

The Oregon Consortium Strengthening Community Colleges

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Evaluation Plan

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March 2022

CONTENTS

- EXECUTIVE SUMMARY 2
- LOGIC MODEL 3
- RESEARCH OBJECTIVES..... 3
- RESEARCH DESIGN 4
- RESEARCH QUESTIONS 5
- EVALUATION MEASURES..... 7
 - OUTCOMES..... 7
- DATA SOURCES AND DATA COLLECTION 8
- SAMPLING 14
- ANALYSIS 14
- FINDINGS 15
- DISCUSSION..... 16
- APPENDIX A. 17

EXECUTIVE SUMMARY

The Oregon Consortium for Strengthening Community Colleges Training Program is a group of nine community colleges led by Mt. Hood Community College. The consortium will 1) Invest in infrastructure to facilitate online and hybrid delivery of online CTE and increase access to the cybersecurity learning pathway; 2) Create, promote, and broadly offer stackable credentials, across the consortium, tied to employment and/or advancement (e.g., raise, promotion, etc.) that are responsive to emerging skill needs in the targeted industry sectors (advanced manufacturing and cybersecurity); and 3) Align policy and procedure around issues of credit transfer, shared curricula, adoption of Open Educational Resources, and program governance.

Pacific Research and Evaluation (PRE) is partnering with The Oregon Consortium in a collaborative manner to assess what efforts were made to develop and implement the program, determine the role of staff and partners in the grant's efforts, identify systems change in curriculum, accelerated learning pathways, and policy across the nine colleges, and evaluate the extent to which participating students are prepared to attain employment or advancement in advanced manufacturing and cybersecurity. PRE will take a participatory evaluation approach to the research study, and in doing so, collaborate with The Oregon Consortium to help shape the guiding questions to be answered, the methods and types of data collected, and the interpretation of findings and resulting recommendations. In these efforts, PRE will communicate regularly with the Consortium Director, attend monthly consortium Zoom meetings, and lead discussions at annual feedback meetings.

Further, PRE will use an evaluation methodology that includes formative evaluation to assess program implementation and a summative evaluation to assess the role of the consortium's training program on participants in terms of key performance outcomes. The research questions and performance outcomes will be measured by collecting qualitative and quantitative data through staff surveys, student surveys, and employer partner interviews. All participating staff and students will be invited to participate in the survey up to two times, while PRE will use a stratified random sample to identify potential employer partners to interview. Quantitative data will be analyzed using SPSS and Rstudio to conduct descriptive analyses, while will use Dedoose to assess open-ended survey items and interview feedback.

In alignment with PRE's plan to collaborate with The Oregon Consortium, the evaluators will communicate findings to stakeholders in a timely manner to inform decisions about program design and implementation processes. Findings will be communicated via evaluation reports in Years 2 and 4, annual feedback meetings, and monthly consortium Zoom meetings. Our reports incorporate evaluation data with the goal of linking findings and results to opportunities for ongoing program improvements. Reports will include a discussion section that demonstrates how findings presented earlier in the report are relevant to research questions and will explore what findings mean as it pertains to the role of the grant on students and future program implementation. This section may also include recommendations for program updates based on the findings. These topics will also be discussed during the annual feedback sessions.

LOGIC MODEL

A logic model is provided in [Appendix A](#).

RESEARCH OBJECTIVES

The Oregon Consortium for Strengthening Community Colleges Training Program is developing an Accelerated Learning Pathways project that focuses on systemic changes to allow nine community college members to collaborate around their shared program areas and strengthen advanced manufacturing and cybersecurity career pathways. The Oregon Consortium will: 1) Invest in infrastructure to facilitate online and hybrid delivery of online CTE and increase access to the cybersecurity learning pathway; 2) Create, promote, and broadly offer stackable credentials, across the consortium, tied to employment and/or advancement (e.g., raise, promotion, etc.) that are responsive to emerging skill needs in the targeted industry sectors (advanced manufacturing and cybersecurity); and 3) Align policy and procedure around issues of credit transfer, shared curricula, adoption of Open Educational Resources, and program governance. Table 1 below demonstrates the colleges that are involved in the consortium and their area of focus.

Table 1. Members of The Oregon Consortium and associated program area

Community College	Advanced Manufacturing	Cybersecurity
Mt. Hood Community College	✓	✓
Central Oregon Community College	✓	
Clackamas Community College	✓	
Chemeketa Community College		✓
Klamath Community College	✓	✓
Lane Community College	✓	
Portland Community College	✓	
Rogue Community College	✓	
Southwestern Oregon Community College	✓	✓

Pacific Research and Evaluation (PRE) will partner with Mt. Hood Community College (MHCC)—the consortium lead—and the other eight community college partners to collaborate in a manner that allows researchers to learn about program context and operations. Evaluators will engage in this partnership in order to achieve the following research objectives:

- ◆ Assess what efforts were made to develop and implement the program.
- ◆ Determine the role of staff and partners in the grant’s efforts.
- ◆ Identify systems change in curriculum, accelerated learning pathways, and policy across the nine colleges
- ◆ Evaluate the extent to which participating students are prepared to attain employment or advancement in advanced manufacturing and cybersecurity.

In exploring these objectives, PRE will take a participatory approach by sharing findings in a timely manner that supports data-driven decision making.

RESEARCH DESIGN

Pacific Research and Evaluation will take a participatory approach to the research study. Through **participatory evaluation**, PRE worked closely with the Consortium Director to actively engage stakeholders and will continue to do so in all phases of its implementation. For example, when we developed the lead college quarterly survey, we worked with the Consortium Director to develop the survey questions to ensure they aligned with the DOL outcomes and then shared the tool with college leads for their input as well. PRE is taking this approach as we embark on developing other data collection instruments and will also work with college leads to ensure surveys are administered in a way that is useful to their college.

A participatory approach to evaluation is particularly well-suited to The Oregon Consortium SCC program in that it would benefit from building evaluation capacity, establishing evaluation buy-in, and ensuring the quality and utility of projects and findings. In participatory evaluation stakeholders assist evaluators in generating research questions, planning the evaluation design, selecting appropriate measures and data collection methods, gathering and analyzing data, reaching consensus about findings, conclusions, and recommendations, disseminating results and preparing action plans to improve performance. This collaborative approach is especially useful when working with programs serving individuals from diverse cultural backgrounds, which is relevant to this project. By partnering with MHCC and The Oregon Consortium from the onset of the research, program staff will help shape the guiding questions to be answered, the methods and types of data collected, and the interpretation of findings and resulting recommendations. Specifically, PRE will communicate regularly with the Consortium Director (including meetings already held), attend monthly consortium Zoom meetings (including multiple already attended), and lead discussions at annual feedback meetings. This process ensures that the cultural history and context that helped shape the program and program participants informs the research design and lessons learned from research activities. We have chosen a participatory approach to the evaluation because, from our extensive experience evaluating community college academic programs, this method allows us to work with stakeholders to obtain buy-in and better understand the project so we can work together to select appropriate research questions and data collection methods, as well as suggest recommendations that are relevant to the program. We are a few months into administering a participatory approach, which has allowed us to streamline and pilot the data collection instruments (the quarterly survey) and gather input regarding research questions.

Furthermore, the evaluation will include a **formative evaluation** to assess program implementation and a **summative evaluation** to assess the role of the Oregon Consortium SCC program played on participants in terms of key performance outcomes.

In order to assess program implementation, we suggest a two-step formative evaluation with a focus on the initial assessment of the program plan and curriculum development as well as an ongoing assessment of how the program is implemented including operational strengths and weaknesses and suggestions for improvement. The initial assessment will focus on collecting background data with regard to the development of the SCC funded project. Specifically, qualitative and quantitative data will be collected to

learn more about how the program was created as well as how curriculum was developed and selected for use in the SCC programs. This data will be collected from multiple sources during the designing phase including kick-off meetings with MHCC, attendance at monthly Consortium meetings, and initial implementation of a quarterly survey. The ongoing assessment will be developmental in nature and will focus on the operational strengths and weaknesses of the programs upon implementation. Formative data regarding staffing, delivery methods, and participation will be collected annually with stakeholders (staff, students, partners) through surveys and interviews. The purpose of these data collection efforts is to hear about successes and barriers to project implementation from various stakeholders and to gauge progress toward project objectives. Throughout this ongoing assessment, PRE will provide formative feedback to enable program leaders to make data-driven decisions.

The summative evaluation will focus on the ultimate outcome of the grant in terms of student achievement, employer engagement, career pathways, and alignment to workforce development system. PRE has met with the Consortium Director to make appropriate recommendations to achieve project data collection goals. During the planning phase, PRE is supporting the project team to determine data tracking and collection needs, setting appropriate and measurable outcome projections and measures, and a plan for using data for continuous improvement and effectiveness across the program. We will review participant data and records and develop protocols for matching and aggregating core data across the consortium.

Limitations of the proposed design may involve low response rates to data collection activities with staff, students, and/or partners. We propose working closely with the project team to clearly communicate the purpose of the data collection strategies to participants as well as partners in order to create open lines of communication and improve response rates. For example, during monthly consortium Zoom meetings, we will share the plans and purpose for upcoming data collection activities, while also gathering input for instruments, and in doing so will work with the team to determine the best methods for data collection recruitment. For the outcome evaluation, a potential limitation is gathering ongoing results from nine different community colleges that may be calculating outcomes differently. We plan to mitigate this potential limitation by meeting with community colleges during a monthly consortium Zoom meeting to gather their input on outcome definitions and then clarifying these definitions each time PRE collects updated outcome data. Further, the survey instrument will clearly define these terms as well. Additionally, the budget for this work limits us from performing a quasi-experimental design, as well as from collecting student and staff survey data from all colleges in each year of the grant. Thus, the research design for this project is descriptive. The purpose will be to demonstrate how The Oregon Consortium SCC program was implemented and to what extent the program made progress addressing key participant and program outcomes. Further, the design is not intended to measure correlation, causation, or impact.

RESEARCH QUESTIONS

PRE engaged in a participatory approach with The Oregon Consortium to finalize research questions. As such, we have made some edits based on feedback from the consultant providing evaluation technical assistance but have not narrowed down the secondary questions because both evaluator and Consortium stakeholders believe these will be beneficial in guiding the development of data collection instruments.

We have started the process of creating data collection instruments and these secondary questions have been useful in that process.

RQ1: What types of infrastructure did the consortium invest in to facilitate hybrid delivery of advanced manufacturing and cybersecurity programs?

- a) How have the infrastructures facilitated access to the advanced manufacturing and cybersecurity learning pathway?
- b) What are the strengths and weaknesses of the infrastructures?

RQ2: What stackable credentials have been created across the consortium?

- a) What was the process for developing these stackable credentials?
- b) What was the process for developing badging and micro-credentialing opportunities?
- c) How were employer partners or other stakeholders involved in this process?
- d) In what ways are these stackable credentials responsive to emerging skill needs in the targeted sectors?
- e) How are stackable credentials being promoted? Are students aware of these credential offerings?
- f) How are the stackable credentials preparing students for employment or advancement in advanced manufacturing and cybersecurity?
- g) How are badging and micro-credentialing enhancing student career readiness?
- h) What other methods are being utilized to prepare students for employment or advancement in advanced manufacturing and cybersecurity?

RQ3: How are consortium colleges aligning policy and procedures around issues of credit transfer, shared curricula, credit for prior learning, dual credit, accelerated learning, and adoption of Open Education Resources (OER) and program governance?

- a) What barriers has the consortium faced in aligning these policies and procedures?
- b) What efforts have facilitated the alignment of policies and procedures?
- c) What efforts are being made to sustain newly aligned policies and procedures, as well as new programming?

RQ4: What contributions did each partner make?

- a) Which factors from partners were most critical to the grant program?
- b) What factors contributed to partners' involvement?
- c) Had partners had previous relationships with the college(s), and if so, how has their involvement changed through the grant?
- d) How are partners accepting badging and micro-credentialing programs in the workforce?
- e) In what ways has the consortium increased coordination with workforce agencies?

RQ5: To what extent was the program implemented as intended?

- a) How did program activities change over time?
- b) To whom did the consortium direct program efforts? How was this determined?

- c) How is the consortium ensuring equitable access to programs?
- d) How are instructors engaging in instructional practices focused on equity in access?
- e) What implementation efforts did the consortium struggle with?

RQ6: In what ways are systems changed due to the collaboration among colleges and between colleges and employers?

- a) How are the colleges building relationships and facilitating shared learning throughout the grant to strengthen career pathways in advanced manufacturing and cybersecurity?
- b) What are examples of barriers that colleges are commonly experiencing to effect system change? How are these being overcome collectively?
- c) What do successes and areas for growth look like in terms of communication between colleges and employers?

RQ6: What role did the program play on student outcomes?

- a) What implementation efforts were most effective at playing a role in student outcomes?
- b) In what ways are students prepared to attain employment or advancement in advanced manufacturing/cybersecurity?

EVALUATION MEASURES

PRE will use an evaluation methodology that includes both formative and summative components in order to recommend program modifications for the purpose of continuous program improvement, as well as to assess the extent to which The Oregon Consortium has met performance objectives. This study will examine quantitative and qualitative data collected from staff and student interviews, partner interviews, and a college lead quarterly survey. This methodology and planned data collection is described in more detail in the sections below.

OUTCOMES

The table below lists the **performance outcomes** PRE will evaluate as part of the formative and summative evaluation. The method for evaluating each question and outcome is also provided along with the frequency in which they will be evaluated. Specifically, the table below includes the outcomes identified in Exhibit 1 in DOL’s evaluation rubric and includes Consortium-specific outcomes. These outcomes will be measured quarterly in a college lead survey. More information about this data collection activity is provided later in the document.

Table 2. Method for assessing evaluation outcomes

Outcome	Evaluation Method	Timeline
2a. Growth in the number of sector employer partners that progress from “advisor” toward full “strategic partners.” From 100 to 149 in Advanced Manufacturing; from 11 to 17 in Cybersecurity.	College lead quarterly survey	Quarterly
2b. Growth in the number of sector employers committing to bettering work-based learning (WBL) opportunities. From 82 to	College lead quarterly survey	Quarterly

Outcome	Evaluation Method	Timeline
135 in Advanced Manufacturing; from 2 to 7 in Cybersecurity.		
3a. Increase the number of stackable credentials that are fully developed and implemented for hybrid delivery. From 47 to 72 in Advanced Manufacturing; from 3 to 11 in Cybersecurity.	College lead quarterly survey	Quarterly
3b. Increase availability of stackable, industry-certified credentials that align directly to the regional workforce at each consortium institution. From 31 to 80 in Advanced Manufacturing; from 9 to 13 in Cybersecurity.	College lead quarterly survey	Quarterly
4a. Increase the number of certificate programs that are either: WIOA-funding eligible, or eligible to be counted as credit for prior learning (CPL) and/or transferable to another consortium college. Each college will conduct an internal review of its policies and procedures related to CPL, transferability and WIOA eligibility to increase the number of programs that have these features. From 63 to 94 in Advanced Manufacturing; from 7 to 16 in Cybersecurity.	College lead quarterly survey	Quarterly
4b. Partnering community colleges share effective models to expand offering in advanced manufacturing and cybersecurity students. From 5 to 27 in Advanced Manufacturing; from 0 to 2 in Cybersecurity.	College lead quarterly survey	Quarterly
5a. Enhance CPL and align credit transfer policies to increase number of students who attain a credential consortium wide. From 4 to 44 in Advanced Manufacturing; from 3 to 18 in Cybersecurity.	College lead quarterly survey	Quarterly
5b. Increase the number of students completing two or more credentials in a program pathway. From 9 to 350 in Advanced Manufacturing; from 27 to 69 in Cybersecurity.	College lead quarterly survey	Quarterly

DATA SOURCES AND DATA COLLECTION

PRE will use a multi-method approach to formative evaluation data collection including staff surveys, student surveys, and employer partner interviews. This multi-method approach will ensure triangulation of data. The primary purpose of this formative evaluation will be to evaluate the effectiveness of the project and make recommendations for adjustments and improvements moving forward. Further, the summative outcomes will be measured using a quarterly survey administered to college leads who will provide administrative data that addresses these performance outcomes.

PRE will collect both quantitative and qualitative data, as we believe that incorporating a qualitative research methodology adds a rich component that is vital to any project and may reveal important findings that might not otherwise be noted. When possible, we prefer to use standardized data collection tools to measure relevant variables and assess progress toward project objectives. We are skilled in evaluating the psychometric properties (e.g., reliability and validity) of standardized measures. When standardized instruments are not available or not appropriate for measuring the outcomes of interest for a project, our team is capable of developing data collection tools that will fit the project needs. All PRE

staff members have developed both large and small-scale measurement tools. In our experience, developing tools in collaboration with our clients ensures that data collection will run smoothly and increases evaluation buy-in. Thus, we value our clients' feedback throughout the development evaluation process. We understand the importance of minimizing data collection efforts in organizations and work to integrate our tools into pre-existing systems when possible.

The table below lists the **evaluation questions** PRE will evaluate as part of the formative and summative evaluation. The method for evaluating each question and outcome is also provided along with the grant year in which they will be evaluated. The data collection activities for this project are described in more detail below.

Table 3. Method for assessing evaluation questions

Evaluation Question/Outcome	Evaluation Method	Timeline
Formative Evaluation		
RQ1: What types of infrastructure did the consortium invest in to facilitate hybrid delivery of advanced manufacturing and cybersecurity programs?	Staff surveys	Years 2-4
RQ1a: How have the infrastructures facilitated access to the advanced manufacturing and cybersecurity learning pathway?	Staff surveys Student surveys	Years 2-4
RQ1b: What are the strengths and weaknesses of the infrastructures?	Staff surveys Student surveys	Years 2-4
RQ2: What stackable credentials have been created across the consortium?	Staff surveys	Years 2-4
RQ2a: What was the process for developing these stackable credentials?	Staff surveys Partner interviews	Years 2-4
RQ2b: What was the process for developing badging and micro-credentialing opportunities?	Staff surveys Partner interviews	Years 2-4
RQ2c: How were employer partners or other stakeholders involved in this process?	Staff surveys Partner interviews	Years 2-4
RQ2d: In what ways are these stackable credentials responsive to emerging skill needs in the targeted sectors?	Staff surveys Partner interviews	Years 2-4
RQ2e: How are stackable credentials being promoted? Are students aware of these credential offerings?	Staff surveys Student surveys	Years 2-4
RQ2f: How are the stackable credentials preparing students for employment or advancement in advanced manufacturing and cybersecurity?	Staff surveys Student surveys Partner interviews	Years 2-4
RQ2g: How are badging and micro-credentialing enhancing student career readiness?	Staff surveys Student surveys Partner interviews	Years 2-4
RQ2h: What other methods are being utilized to prepare students for employment or advancement in advanced manufacturing and cybersecurity?	Staff surveys Student surveys Partner interviews	Years 2-4
RQ3: How are consortium colleges aligning policy and procedures around issues of credit transfer, shared curricula, credit for prior learning, dual credit, accelerated learning, and	Staff surveys	Years 2-4

Evaluation Question/Outcome	Evaluation Method	Timeline
adoption of Open Education Resources (OER) and program governance?		
RQ3a: What barriers has the consortium faced in aligning these policies and procedures?	Staff surveys	Years 2-4
RQ3b: What efforts have facilitated the alignment of policies and procedures?	Staff surveys	Years 2-4
RQ3c: What efforts are being made to sustain newly aligned policies and procedures, as well as new programming?	Staff surveys	Years 2-4
RQ4: What contributions did each partner make?	Partner interviews	Years 2-4
RQ4a: Which factors from partners were most critical to the grant program?	Partner interviews	Years 2-4
RQ4b: What factors contributed to partners' involvement?	Partner interviews	Years 2-4
RQ4c: Had partners had previous relationships with the college(s), and if so, how has their involvement changed through the grant?	Staff surveys Partner interviews	Years 2-4
RQ4d: How are partners accepting badging and micro-credentialing programs in the workforce?	Partner interviews	Years 2-4
RQ4e: In what ways has the consortium increased coordination with workforce agencies?	Staff surveys Partner interviews	Years 2-4
RQ5: To what extent was the program implemented as intended?	Staff surveys	Years 2-4
RQ5a: How did program activities change over time?	Staff surveys	Years 2-4
RQ5b: To whom did the consortium direct program efforts? How was this determined?	Staff surveys Student surveys Partner interviews	Years 2-4
RQ5c: How is the consortium ensuring equitable access to programs?	Staff surveys Student surveys	Years 2-4
RQ5d: How are instructors engaging in instructional practices focused on equity in access?	Staff surveys	Years 2-4
RQ5e: What implementation efforts did the consortium struggle with?	Staff surveys	Years 2-4
RQ6: In what ways are systems changed due to the collaboration among colleges and between colleges and employers?	Staff surveys Partner interviews	Years 2-4
RQ6a: How are the colleges building relationships and facilitating shared learning throughout the grant to strengthen career pathways in advanced manufacturing and cybersecurity?	Staff surveys	Years 2-4
RQ6b: What are examples of barriers that colleges are commonly experiencing to effect system change? How are these being overcome collectively?	Staff surveys	Years 2-4
RQ6c: What do successes and areas for growth look like in terms of communication between colleges and employers?	Staff surveys Partner interviews	Years 2-4
RQ7: What role did the program play on student outcomes?	Staff surveys Student surveys	Years 2-4
RQ7a: What implementation efforts were most effective at playing a role in student outcomes?	Staff surveys Student surveys	Years 2-4

Evaluation Question/Outcome	Evaluation Method	Timeline
RQ7b: In what ways are students prepared to attain employment or advancement in advanced manufacturing/cybersecurity?	Staff surveys Student surveys	Years 2-4

Staff Surveys: PRE will administer an electronic survey to college staff in Years 2-4 of the grant. In Year 2, staff data collection efforts will be conducted with four of the colleges. In Year 3, it will be administered to the remaining five colleges, and in Year 4, all nine colleges will participate. This breakdown of administering the survey to four colleges in one year and five in another year is due to budget limitations; colleges that were chosen for the Year 2 survey participation were selected due to being further along in grant implementation. The survey is scheduled to be administered in spring term of each year, but PRE will work with college leads to determine the timing that will work best with staff schedules. The breakdown of these efforts is provided below, which was determined through conversations with the Consortium Director:

Table 4. Staff survey schedule

Community College	Year 2	Year 3	Year 4
Mt. Hood Community College	✓		✓
Central Oregon Community College		✓	✓
Clackamas Community College	✓		✓
Chemeketa Community College		✓	✓
Klamath Community College		✓	✓
Lane Community College		✓	✓
Portland Community College	✓		✓
Rogue Community College	✓		✓
Southwestern Oregon Community College		✓	✓

PRE will work with college leads to obtain contacts for all staff at participating colleges and determine the best method for administering the survey at each college. Staff surveys will be administered to college leads and program instructors. The survey will be developed to include both multiple-choice items as well as open-ended questions.

Findings from the staff survey will be shared in a timely manner with college leads during monthly consortium Zoom meetings, annual feedback meetings, and evaluation reports to ensure the consortium can make data-driven decisions.

Student Surveys: An electronic survey will be administered to students on an annual basis in Years 2, 3, and 4. In Year 2, student data collection efforts will be conducted with four of the colleges. In Year 3, it will include the remaining five colleges, and in Year 4, all nine colleges will participate. This breakdown of administering the survey to four colleges in one year and five in another year is due to budget limitations; colleges that were chosen for the Year 2 survey participation were selected due to being further along in grant implementation. The survey is scheduled to be administered in spring term of each year, but PRE will work with college leads to determine the timing that will work best with student schedules. The

breakdown of these efforts is provided below, which was determined through conversations with the Consortium Director and matches the plan for the staff survey:

Table 5. Student survey schedule

Community College	Year 2	Year 3	Year 4
Mt. Hood Community College	✓		✓
Central Oregon Community College		✓	✓
Clackamas Community College	✓		✓
Chemeketa Community College		✓	✓
Klamath Community College		✓	✓
Lane Community College		✓	✓
Portland Community College	✓		✓
Rogue Community College	✓		✓
Southwestern Oregon Community College		✓	✓

The student survey will target all students who are participating in advanced manufacturing and cybersecurity programs, as well as those who have completed the program (Year 4) if it is possible to contact these former students in an effort to learn more about how stackable credentials prepared students for employment or career advancement. PRE will work with college leads to obtain student contacts and determine the best method for administering the survey at each college. The survey will be developed to include both multiple-choice items as well as open-ended questions.

Findings from the student survey will be shared in a timely manner with college leads during monthly consortium Zoom meetings, annual feedback meetings, and evaluation reports to ensure the consortium can make data-driven decisions.

Partner Interviews: PRE will work with college leads to invite employer partners to participate in virtual interviews during Years 2 and 4. In each of those years approximately 10 partners will participate. PRE will work with college leads to obtain a list of employer partner contacts and then invite stakeholders to participate by ensuring each college and program area is represented. The purpose of the partner interviews will be to learn about partners’ involvement in the grant and their perspective on how the grant may impact students.

Findings from the partner interviews will be shared in a timely manner with college leads during monthly consortium Zoom meetings, annual feedback meetings, and evaluation reports to ensure the consortium can make data-driven decisions.

College Lead Quarterly Survey: PRE will develop and administer an electronic quarterly survey to nine representatives from each participating college. These surveys will allow evaluators to collect ongoing, internal administrative data that address the summative performance outcomes of the project, specifically the measures outlined in Exhibit 1 in DOL’s evaluation rubric. To ensure accuracy of data collected, PRE will include definitions of each outcome so respondents can count consistently across colleges and

quarters. Survey respondents will also receive their responses to the previous quarters' survey to ensure they do not report information twice. At this time, The Oregon Consortium has completed this survey twice after participating in a presentation about the survey and piloting it in the first phase. The findings have supported the Consortium director in completing quarterly reports for DOL and has informed progress toward addressing outcomes.

As noted previously, a potential limitation of the study are the rates of participation in data collection activities that include staff, students, and partners. PRE will work closely with the project team to clearly communicate the purpose of the data collection strategies to participants as well as partners in order to create open lines of communication and improve response rates. We also anticipate that surveying students once they have completed their program of study may be difficult, so we will use the first two rounds of student surveys to inform students we would like to reach out to them once they have completed and request their personal email address at that time. Another potential limitation of the outcome evaluation is gathering ongoing results from nine different community colleges that may be calculating outcomes differently. We plan to address this potential limitation by meeting with community colleges during a monthly consortium Zoom meeting to gather their input on outcome definitions and then clarifying these definitions each time PRE collects updated outcome data.

Another consideration to data collection activities will be around confidentiality of participants. PRE recognizes that due to the dynamics of power, certain individuals who may have been marginalized or subordinated may not feel comfortable sharing their honest feedback openly. In efforts to gather accurate information from these individuals, PRE makes it a priority to ensure all responses are kept confidential. This includes reporting in aggregate form, and not providing demographic information of participants under circumstances when it could make them identifiable (e.g., when the sample size is small). In addition, all interviews are conducted outside of the presence of supervisors or others in positions of authority to the participant to reduce the effects of the power differential.

Furthermore, data management best practices will be actively implemented and thoughtfully followed to ensure care for data security, confidentiality of all participants, and accuracy of results as summarized below:

- ◆ All quantitative responses will be coded in line with the codebook created prior to data collection activities.
- ◆ Any qualitative responses will be coded by team content experts using appropriate qualitative research methods.
- ◆ All data points will be thoroughly examined, including response frequencies/distributions and item descriptive statistics (mean, minimum, maximum, and standard deviation).
- ◆ All scale scores will be computed systematically and in line with previous use of validated measures.
- ◆ Data cleaning procedures will include thorough and systematic check of all item and scale scores for extreme outliers and other indications of possible response issues or errors.
- ◆ Data validation procedures will include computation and examination of alpha coefficients, correlations, factor analysis, and group differences as appropriate.
- ◆ Consent will be obtained through information provided in survey and interview introductions.

- ◆ Obtain IRB approval if required by participating colleges.

SAMPLING

Throughout this project evaluation, all staff and students will have the opportunity to participate in a survey—potentially twice if they are still involved in the program in the years in which their college is surveyed. PRE will work with consortium leads to obtain contacts of all staff affiliated with the project (i.e., college leads and instructors) and all students participating in advanced manufacturing and cybersecurity grant programs. The program does not target a specific demographic of students, but potential student participants will vary across the nine colleges in that five colleges are urban and four are rural.

Potential participants will be invited to participate in the surveys via an email invitation. To ensure students do not mistake the email as spam, PRE will work with college staff to have instructors inform students they will be receiving the voluntary survey. PRE will also mitigate concerns of survey email invitations going to spam email folders by working with college IT departments to whitelist the surveys' IP addresses and domain names. We have extensive experience evaluating projects at community colleges and have found these methods to work best for recruiting these groups. In fact, we have learned that community college students respond to surveys at low rates, so to mitigate the concern of a small sample size, our plan is to invite all students involved in the grant to participate.

Further, the staff and student surveys will be administered to four colleges in Year 2 and the remaining 5 colleges in Year 3. The reason for not surveying all colleges in each year is due to budgetary constraints. PRE worked with the Consortium Director to identify the colleges that should participate in each year based on the progress they have already made with grant implementation at the end of Year 1. In other words, colleges were selected for Year 2 survey administration based on being further along in grant implementation. Thus, this utilizes a stratified random sample. In administering the survey, the recruitment process may vary by college based on different colleges' needs. Different recruitment methods may include sending the survey link via text message, sending the survey link via email from either PRE or a college lead, sharing a QR code or survey link in class, or distributing paper-pencil surveys in class. Again, this method will be determined through individual conversations with college leads so that methods are aligned to student needs, which may vary since students across the Consortium vary by rural/urban, socioeconomic status, and race/ethnicity. The survey recruitment language and introduction of the survey will make it clear to students that the survey is confidential and voluntary with no penalties for withdrawing from the survey at any time.

PRE will also utilize a stratified random sample when determining which 20 employer partners to invite to participate in interviews. The subpopulations PRE will select from include content area (advanced manufacturing vs. cybersecurity) and college affiliation with a goal of ensuring these different subpopulations are represented. The partners for this project include potential employers, industry partners who are providing input on program design/curriculum development, executive directors from workforce boards, and the Higher Education Coordinating Commission (HECC).

ANALYSIS

For quantitative analyses, we use **SPSS** and **Rstudio** and are skilled in conducting descriptive analyses (e.g., frequencies, means), basic group comparisons (e.g., t-tests, analysis of variance), correlational analyses (e.g., correlation, multiple regression, discriminant function analysis), and advanced multivariate analyses (e.g., multivariate analysis of variance, analysis of covariance, structural equation modeling). This project will mostly utilize descriptive analyses.

PRE staff also has extensive experience collecting and analyzing qualitative data. We engage in research to examine the how or what types of questions, exploring the research questions sometimes through focus groups, interviews, and open-ended survey questions, to develop a detailed view. Qualitative data collected through interviews and open-ended survey questions are coded for themes and analyzed using **Dedoose**, a web-based platform for analyzing qualitative and mixed-method research. For this project, we will use a deductive approach to qualitative coding based on the primary and secondary research questions. We find that this has worked well for informing continuous program improvement with community college programs. We also make space for noteworthy findings that do not correspond to our pre-defined themes. In our experience, it is often true that only by looking at a combination of quantitative and qualitative data that one can gain a complete understanding of program functioning, client outcomes, and program development issues. PRE staff integrates qualitative data collection and analysis into virtually all our research and evaluation work. Data collected from various program stakeholders will be triangulated to provide a complete picture of grant implementation and progress towards goals and outcomes. Specifically, the qualitative analysis from open-ended survey items will be integrated with quantitative survey findings and will be explanatory. Similarly, partner interview data will be explanatory as well with these findings integrated with survey findings where relevant. Thus, when analyzing and reporting data, we highlight themes while also sharing multiple and alternative perspectives.

FINDINGS

At PRE, we place a high priority on communicating our findings to stakeholders. We are skilled in presenting data and evaluation results in formats that are accessible and useful to program stakeholders and other interested readers. Our goal with all our reports is to engage readers and help them understand a project and its results by providing timely and useful feedback to inform decisions about program design and implementation processes. Once reports are completed, we discuss them with key stakeholders in the most meaningful way possible for the specific project, such as through monthly consortium Zoom meetings. Our reports incorporate evaluation data with the goal of linking findings and results to opportunities for ongoing program improvements.

For the evaluation of The Oregon Consortium SCC project, deliverables will include the Detailed Evaluation Plan submitted in Year 1, an interim evaluation report submitted in Year 2, and the Final Evaluation Report submitted by December 31, 2024 (following Year 4). The annual reports will include an introduction and other project context, methods for collecting data, as well as a discussion of project administration, project design, implementation of grant activities within the expected timeframe, challenges associated with implementation, promising practices, preliminary quantitative and qualitative

outcomes, discussion around and suggestions or recommendations for continued project implementation, and lessons learned for moving forward.

The final evaluation report will also include an executive summary, evaluation methodology, summary of the program, a presentation of formative and summative conclusions and implications, and discussion and recommendations for future research.

As described previously, PRE values developmental and collaborative evaluation and the continuous sharing of evaluation data with program stakeholders. To achieve this goal, PRE will participate in monthly consortium Zoom meetings, conduct meetings with the Consortium Director as needed, and host feedback presentations in Years 2-4 to communicate and explain useful data results in alignment with grant deliverables. Presentations will be visually appealing and include accessible formats of data such as infographics and data dashboards.

DISCUSSION

Our evaluation reports (submitted in Years 2 and 4) will include a discussion section that demonstrates how findings presented earlier in the report are relevant to research questions and will explore what findings mean as it pertains to the role the grant played on student outcomes and future program implementation. This section may also include recommendations for program updates based on the findings. These topics will also be discussed during the annual feedback sessions.

APPENDIX A.

THE OREGON CONSORTIUM FOR STRENGTHENING COMMUNITY COLLEGES TRAINING PROGRAM

PLANNED WORK

Inputs

Staff

Partnerships: community colleges; workforce development system; employers

Technology

Activities

Invest in infrastructure to facilitate online and hybrid delivery of courses.

Create stackable credentials across consortium colleges in Advanced Manufacturing and Cybersecurity.

Promote stackable credentials.

Engage employers as strategic partners.

Get commitment from sector employers to provide work-based learning (WBL) opportunities.

Develop a portal for sharing effective models amongst consortium.

Develop programs that are WIOA-funding eligible, have credit for prior learning (CPL), or are transferable.

INTENDED OUTCOMES

Outputs

The number of Advanced Manufacturing and Cybersecurity courses offered in online and hybrid modalities.

The number of stackable credentials offered across consortium colleges in Advanced Manufacturing and Cybersecurity.

The number of students enroll in stackable credentials.

The number of WBL opportunities offered.

The percent or number of colleges that share effective models amongst consortium.

The number of WIOA-funding eligible programs, the number of programs with CPL in place, and the number of transferable programs.

Outcomes

Increased number of sector employer partners that progress from "advisor" toward full "strategic partner."

Increased number of sector employers committing to bettering WBL opportunities.

Increased number of stackable credentials that are fully developed and implemented for hybrid delivery.

Increased availability of stackable, industry-certified credentials that align directly to the regional workforce at each consortium institution.

Increased number of certificate programs that are either: WIOA-funding eligible to be counted as CPL and/or transferable to another consortium college.

Impact

Increased number of students will attain employment and/or advancement (e.g. raise, promotion, etc.) in Advanced Manufacturing or Cybersecurity.

Outcomes Continued

Increased reports of community colleges sharing effective models to expand offering to students.

Increased number of students who attain a credential through a program where they received CPL.

Increase the number of students completing two or more credentials in a program pathway.

Award CPL in Advanced Manufacturing and Cybersecurity.