simulations that match the hands-on lab circuits.
3. Creating and implementing videos that explain electrical circuits to students through the LMS system.

Project PI worked with one faculty from each partner college to implement a curricular change. All changes had a positive impact on student learning.