



Definitions

While terms like culture, diversity, equity, and inclusion are often discussed together, they each refer to distinct concepts.

Culture

- Customs, arts, social institutions, and achievements of a particular nation, people, or other social group (Dictionary.com)
- Ways of living in a group; shared norms, values, and assumptions (Samuels & Ryan, 2011; SenGupta, et al., 2004)
- Shared language, gender, ethnicity, religion, race, class, sexual orientation, disability, dietary preferences, age, and/or geographic location (Bowen & Tillman, 2015)

Diversity

- Traditional socio-demographic markers such as class, gender, nationality, sexuality, ethnicity, and race, as well as other ways people are different from one another

Equity

- Parity in program access, participation, and accomplishment for all program participants, especially those least well-served in the context (Greene, et al., 2011)
- Fair distribution of opportunities to participate and succeed in education for all students (NAS, 2018)
- All children have an opportunity to survive, develop, and reach their full potential, without discrimination, bias or favoritism (UNICEF, 2010a)
- Achieving equity, redistribution of resources

Inclusion

- People are (and feel) embraced, included, valued
- Processes through which all students are made to feel welcome and are treated as motivated learners (NAS, 2018)
- Sense of belonging, climate

Engaging Intentionally with Diversity, Equity, and Inclusion in your ATE Evaluation

ATE PI Pre-Conference Workshop 2022

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Informal Engagement with DEI

Read the vignette's below. Assign one person to be the "speaker" to report out from your group. Discuss the following questions from a culturally responsive evaluation perspective:

1. What is your role?
2. What do you do?
3. Who should you or shouldn't you talk to?

Vignette #1

Yessenia is a Latina undergraduate student from Long Beach, CA. At her community college, 25% of the students are Black, 25% are White, 25% are Asian, and 25% identify as Latinx. The students in her 'home' lab comes from all different backgrounds. When she arrives to her summer research experience at a prestigious predominantly white institution, she immediately notices the lack of diversity and brings this up to her mentor. He tells her that this is the way it is at the best four-year universities. He is not sure she will be cut out to do well because she is focused on the wrong things instead of science. She is a bit taken aback and mentions her interaction with her mentor to you at her exit interview at the end of the summer.

Vignette #2

Yessenia is a Latina undergraduate student from Long Beach, CA. At her community college, 25% of the students are Black, 25% are White, 25% are Asian, and 25% identify as Latinx. The students in her 'home' lab comes from all different backgrounds. When she arrives to her summer research experience at a prestigious predominantly white institution, she immediately notices the lack of diversity and brings this up to her mentor. He tells her that this is the way it is at the best four-year universities. He is not sure she will be cut out to do well because she is focused on the wrong things instead of science. She is a bit taken aback and mentions her interaction with her mentor to you at her exit interview at the end of the summer.



Case Example #1

21st Century Labs

The context

Pawnee Community College has realized that their traditional laboratory and classroom curriculum is falling behind the times. Research has shown that integrating technology and student-driven learning can improve student comprehension and better prepare students for the workplace. They have also received feedback from students in their manufacturing programs that the labs are not accessible and engaging. Offering virtual simulations would allow students who work other jobs or cannot travel to the campus the ability to learn online. Two faculty in the manufacturing department received a three-year ATE grant in order to revise their classroom curriculum and lab activities.

Project goals

This project aims to modify classroom curriculum to allow for alternative delivery of education using flipped classrooms, open labs, and virtual simulations to replace the traditional lecture and lab delivery structure.

Their goals are to:

1. Increase enrollment in their manufacturing program.
2. Increase retention in their manufacturing program.
3. Increase the diversity of students by making education more accessible.
4. Increase student engagement and learning.

Evaluation questions

Their evaluation questions are:

Project Theory

What is the logic and theory for the project?

To what extent does the curriculum align with evidence based (literature) best practices for diverse learners? What virtual specific strategies are being employed?

To what extent is the new curriculum based on literature in student-driven learning?

To what extent are diversity, equity, and inclusion formally and informally built into the project theory?

Implementation

To what extent were the new curriculum and lab activities implemented on schedule and as planned?

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In what ways were diversity, equity, and inclusion considered and attended to during planning, recruitment, training, and implementation?

Effectiveness

Are all students able to access and engage with the new curriculum and lab activities?

Are there any differences in effectiveness across student identities?

To what extent were students and faculty satisfied with the new curriculum and lab activities? Do all students feel included in the new curriculum?

Diversity, Equity, Inclusion

How are project leadership attending to diversity, inclusion, and equity issues for participants?

To what extent are project leadership ensuring that participants' diverse and intersectional (ethnicity, gender, research background, etc.) identities are being considered as aspects for cultural capital?

What opportunities and barriers to broadening participation in manufacturing student diversity exist?

Outcomes

To what extent did the proportion of underrepresented students in STEM increase in the manufacturing program?

To what extent did student enrollment and retention increase in manufacturing classes that implemented the new curriculum?

To what extent did student learning increase and does that differ across students?

Sustainability

How and to what extent are elements of the new curriculum becoming institutionalized?



Case Example #1

Evaluation Matrix

Evaluation Questions	Indicators	Data Sources	Data Collection Methods
<p>Project Theory What is the logic and theory for the project? To what extent does the curriculum align with evidence based (literature) best practices for diverse learners? What virtual specific strategies are being employed? To what extent is the new curriculum based on literature in student-driven learning? To what extent are diversity, equity, and inclusion formally and informally built into the project theory?</p>	<ul style="list-style-type: none"> linkages between activities, resources, and proposed outputs and outcomes Vision and mission statement Explicit and implicit inclusion of DEI in project theory project feasibility alignment to empirical and practical evidence 	<ul style="list-style-type: none"> literature project document literature meeting notes / recordings project leadership field experts 	<ul style="list-style-type: none"> literature review document review logic model exercise interviews expert review
<p>Implementation To what extent were the new curriculum and lab activities implemented on schedule and as planned? In what ways were diversity, equity, and inclusion considered and attended to during planning, recruitment, training, and implementation?</p>	<ul style="list-style-type: none"> Project strengths, weaknesses, opportunities, threats #/type curriculum developed # of classrooms that implemented new curriculum % of lab activities that were implemented culturally responsive/sensitive pedagogy employed recruitment strategies 	<ul style="list-style-type: none"> Course syllabi Faculty documentation meeting notes / recordings project leadership recruitment documents institutional records project documents 	<ul style="list-style-type: none"> Document review SWOT Analysis Interviews
<p>Effectiveness Are all students able to access and engage with the new curriculum and lab activities?</p>	<ul style="list-style-type: none"> Project strengths, weaknesses, opportunities, threats # of students who attended classes 	<ul style="list-style-type: none"> Institutional data (Attendance records, etc.) Project leadership 	<ul style="list-style-type: none"> Secondary data analysis Interviews Follow up surveys

Engaging Intentionally with Diversity, Equity, and Inclusion in your ATE Evaluation

Evaluation Questions	Indicators	Data Sources	Data Collection Methods
<p>Are there any differences in effectiveness across student identities?</p> <p>To what extent were students and faculty satisfied with the new curriculum and lab activities? Do all students feel included in the new curriculum?</p>	<ul style="list-style-type: none"> # of students who completed lab activities Sense of accessibility Satisfaction Sense of belonging/inclusivity utilization of virtual platforms 	<ul style="list-style-type: none"> Faculty Students 	<ul style="list-style-type: none"> SWOT Analysis Observations Document analysis Surveys
<p>Diversity, Equity, Inclusion</p> <p>How are project leadership attending to diversity, inclusion, and equity issues for participants?</p> <p>To what extent are project leadership ensuring that participants' diverse and intersectional (ethnicity, gender, research background, etc.) identities are being considered as aspect cultural capital?</p> <p>What opportunities and barriers to broadening participation in manufacturing student diversity exist?</p>	<ul style="list-style-type: none"> participant demographics range and type of strategies for recruitment criteria for participation culturally responsive pedagogy accommodation of learning styles utilization of virtual platforms 	<ul style="list-style-type: none"> Faculty Students Literature Project leadership Institutional data 	<ul style="list-style-type: none"> Literature review Document review Interviews Observations
<p>Outcomes</p> <p>To what extent did the proportion of underrepresented students in STEM increase in the manufacturing program?</p> <p>To what extent did student enrollment and retention increase in manufacturing classes that implemented the new curriculum?</p> <p>To what extent did student learning increase and does that differ across various student identities?</p>	<ul style="list-style-type: none"> Rates of students passing the final course exam (and other assessments) by student demographics Student demographic information (race/ethnicity), pell-grant status, and geographic location, etc.) manufacturing courses at the beginning of the semester # of students enrolled in manufacturing courses at the end of the semester 	<ul style="list-style-type: none"> Faculty Students Institutional data (Student grades, Student records, Attendance records) Assessments 	<ul style="list-style-type: none"> Secondary data Assessments (pre/post) Document review Interviews Surveys Observations
<p>Sustainability</p>	<ul style="list-style-type: none"> Policy changes in department 	<ul style="list-style-type: none"> Department chair Faculty 	<ul style="list-style-type: none"> Interviews Document Review

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Evaluation Questions	Indicators	Data Sources	Data Collection Methods
How and to what extent are elements of the new curriculum becoming institutionalized?	<ul style="list-style-type: none"> • Implementation of similar curriculum or lab activities in other programs • permanent course #/curriculum changes • additional funding secured 	<ul style="list-style-type: none"> • Department policies • Course syllabi 	

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Case Example #2

Welding Certifications

The context

Employers in the Philadelphia area are in need of more technicians with welding certification. In response, Abbott Community College wants to work with local high school partners to develop pathways for students to begin obtaining beginner-level certification while still in high school and then matriculate to the college for higher levels of certification. Increasing the number of technicians with welding certifications will not only lead to an increase in salaries for community members but will also address the workforce need. Faculty at Abbott Community College, in collaboration with teachers from local high schools, has received a three-year ATE grant in order to develop the infrastructure for these welding certifications.

Project goals

This project aims to develop a welding program where students earn various levels of certification at the high school and college levels. The project intends to provide education and supplies to high school teachers in order to start offering these certifications to high school students.

Their goals are to:

1. Increase the number of welding certification programs being offered at the high school level
2. Increase the number of Black and female students obtaining welding certifications.
3. Increase the number of technicians with welding certifications in the Philadelphia area.

Evaluation questions



The project is interested in a formative and summative evaluation. What types of evaluation questions do you think this project should ask? Remember to address both process and outcomes, and pay attention to how issues of diversity, equity, and inclusion are considered.



Case Example #2

Evaluation Matrix



Fill in the evaluation matrix, identifying what kinds of indicators would answer the evaluation questions, what the sources of the data are, and how those data would be collected. Remember to consider issues of diversity, equity, and inclusion at all steps of the process and what is feasible within the three-year grant timeline.

Evaluation Questions	Indicators	Data Sources	Data Collection Methods

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Evaluation Questions	Indicators	Data Sources	Data Collection Methods

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Case Example #2

Example Evaluation Question

Project Theory

What is the logic and theory for the project?

To what extent does the curriculum align with evidence based (literature) best practices for Black learners?

To what extent does the professional development (PD) curriculum align with the needs of high school teachers and student learning objectives for welding certificates?

To what extent are diversity, equity, and inclusion formally and informally built into the project theory?

Implementation, Effectiveness, DEI

To what extent were project activities implemented on schedule and as planned?

In what ways were diversity, equity, and inclusion considered and attended to during planning, recruitment, training, and implementation?

To what extent were high school teachers satisfied with the professional development (PD) provided? Did all teachers feel included throughout the PD?

How are project leadership attending to diversity, inclusion, and equity issues for participants (students and teachers)?

To what extent are project leadership ensuring that participants' diverse and intersectional (ethnicity, gender, research background, etc.) identities are being considered in all aspects of the project?

Outcomes

To what extent were new certification programs implemented at the high-school level? Are there differences across schools related to resources or geographic area?

How many students obtained a certification in welding at the various levels? How does that compare to before the project?

How many black students obtained a certification in welding? How does that compare to before the project?

What are knowledge outcomes for participating teachers?

Are there any unanticipated outcomes for participants or schools?

To what extent did student learning increase and does that differ across students?

Sustainability

How and to what extent are these welding certifications being institutionalized?

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Case Example #2

Example Evaluation Matrix

Evaluation Questions	Indicators	Data Sources	Data Collection Methods
<p>Project Theory What is the logic and theory for the project? To what extent does the curriculum align with evidence based (literature) best practices for Black learners? To what extent does the professional development (PD) curriculum align with the needs of high school teachers and student learning objectives for welding certificates? To what extent are diversity, equity, and inclusion formally and informally built into the project theory?</p>	<ul style="list-style-type: none"> • linkages between activities, resources, and proposed outputs and outcomes • Vision and mission statement • Explicit and implicit inclusion of DEI in project theory • project feasibility • alignment to empirical and practical evidence 	<ul style="list-style-type: none"> • literature • project document • literature • meeting notes / recordings • project leadership • field experts 	<ul style="list-style-type: none"> • literature review • document review • logic model exercise • interviews • expert review
<p>Implementation, Effectiveness, DEI To what extent were project activities implemented on schedule and as planned? In what ways were diversity, equity, and inclusion considered and attended to during planning, recruitment, training, and implementation? To what extent were high school teachers satisfied with the professional development (PD) provided? Did all teachers feel included throughout the PD? How are project leadership attending to diversity, inclusion, and equity issues for participants (students and teachers)?</p>	<ul style="list-style-type: none"> • Project strengths, weaknesses, opportunities, threats • #/type curriculum developed • culturally responsive/sensitive pedagogy employed • recruitment strategies • # of students who attended • Sense of accessibility • Satisfaction • Sense of belonging/inclusivity • participant demographics 	<ul style="list-style-type: none"> • PD curriculum • meeting notes / recordings • project leadership • recruitment documents • project documents • Teachers • Satisfaction 	<ul style="list-style-type: none"> • Document review • SWOT Analysis • Interviews • Follow up surveys • Observations • Document analysis • Surveys

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Evaluation Questions	Indicators	Data Sources	Data Collection Methods
<p>To what extent are project leadership ensuring that participants' diverse and intersectional (ethnicity, gender, research background, etc.) identities are being considered in all aspects of the project?</p>	<ul style="list-style-type: none"> • range and type of strategies for recruitment • criteria for participation • culturally responsive pedagogy • # participating teachers/students 		
<p>Outcomes</p> <p>To what extent were new certification programs implemented at the high-school level? Are there differences across schools related to resources or geographic area?</p> <p>How many students obtained a certification in welding at the various levels? How does that compare to before the project?</p> <p>How many black students obtained a certification in welding? How does that compare to before the project?</p> <p>What are knowledge outcomes for participating teachers?</p> <p>Are there any unanticipated outcomes for participants or schools?</p> <p>To what extent did student learning increase and does that differ across students?</p>	<ul style="list-style-type: none"> • # certificate programs • Student demographic information (ethnicity, location, etc.) • number of welding certificates • # participating teachers/students • teachers/students knowledge gains 	<ul style="list-style-type: none"> • Faculty • Students • Assessments • certificate information 	<ul style="list-style-type: none"> • Secondary data • Assessments (pre/post) • Certificates • Document review • Interviews • Surveys • Observations
<p>Sustainability</p> <p>How and to what extent are these welding certifications being institutionalized?</p>	<ul style="list-style-type: none"> • Policy changes in department • Implementation of curriculum in multiple schools • permanent course #/curriculum changes • additional funding secured 	<ul style="list-style-type: none"> • teachers • Project leadership • School documents 	<ul style="list-style-type: none"> • Interviews • Document Review

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DIVERSITY, EQUITY, AND INCLUSION IN EVALUATION



definitions, evaluation questions, indicators, and data collection methods

This handout is from EvaluATE's May 2021 webinar by Ayesha Boyce and Tiffany Smith. The slides and recording for this webinar are available at evalu-ate.org/webinars/may-21.

DIVERSITY

DEFINITION:

Variety in traditional sociodemographic markers such as class, gender, and race, as well as other ways people are different from one another.

Differences among individuals, including demographic differences such as gender, race, ethnicity, and country of origin (NAS, 2018).

EXAMPLE EVALUATION QUESTIONS

1. How and in what ways are project leadership attending to diversity? What opportunities and barriers exist? How might they be improved?
2. To what extent has this project increased diversity of participants?

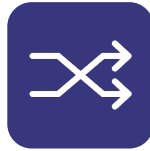
EXAMPLE INDICATORS



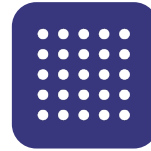
Leadership/
Representation



Initial URM
& %



Change in
URM



Total # of
Participants



Retention
Rates



National
Demographics/
Representation



Demographics

Example Demographic Indicators

- LGBTQ+ identities
- Disability status and physical accessibility needs
- Racial and ethnic identities
- Religious groups
- Learning and mental accessibility needs
- Gender identity
- Age
- Nationality
- School attended/no schooling
- Country/countries lived in
- Social economic status

EXAMPLE DATA COLLECTION METHODS



Surveys



Focus Groups
& Interviews



Institutional or
Administrative Data



Program
Documentation

EQUITY

DEFINITION:

Parity in program access, participation, and accomplishment for all program participants, especially those least well-served in the context (Greene, Boyce, & Ahn, 2011)

EXAMPLE EVALUATION QUESTIONS

1. How and in what ways are project leadership attending to equity? What opportunities and barriers exist? How might they be improved?
2. What is the quality of the program design, content, and pedagogy, as designed for various and diverse learners in the context?
3. To what extent is the project differentiating instruction based on need?
4. How and in what ways is the project ensuring that various populations have access to resources?
5. Are key project components operating effectively? What is working well and for whom?

EXAMPLE INDICATORS



External factors/threats



Support in place (access)



Diversification of services



Trainings offered and taken



Compensation



Criteria for selection



Recruitment vs selection rates



Retention (disaggregated)



Disciplinary actions



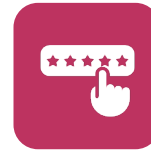
Curriculum



GPA



Mentoring type and amount



Satisfaction



% resource based on need



Retention (disaggregated)



Attendance



Recruitment

Example Recruitment Indicators

- LGBTQ+ identities
- Disability status and physical accessibility needs
- Racial and ethnic identities
- Religious groups

EXAMPLE DATA COLLECTION METHODS



Surveys



Focus Groups & Interviews



Institutional or Administrative Data



Program Documentation



Observational Data

INCLUSION

DEFINITION:

Fostering an environment in which participants are (and feel) embraced, included, and valued. Processes through which all students are made to feel welcome and are treated as motivated learners (NAS, 2018).

EXAMPLE EVALUATION QUESTIONS

1. How and in what ways are project leadership attending to inclusion and cultural issues across components? What opportunities and barriers exist? How might they be improved?
2. What is the project culture and climate? What are participant experiences and sense of belonging? Are there differences in experience across groups?

EXAMPLE INDICATORS



Support in place (access)



Curriculum



Leadership



Programmatic training



Project goals



Stakeholder voice



Attendance



Satisfaction



Participant experience



Climate

Example Climate Indicators

- Sense of belonging
- Understanding of role/responsibility
- Self-efficacy
- Relationship with leadership
- STEM identity

EXAMPLE DATA COLLECTION METHODS



Surveys



Focus Groups & Interviews



Program Documentation



Observational Data

LEARN MORE about Drs. Boyce and Smith's research into diversity, equity, and inclusion in the ATE evaluation at evalu-ate.org/research/measuring-equity-diversity-and-inclusion. The full webinar material associated with this handout, including slides and recording, can be accessed at evalu-ate.org/webinars/may-21.



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