# Using Blackboard Goals, Outcomes, and EAC to Support Data Informed Decision-Making with ImprovE, an Innovative IE Process

**San Jacinto College**

Dr. Chris Duke, Associate Vice Chancellor
Dr. Rashmi Chhetri, Manager, Program Effectiveness
Dr. Michelle Selk, Manager, Program Effectiveness

CMD

# ImprovE Team

Dr. Chris.Duke@sjcd.edu

Associate Vice Chancellor

Dr. Rashmi.Chhetri@sjcd.edu

Dr. Michelle.Selk@sjcd.edu

Ms. Kennedy.Washington@sjcd.edu

Managers, Program Effectiveness

# Agenda

Join Poll

Blackboard Goals

Aligning Assessments to Goals

Real-time Reports with EAC Visual Data

--

ImprovE, a New Institutional Methodology

ImprovE Insights

Accreditation Takes a Backseat

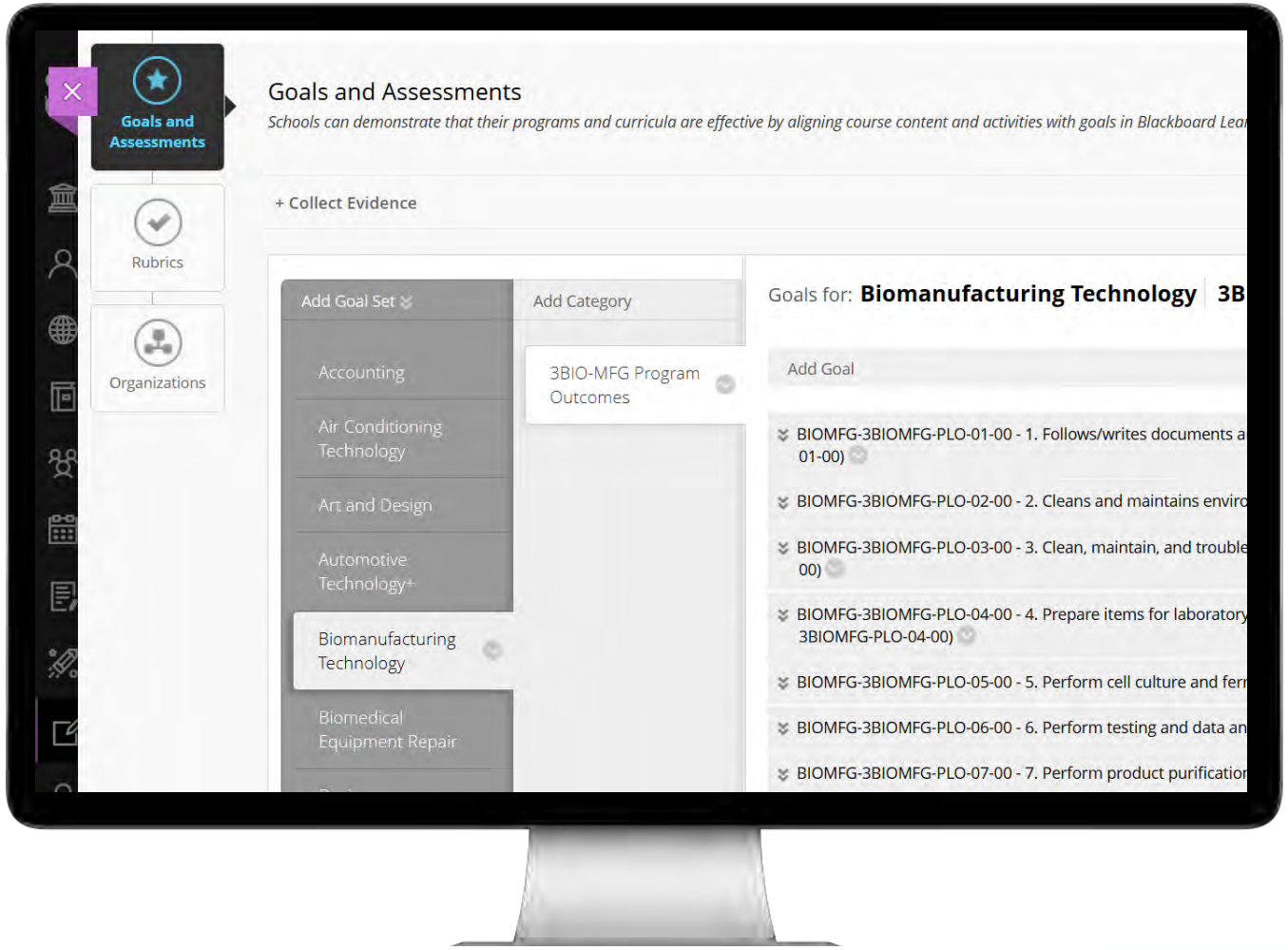
CMD

# Blackboard Goals


MS

# Blackboard Goals

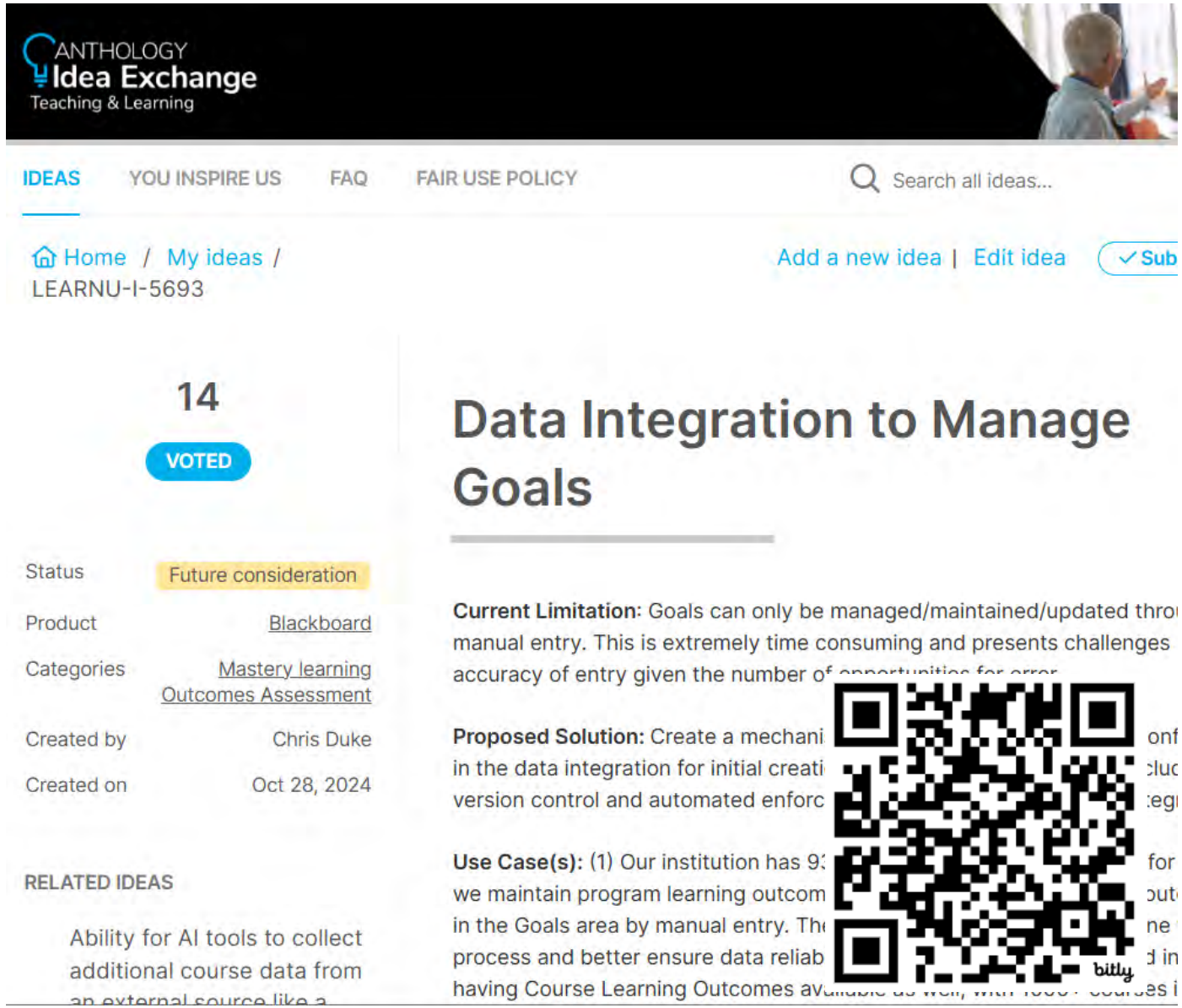
- ALL instructional pathways have program learning outcomes.
- ALL are available in Bb Goals, 99 discrete pathways.
- Select programmatic accreditation standards are available in Bb Goals:
  - NAEYC 2020
  - ADN NCSBN Client Needs
  - LVN NCSBN Client Needs




MS

# Bb Goals “Wishlist”

- Entry of Goals is *manual*.
- Data integration is needed to efficiently manage goals; *faculty are asking for course learning outcomes to be available as well*.
- APIs are available but read-only. Phillip Berger commented, “Opening this to align with what is possible for other APIs through learn [sic] (Create, Patch, Delete) would be greatly appreciated, especially as we consider adopting the newly released Blackboard Mastery.”



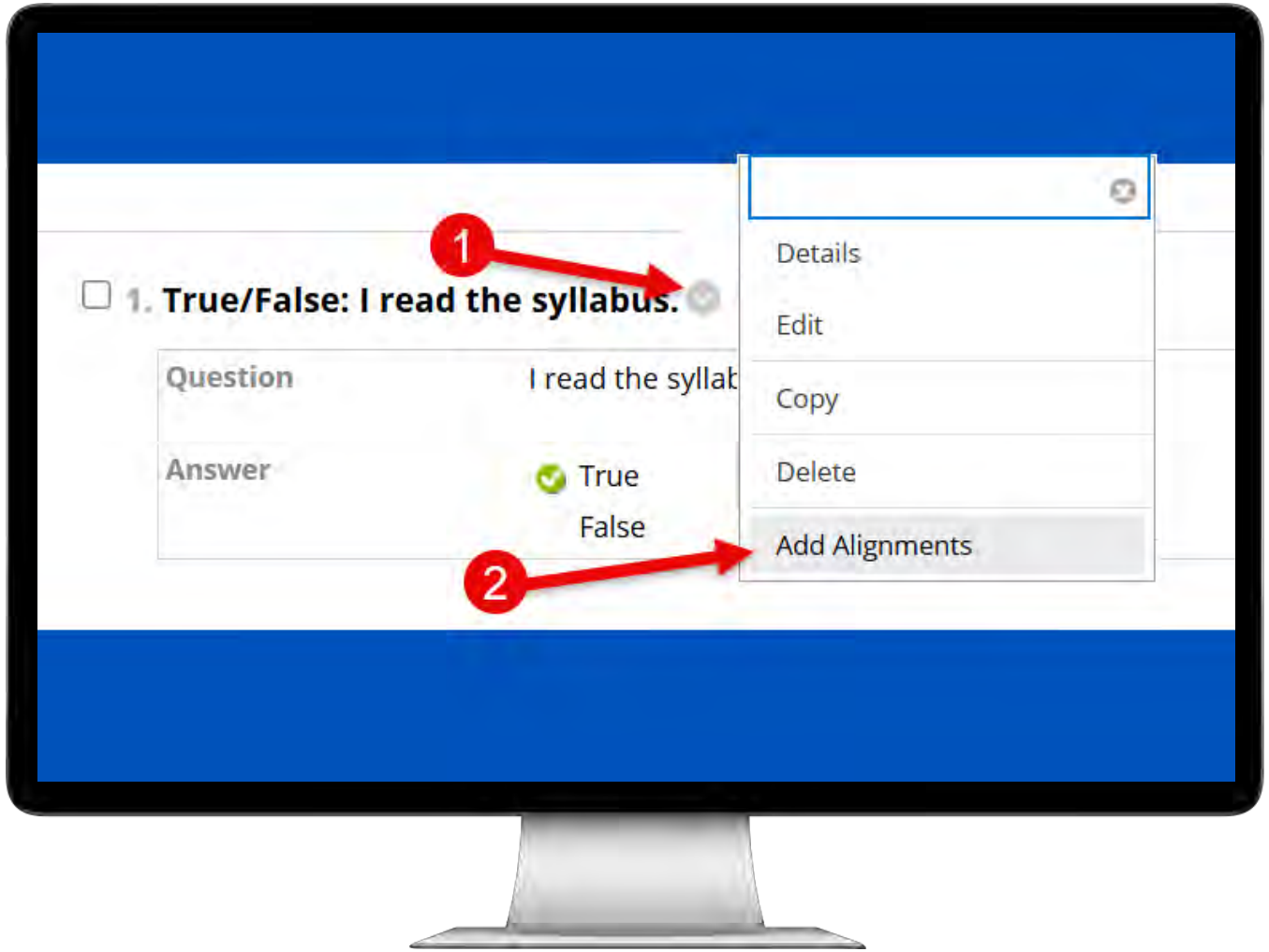

http://bit.ly/4lM0RC9

# Aligning Assessments to Goals


MS

# Align Test Question to Goal

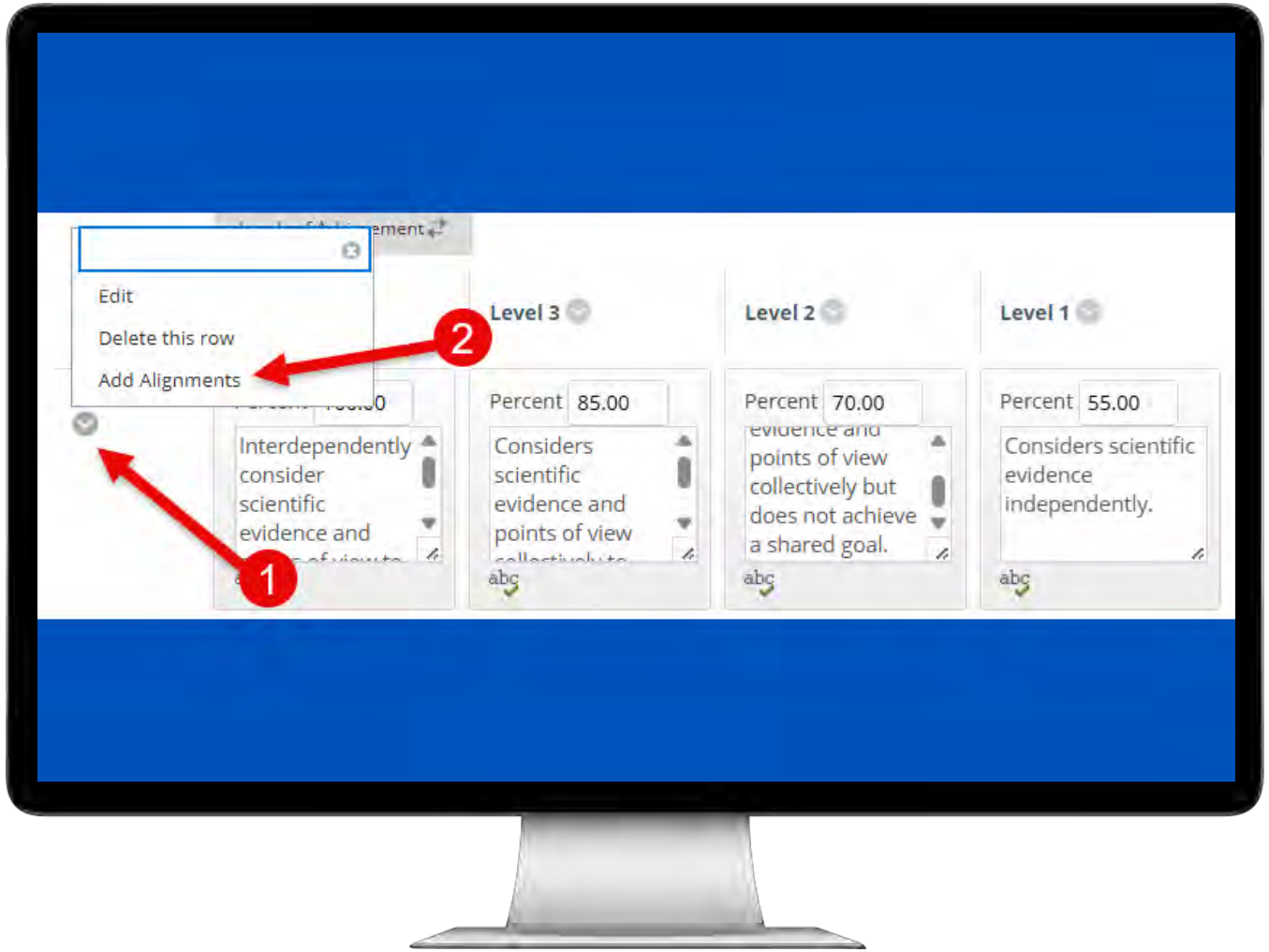
- Implementation began in 2018 with Nursing programs.
- EAC Visual Data Item Analysis Report meets program and accreditation needs.
- More on that to come . . .




MS

# Align Rubric Row to Goal

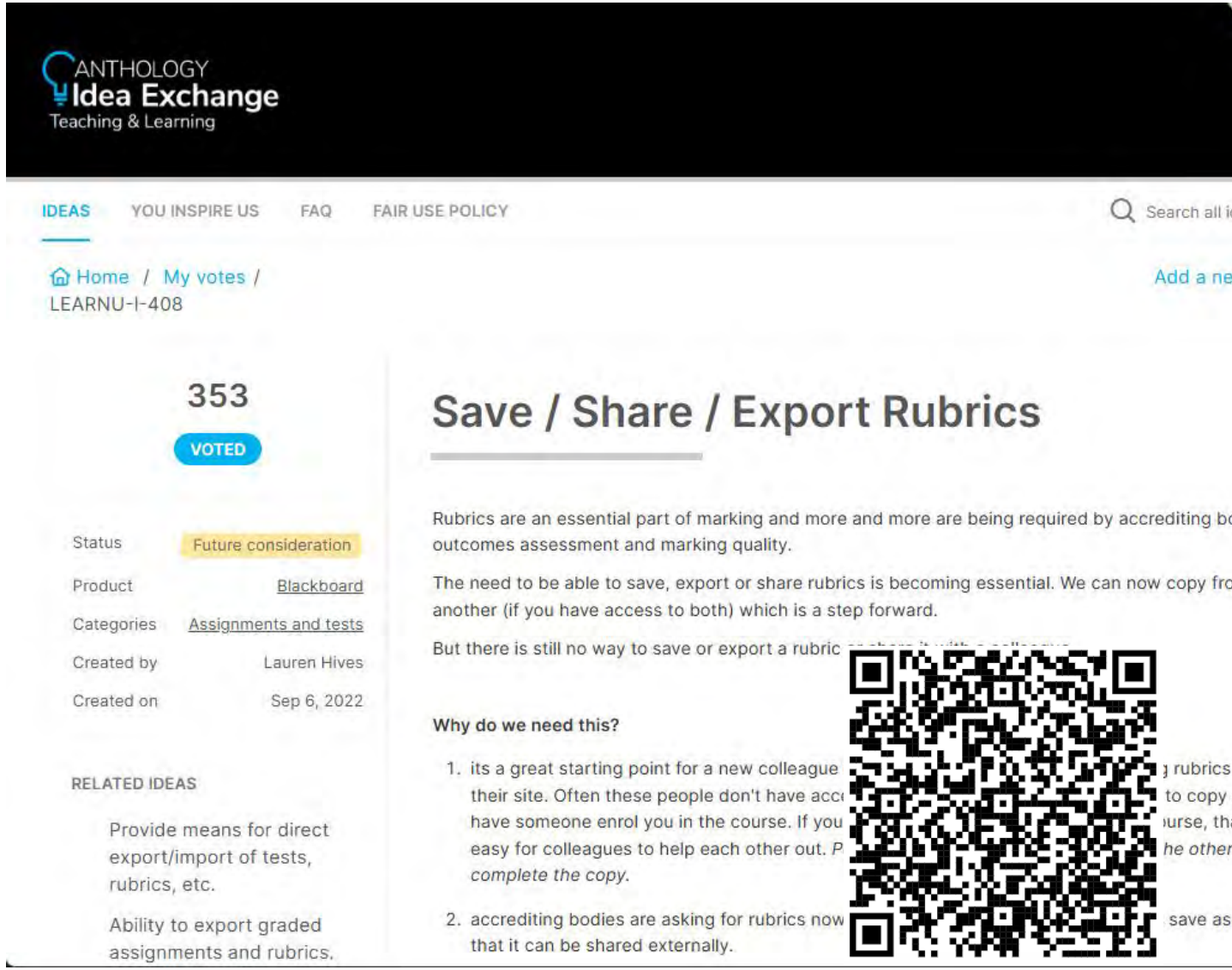
- First broader implementation began with 2019 QEP focused on Critical Thinking.
- EAC Visual Data Rubric and Goals Reports met assessment and accreditation needs.
- More on that to come . . .



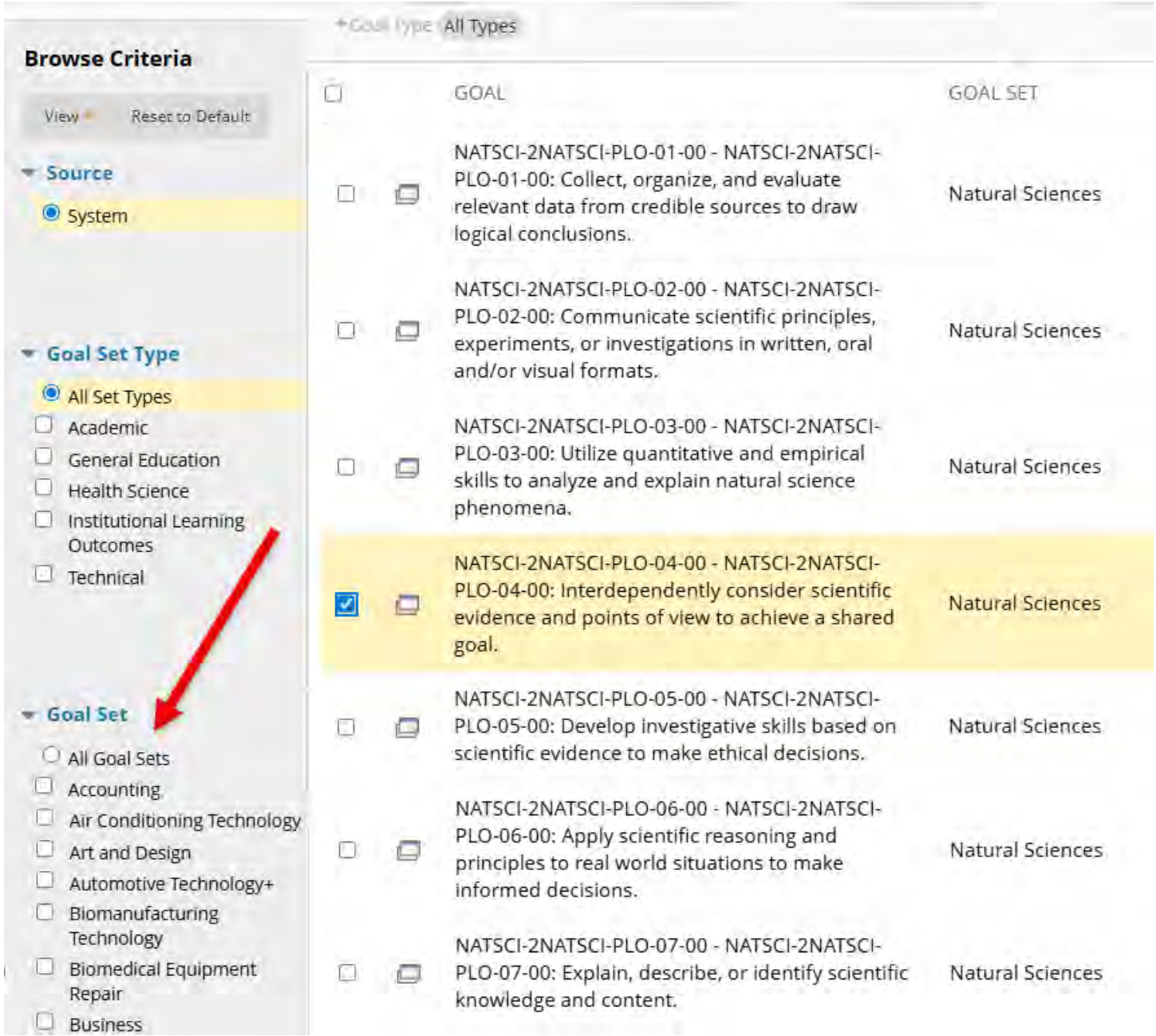

MS

# Rubric “Wishlist”

- Functionality in Learn allowed saving and exporting any rubric to a .zip file. That could be imported into any other course.
- This is how we completed college-wide assessment related to Oral Communication and Critical Thinking.




http://bit.ly/478pFQc



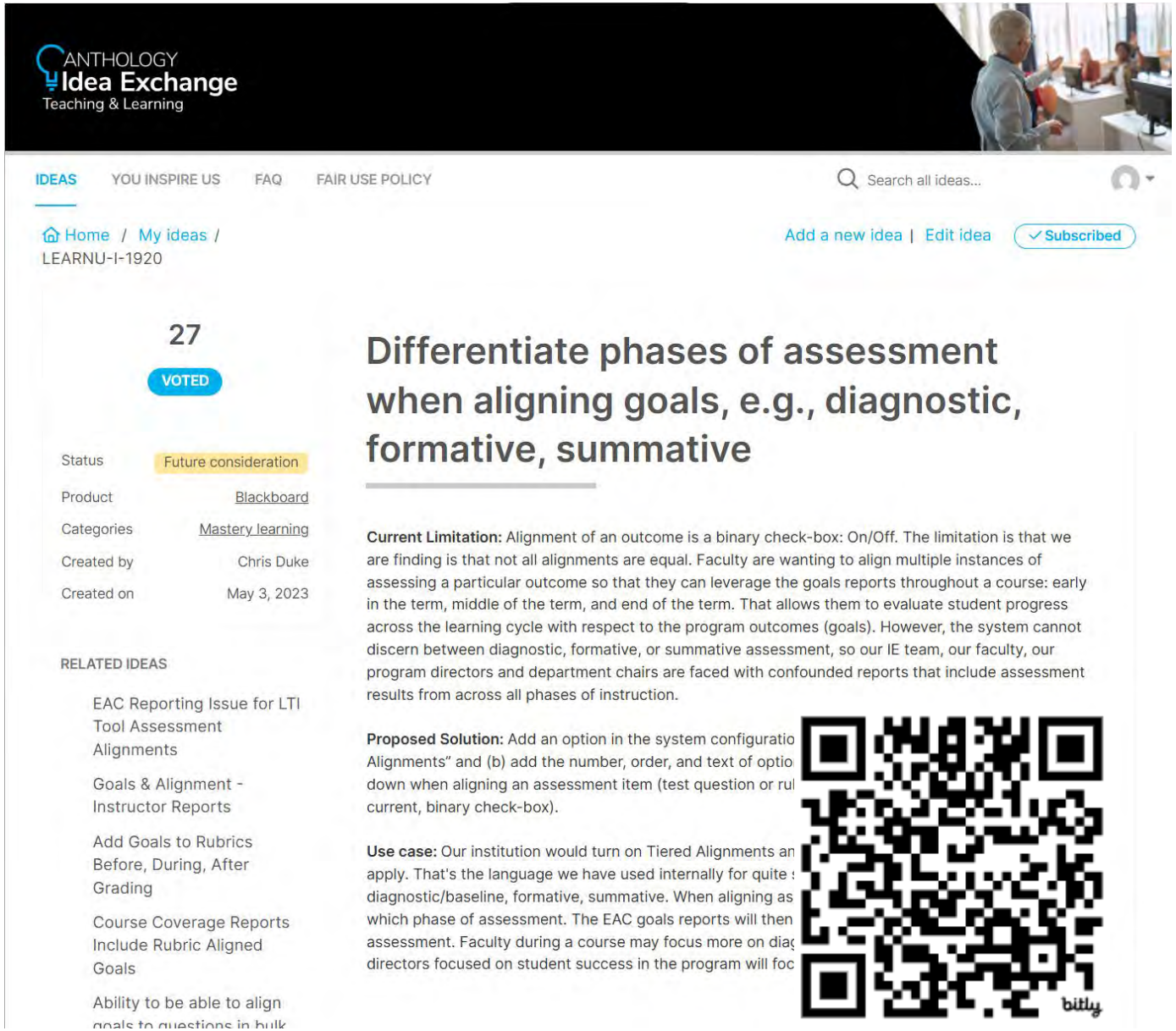

# Alignment, Goal Selection

- Organized alphabetically by Goal Set which corresponds to program/discipline.
- Goal Alignments persist through course copy.

MS

# Goals Alignment "Wishlist"

- Alignment is a binary checkbox.
- Want to indicate the *phase of assessment* at point of alignment.
- Current workaround is to create goals *in triplicate*, one for each phase.
- Differentiating summative assessment from formative or diagnostic in reports is an absolute necessity. *EAC will be able to filter reports by phase once the data are available in the system*.



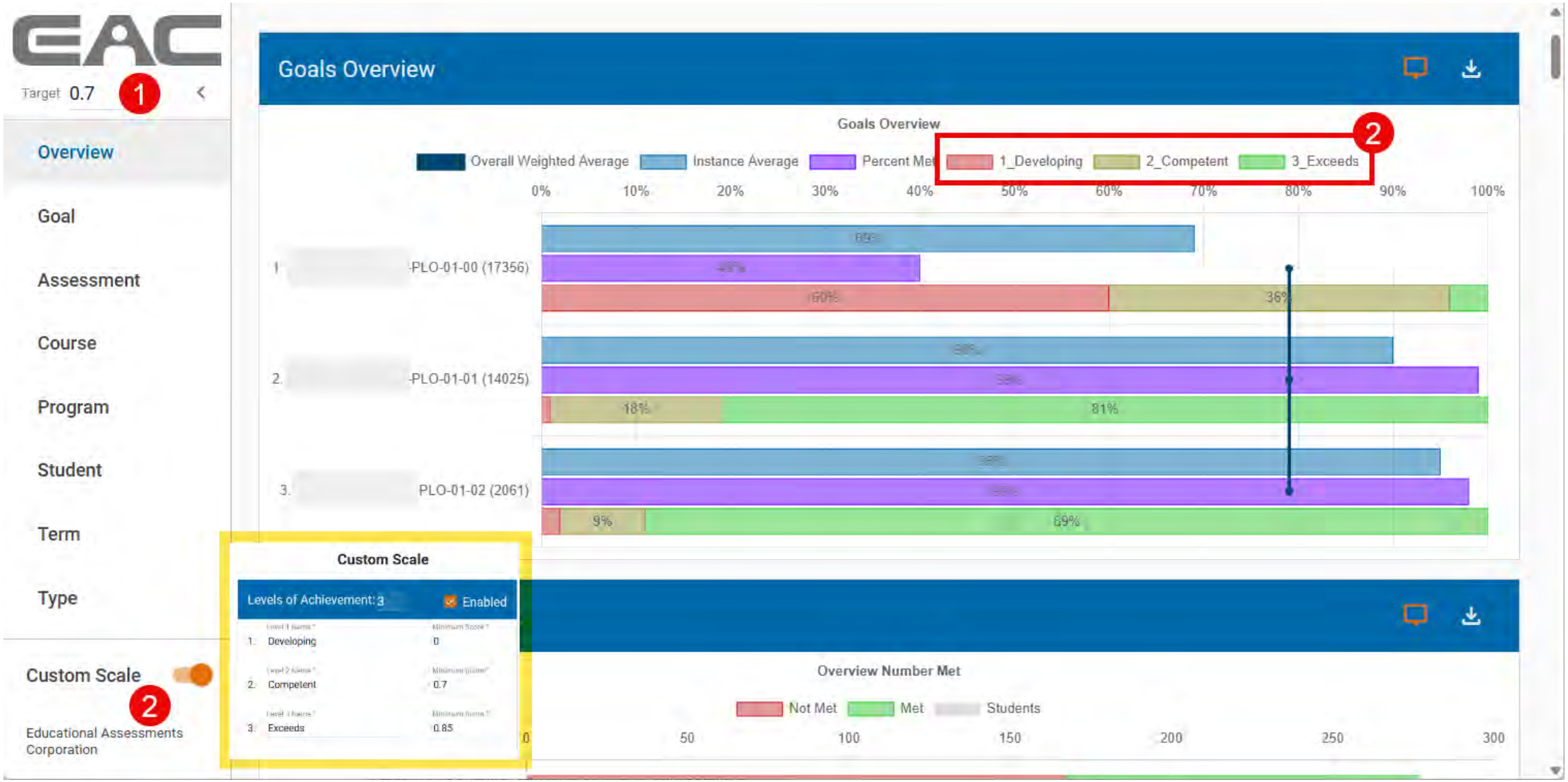

http://bit.ly/4lRVTUv

# Real-time Reports with EAC Visual Data

Anthology elevate

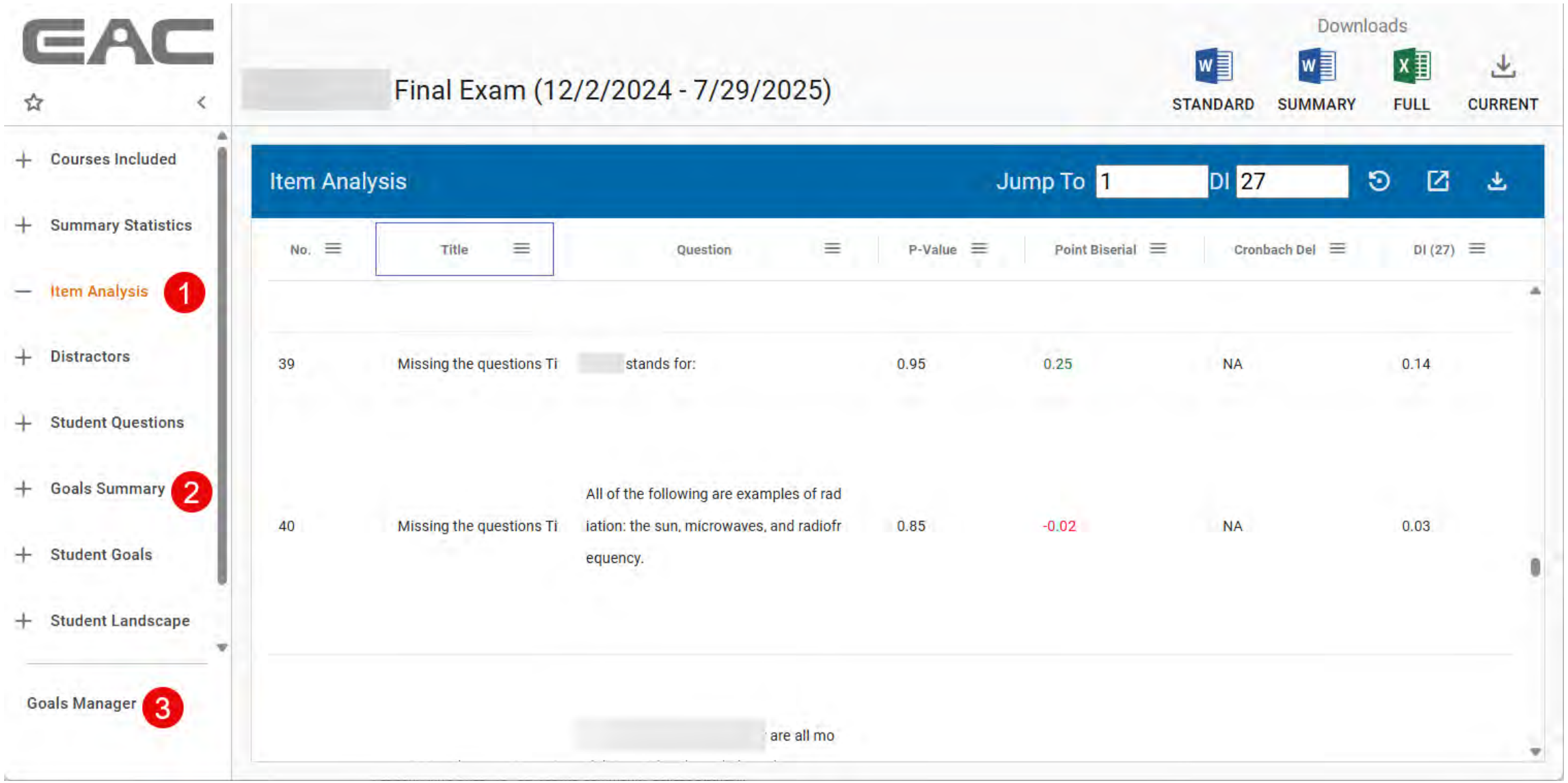
CMD

# Goals Report, College-wide



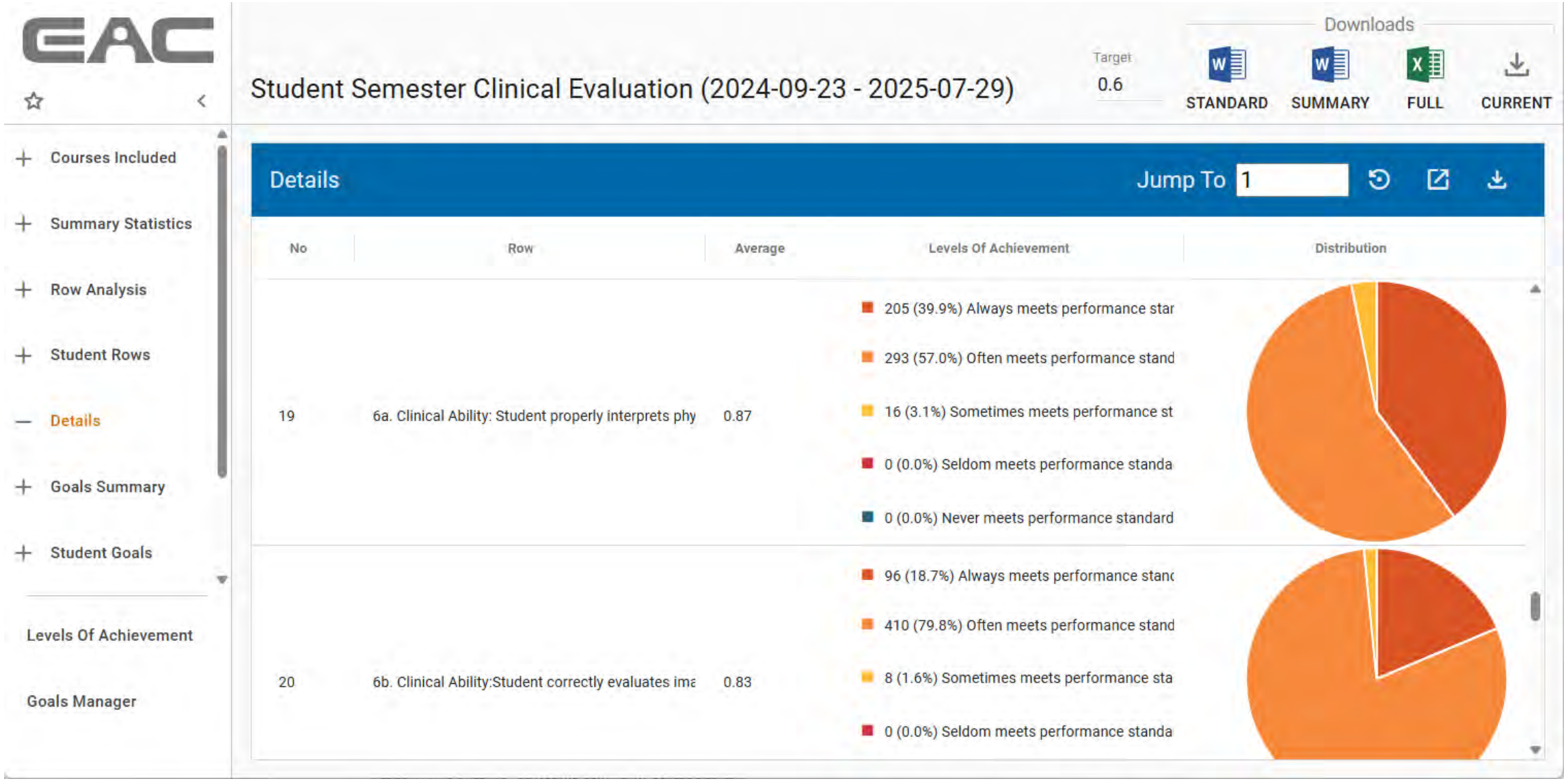

CMD

# Test Report, Flexible Scope




CMD

# Rubric Report, Flexible Scope




MS

# ImprovE, a new institutional methodology


CMD

# Method-to-Culture Alignment

## Effectiveness Methods

*circa 1998*

- Annual or semester cycle
- Program-level accountability
- College/program-wide
- Quantitative data
- Excel-based
- SACSCOC-centered

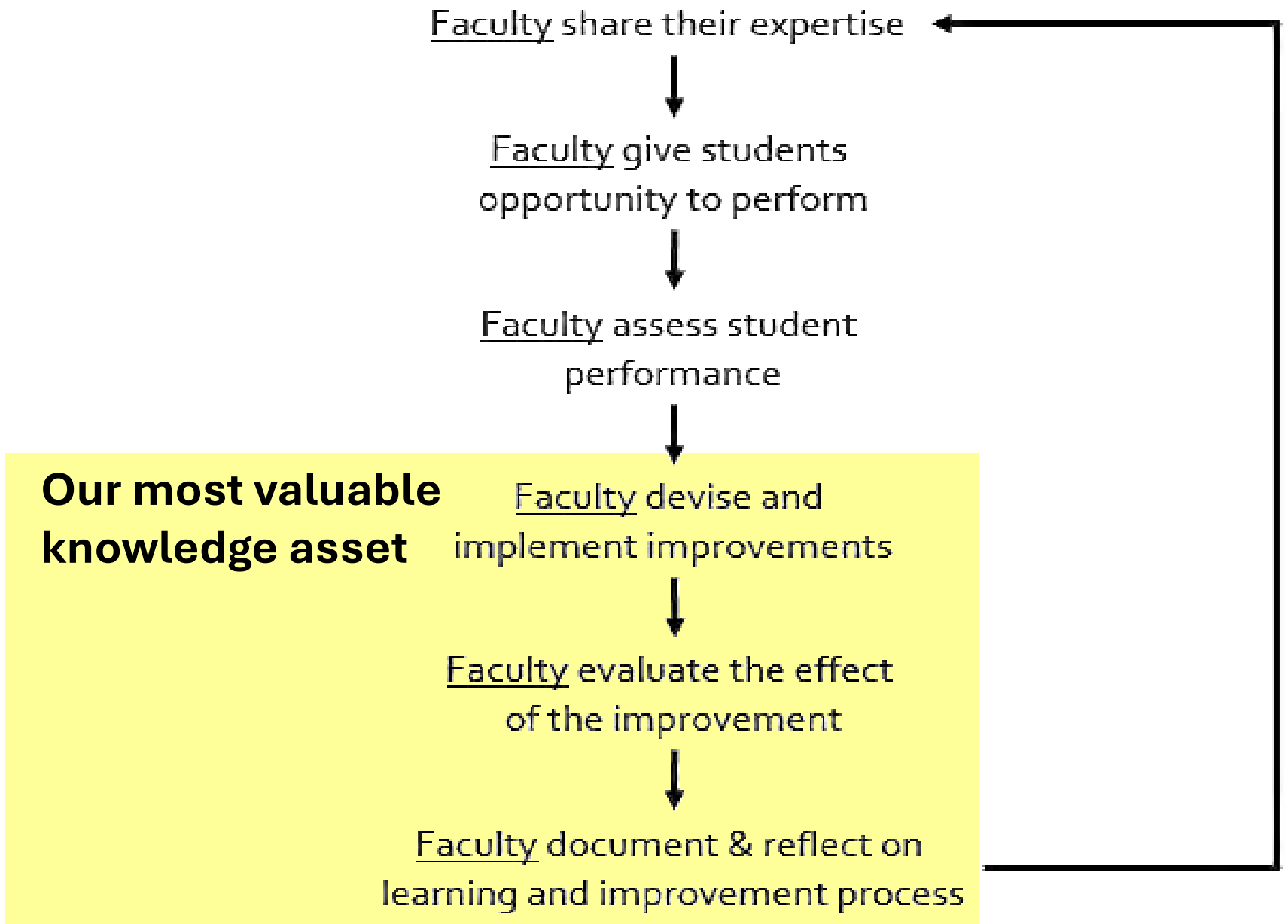
## Institutional Culture

*2022 following 15+ years of influences*

- Continuous, day-to-day, just-in-time
- Individual accountability
- Varying scope/scale
- Mixed methods
- Database-driven
- Faculty/innovation-centered
- Plan-Do-Check-Act

CMD


CMD


Faculty share their expertise
Faculty give students opportunity to perform
Faculty assess student performance
Our most valuable knowledge asset
Faculty devise and implement improvements
Faculty evaluate the effect of the improvement
Faculty document & reflect on learning and improvement process

CMD

# “Faculty Development” approach to Assessment

## ImprovE

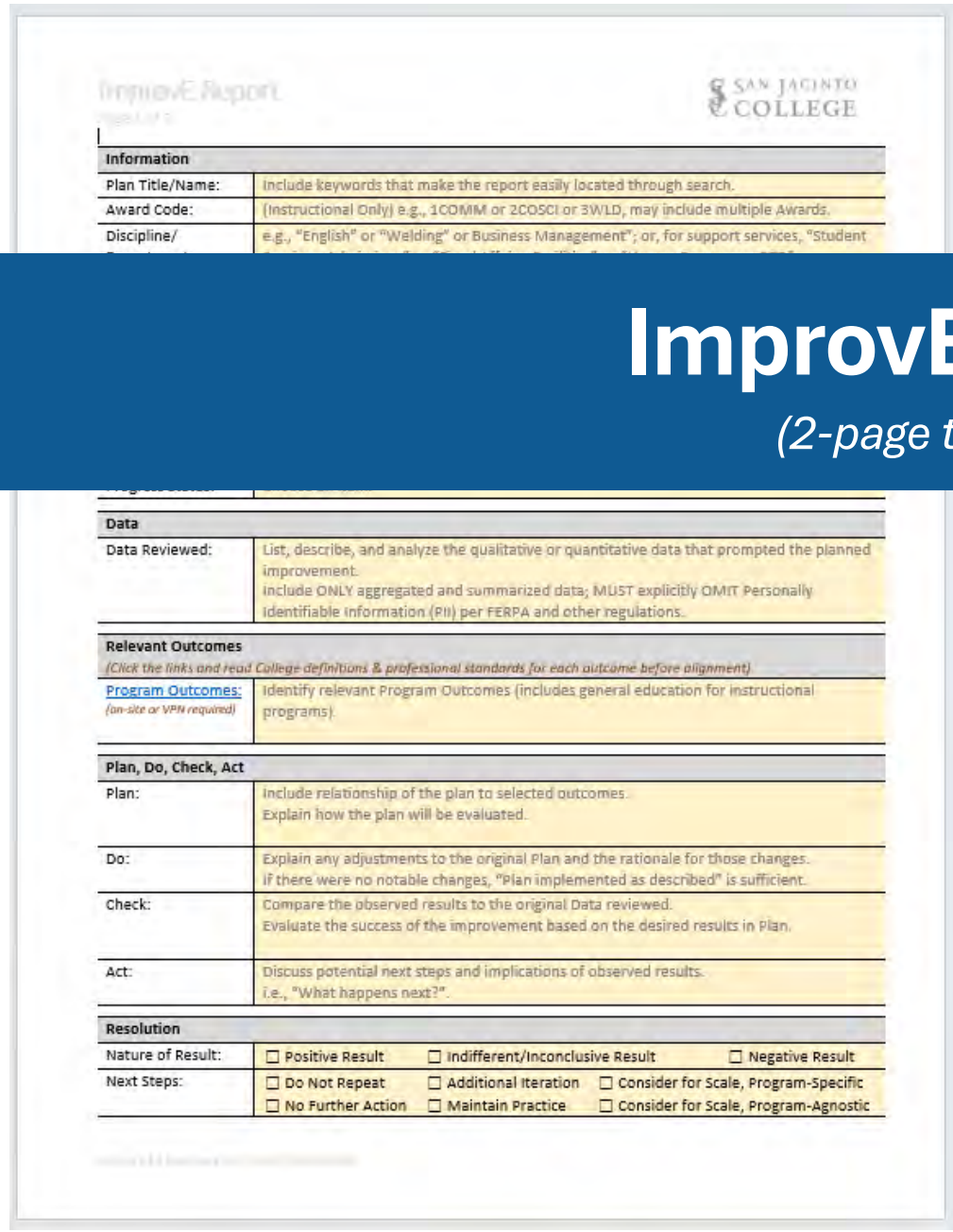
- Focuses on pedagogy and classroom assessment
- (Includes but) does not focus exclusively on quantitative data analysis
- Leverages faculty professional judgement and expertise in the classroom as qualitative data
- Create spaces for faculty to discuss teaching and learning and continuous improvement, e.g., College Community Day panels

**David Eubanks**
Assistant Vice President
at Furman University
LinkedIn: http://bit.ly/3HbYRE5

**“Accreditation + Assessment: What went wrong?”**
Continuous Improvement Summit
February 2025 @ Embry-Riddle Aeronautical University
http://bit.ly/3UzkdhI

# ImprovE Report

*(2-page template)*



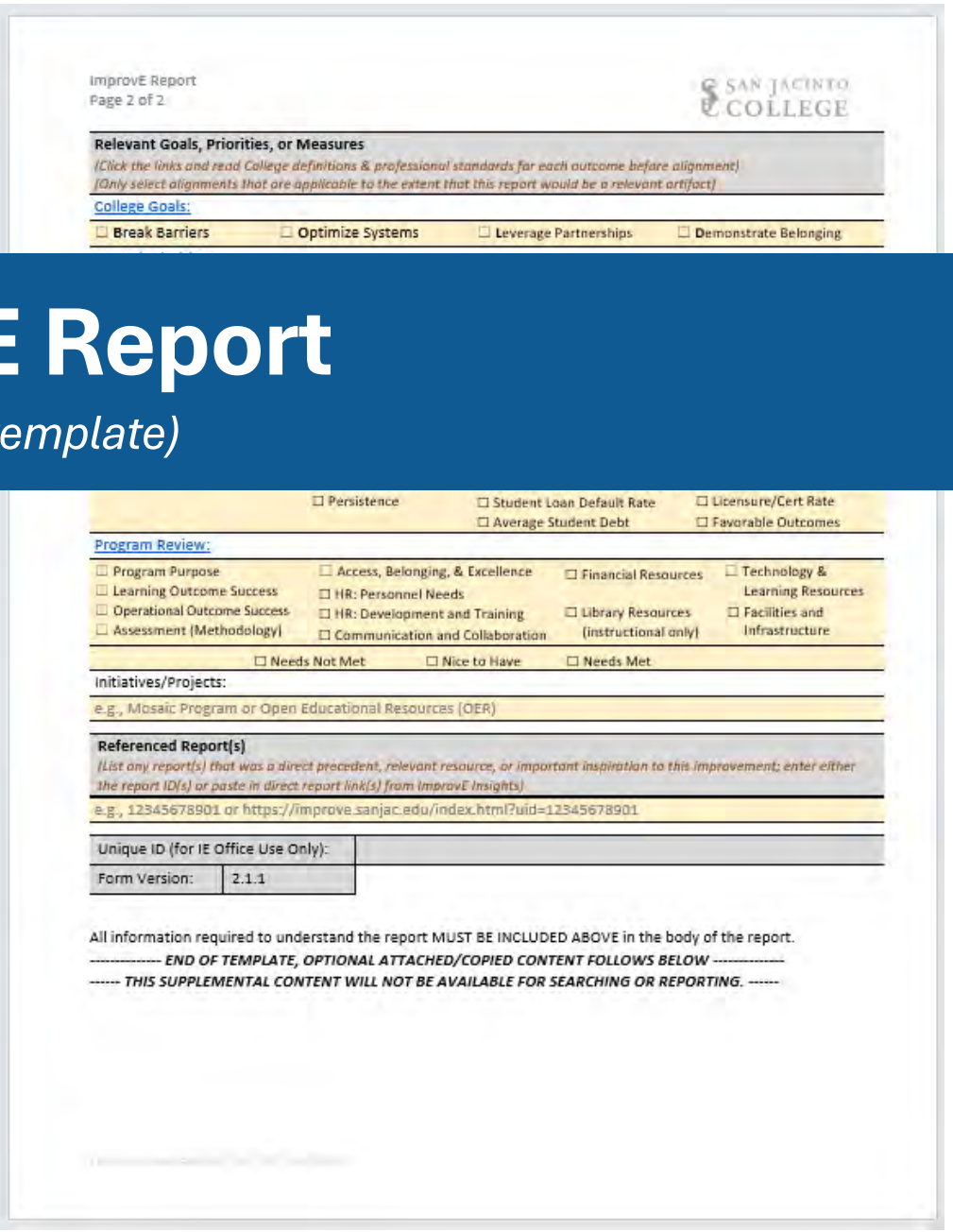
| Information | |
|---|---|
| Plan Title/Name: | Include keywords that make the report easily located through search. |
| Award Code: | (Instructional Only) e.g., 1COMM or 2COSCI or 3WLD, may include multiple Awards. |
| Discipline/ | e.g., "English" or "Welding" or Business Management"; or, for support services, "Student |

| Data | |
|---|---|
| Data Reviewed: | List, describe, and analyze the qualitative or quantitative data that prompted the planned improvement.<br>Include ONLY aggregated and summarized data; MUST explicitly OMIT Personally Identifiable Information (PII) per FERPA and other regulations. |

| Relevant Outcomes<br>*(Click the links and read College definitions & professional standards for each outcome before alignment)* | |
|---|---|
| Program Outcomes:<br>*(on-site or VPN required)* | Identify relevant Program Outcomes (includes general education for instructional programs) |

| Plan, Do, Check, Act | |
|---|---|
| Plan: | Include relationship of the plan to selected outcomes.<br>Explain how the plan will be evaluated. |
| Do: | Explain any adjustments to the original Plan and the rationale for those changes.<br>If there were no notable changes, "Plan implemented as described" is sufficient. |
| Check: | Compare the observed results to the original Data reviewed.<br>Evaluate the success of the improvement based on the desired results in Plan. |
| Act: | Discuss potential next steps and implications of observed results.<br>i.e., "What happens next?". |

| Resolution | | | |
|---|---|---|---|
| Nature of Result: | ☐ Positive Result | ☐ Indifferent/Inconclusive Result | ☐ Negative Result |
| Next Steps: | ☐ Do Not Repeat | ☐ Additional Iteration | ☐ Consider for Scale, Program-Specific |
| | ☐ No Further Action | ☐ Maintain Practice | ☐ Consider for Scale, Program-Agnostic |



ImprovE Report
Page 2 of 2

**Relevant Goals, Priorities, or Measures**
*(Click the links and read College definitions & professional standards for each outcome before alignment)*
*(Only select alignments that are applicable to the extent that this report would be a relevant artifact)*

College Goals:

☐ Break Barriers ☐ Optimize Systems ☐ Leverage Partnerships ☐ Demonstrate Belonging

☐ Persistence ☐ Student Loan Default Rate ☐ Licensure/Cert Rate
☐ Average Student Debt ☐ Favorable Outcomes

Program Review:

☐ Program Purpose ☐ Access, Belonging, & Excellence ☐ Financial Resources ☐ Technology & Learning Resources
☐ Learning Outcome Success ☐ HR: Personnel Needs
☐ Operational Outcome Success ☐ HR: Development and Training ☐ Library Resources (instructional only) ☐ Facilities and Infrastructure
☐ Assessment (Methodology) ☐ Communication and Collaboration

☐ Needs Not Met ☐ Nice to Have ☐ Needs Met

Initiatives/Projects:

e.g., Mosaic Program or Open Educational Resources (OER)

**Referenced Report(s)**
*(List any report(s) that was a direct precedent, relevant resource, or important inspiration to this improvement; enter either the report ID(s) or paste in direct report link(s) from ImprovE Insights)*

e.g., 12345678901 or https://improve.sanjac.edu/index.html?uid=12345678901

| Unique ID (for IE Office Use Only): | |
|---|---|
| Form Version: | 2.1.1 |

All information required to understand the report MUST BE INCLUDED ABOVE in the body of the report.
---------- ***END OF TEMPLATE, OPTIONAL ATTACHED/COPIED CONTENT FOLLOWS BELOW*** ----------
------ ***THIS SUPPLEMENTAL CONTENT WILL NOT BE AVAILABLE FOR SEARCHING OR REPORTING.*** ------

MS

# ImprovE Report: Information

| Information | | |
|---|---|---|
| Plan Title/Name: | Include keywords that make the report easily located through search. | |
| Award Code: | (Instructional Only) e.g., 1COMM or 2COSCI or 3WLD, may include multiple Awards. | |
| Discipline/ Department: | e.g., "English" or "Welding" or Business Management"; or, for support services, "Student Services: Admissions" or "Fiscal Affairs: Facilities" or "Human Resources: OTD" | |
| Participating Faculty/Employees: | Include work email addresses for all participants, e.g., "Jane.Doe@sjcd.edu" or "John Doe <john.doe@sjcd.edu>" or "Dean Doe (jeffrey.doe@uh.edu)" | |
| Scope: | Choose an item. | Relevant Campus(es): ☐C ☐N ☐S ☐G ☐M ☐O ☐D |
| Executive Summary (Abstract): | Written summary after completing all parts of an ImprovE report (Data-Outcomes-Plan-Do-Check-Act), recommended length of 100 words or less) | |
| **Status** | | |

- Collaborative, multiple participants or departments
- Scalable scope: individual classroom, multiple classrooms, program or campus-wide, college-wide.

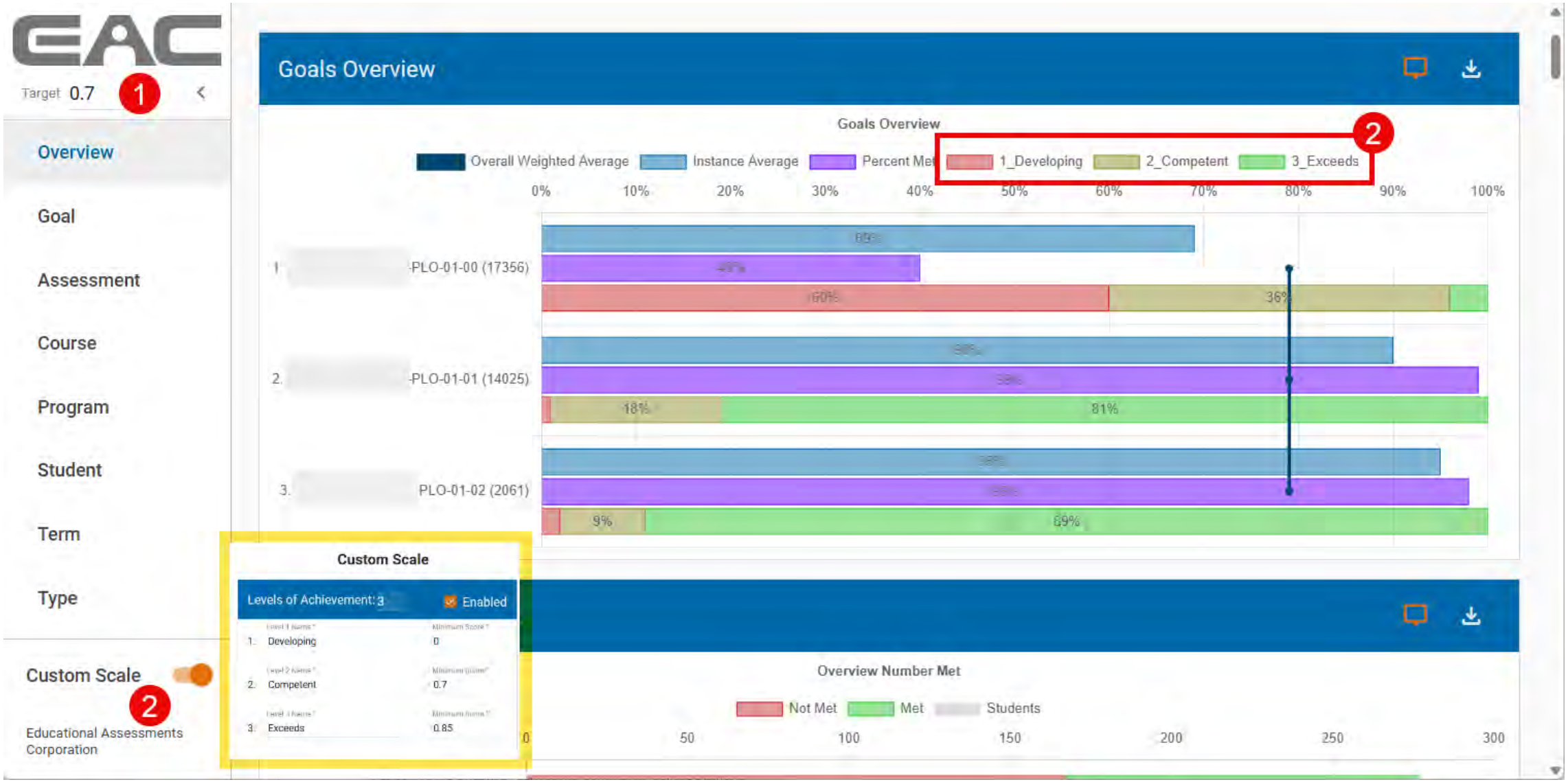
MS

# ImprovE Report: Data and Outcomes

| **Data** | |
|---|---|
| Data Reviewed: | List, describe, and analyze the qualitative or quantitative data that prompted the planned improvement.<br>Include ONLY aggregated and summarized data; MUST explicitly OMIT Personally Identifiable Information (PII) per FERPA and other regulations. |
| **Relevant Outcomes**<br>*(Click the links and read College definitions & professional standards for each outcome before alignment)* | |
| Program Outcomes:<br>*(on-site or VPN required)* | Identify relevant Program Outcomes (includes general education for instructional programs). |
| **Plan, Do, Check, Act** | |
| Plan: | Include a description of the plan to address outcomes |

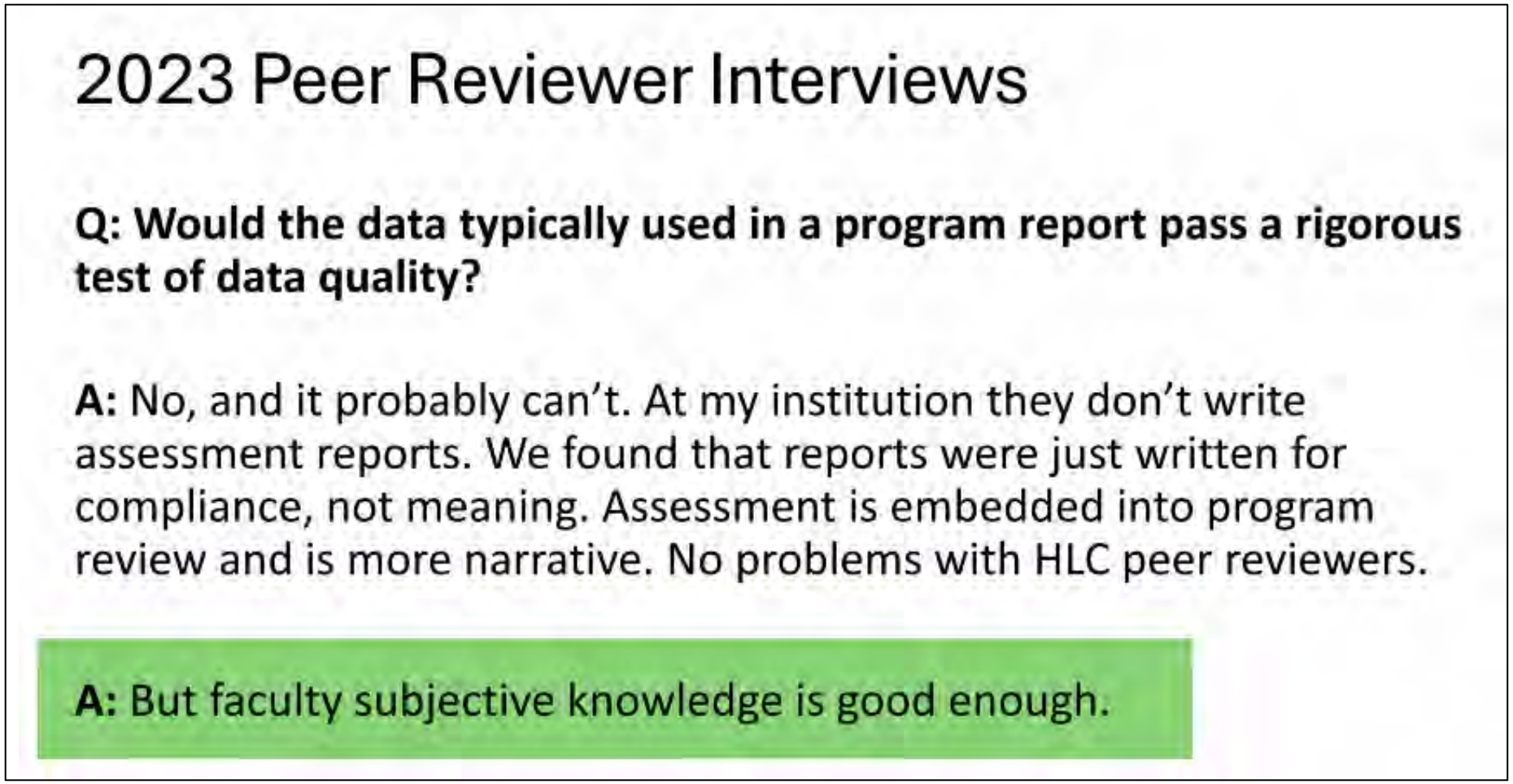
CMD

# Goals Report, Flexible Scope



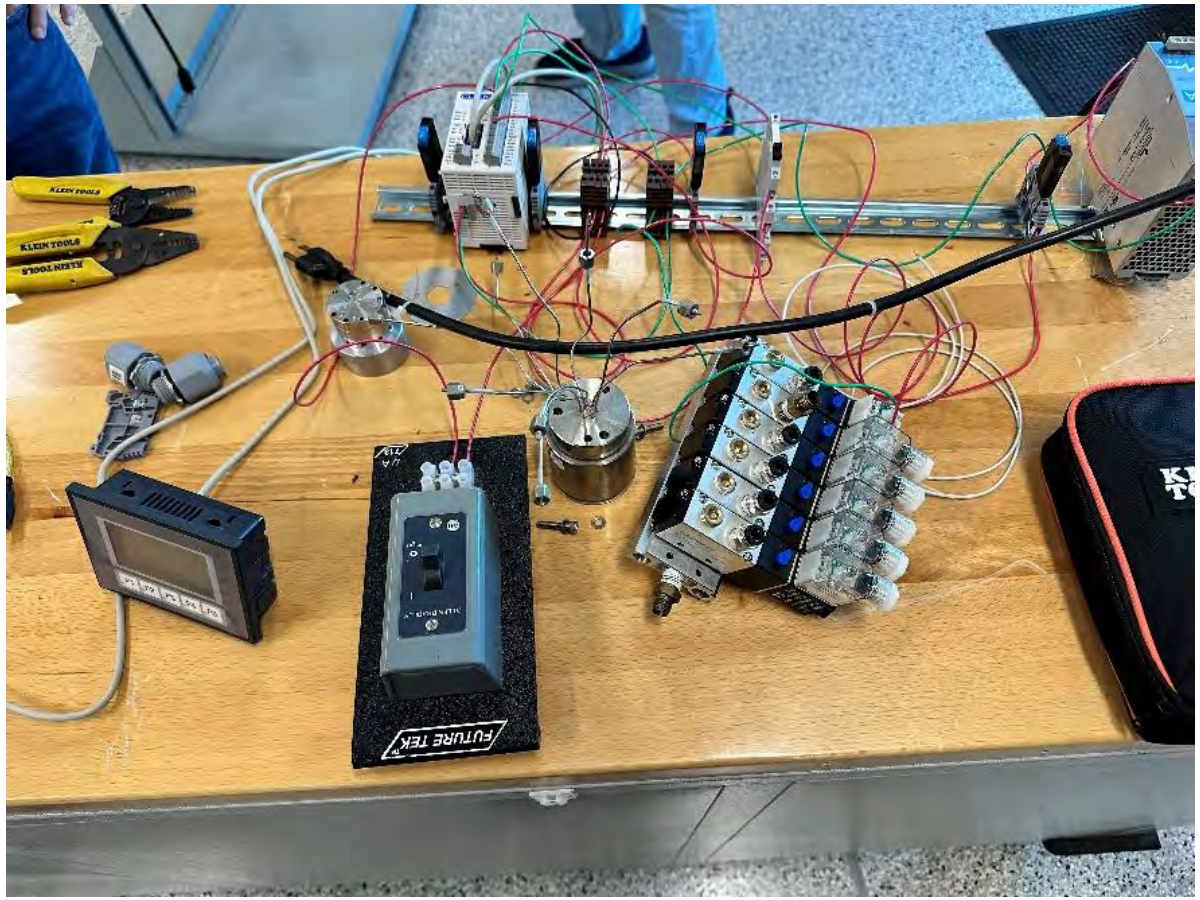

CMD

# From David Eubanks Keynote @ Embry-Riddle CI Summit, February 2025




CMD


# Teaching with an “Exploded View” of a Programmable Logic Controller




CMD

# ImprovE Report: Plan, Do, Check, Act

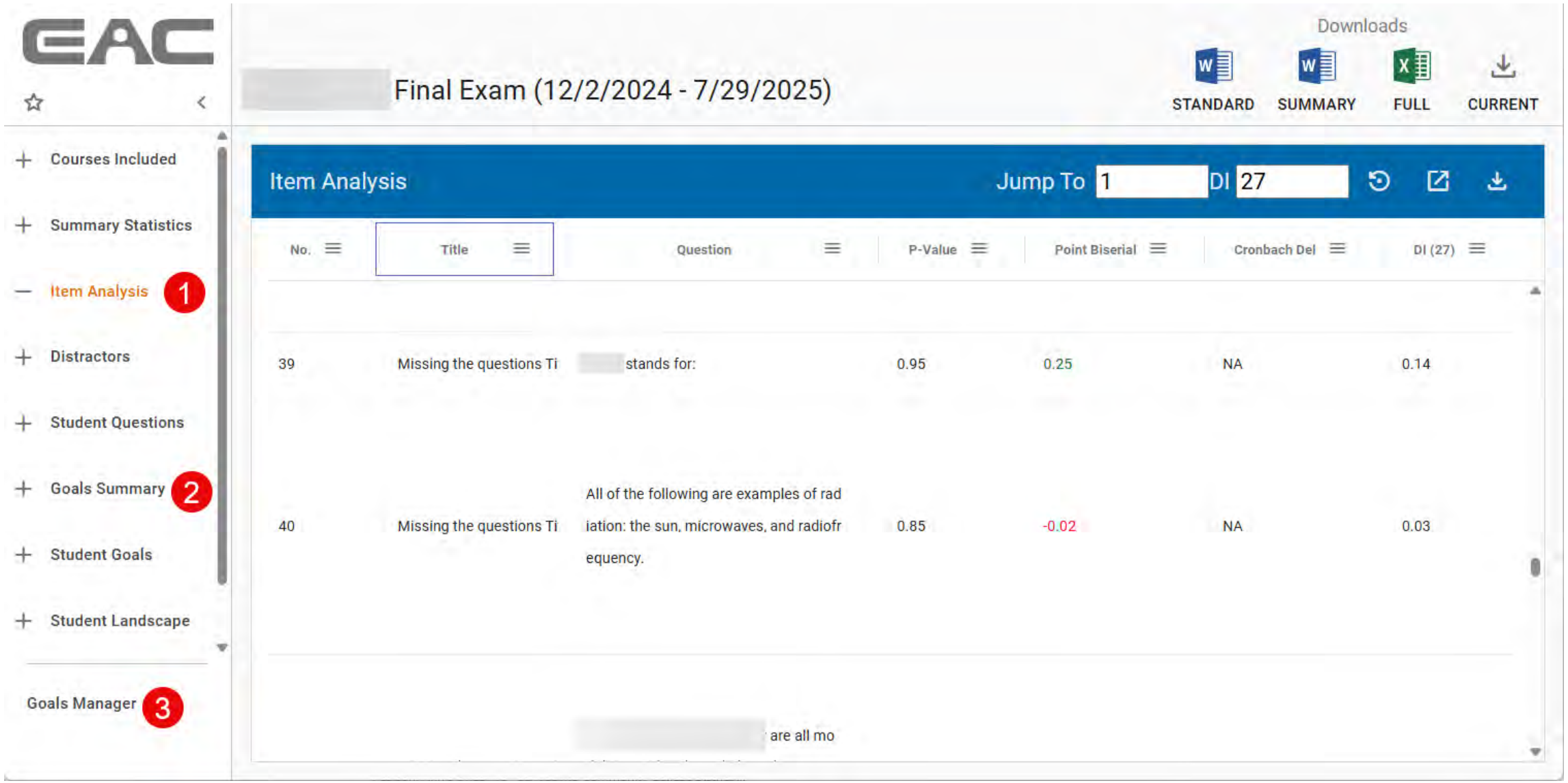
| Plan, Do, Check, Act | |
|---|---|
| Plan: | Include relationship of the plan to selected outcomes.<br>Explain how the plan will be evaluated. |
| Do: | Explain any adjustments to the original Plan and the rationale for those changes.<br>If there were no notable changes, "Plan implemented as described" is sufficient. |
| Check: | Compare the observed results to the original Data reviewed.<br>Evaluate the success of the improvement based on the desired results in Plan. |
| Act: | Discuss potential next steps and implications of observed results.<br>i.e., "What happens next?". |

| Resolution | | | |
|---|---|---|---|
| Nature of Result: | ☐ Positive Result | ☐ Indifferent/Inconclusive Result | ☐ Negative Result |
| Next Steps: | ☐ Do Not Repeat<br>☐ No Further Action | ☐ Additional Iteration<br>☐ Maintain Practice | ☐ Consider for Scale, Program-Specific<br>☐ Consider for Scale, Program-Agnostic |

- *Check* (close the loop) is a much more natural part of the process.
- *Act* includes the nature of the result and next steps, e.g., "Consider for Scale"

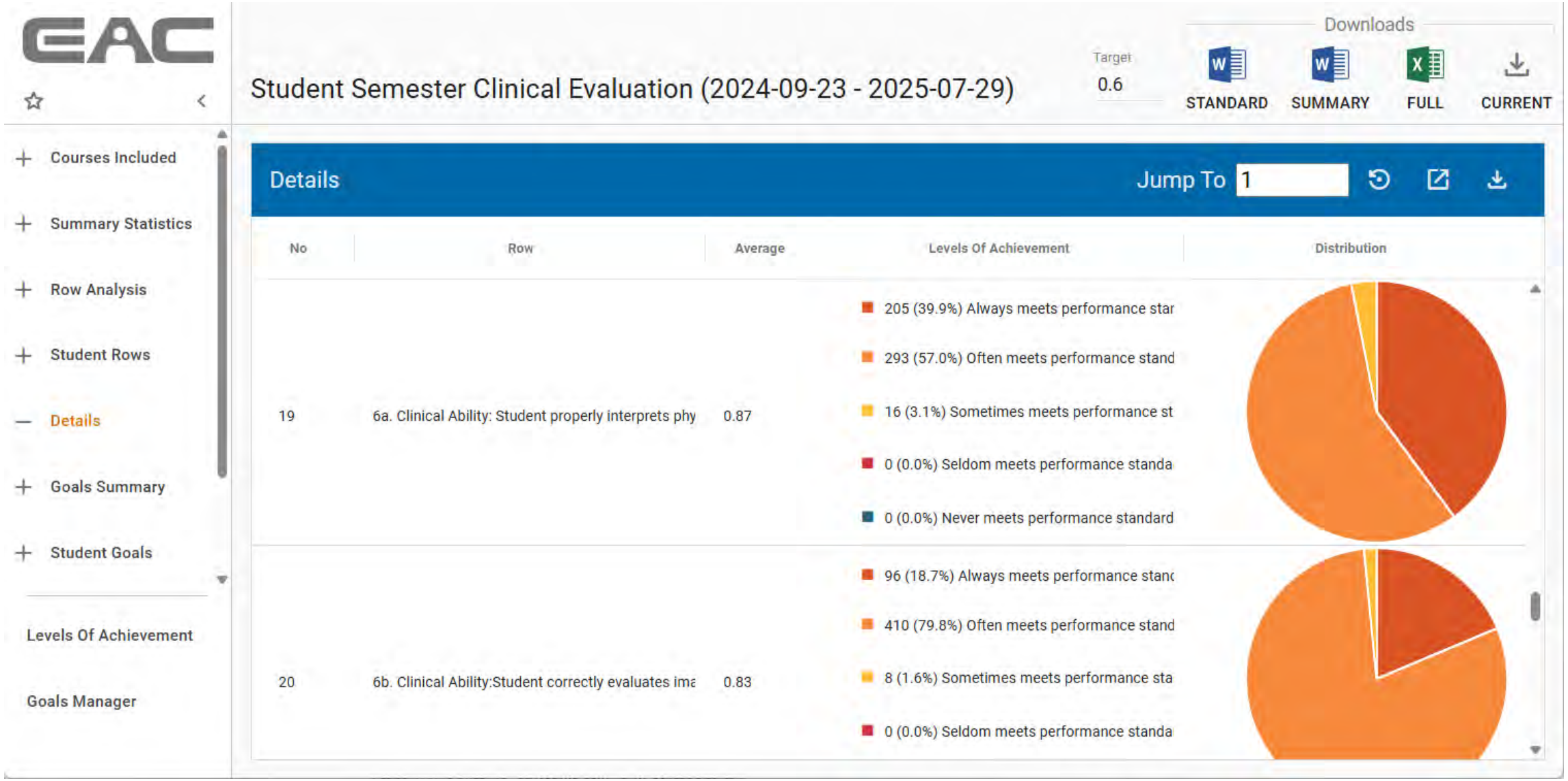
MS

# Test Report, Flexible Scope




MS

# Rubric Report, Flexible Scope




MS

# ImprovE Report: Maximize Knowledge Use

- Alignment to Goals, Priorities, Strategic Metrics, Program Review framework is simplified.
- “Initiatives/Projects” hashtags, e.g., #AIintheClassroom can be included.
- “Referenced Reports” for identifying the “reach” or “impact” of a report is possible.

**Relevant Goals, Priorities, or Measures**
*(Click the links and read College definitions & professional standards for each outcome before alignment)*
*(Only select alignments that are applicable to the extent that this report would be a relevant artifact)*

College Goals:

| | | | |
|---|---|---|---|
| ☐ **B**reak Barriers | ☐ **O**ptimize Systems | ☐ **L**everage Partnerships | ☐ **D**emonstrate Belonging |

Annual Priorities:

| | | | |
|---|---|---|---|
| ☐ B1 Expand Access | ☐ O1 Establish Pathways | ☐ L1 Build Engaged Learning | ☐ D1 Create Welcoming Culture |
| ☐ B2 Connect Support | ☐ O2 Student Success | ☐ L2 Expand Community | ☐ D2 Develop Employees |
| ☐ B3 Grow Financial Aid | ☐ O3 Data-Driven Improve | ☐ L3 Cultivate Prosperity | ☐ D3 Invest in Our People |

Student Success Strategic Measures:

| Entering | Continuing | Completing | Achieving |
|---|---|---|---|
| ☐ Admissions to Enroll Efficiency | ☐ *Pathways Consistency* | ☐ Degrees/Certs Awarded | ☐ Transfer Rate |
| ☐ Headcount (Unduplicated) | ☐ *Pathways Efficiency* | ☐ Degrees/Certs in Critical Fields | ☐ *Transferability* |
| ☐ Financial Aid Un/Met Need | ☐ *Pathways Velocity* | ☐ Graduation Rate: 2yr, 3yr, 4yr | ☐ *Completion After Transfer* |
| ☐ High School Capture Rate | ☐ Student Success (A-C) | ☐ Average Time to Completion | ☐ *Employment Rate* |
| | ☐ Retention Rate | ☐ Semester Credit Hrs to Degree | ☐ *Earnings After Completion* |
| | ☐ Persistence | ☐ Student Loan Default Rate | ☐ Licensure/Cert Rate |
| | | ☐ Average Student Debt | ☐ Favorable Outcomes |

Program Review:

| | | | |
|---|---|---|---|
| ☐ Program Purpose | ☐ Access, Belonging, & Excellence | ☐ Financial Resources | ☐ Technology & Learning Resources |
| ☐ Learning Outcome Success | ☐ HR: Personnel Needs | | |
| ☐ Operational Outcome Success | ☐ HR: Development and Training | ☐ Library Resources (instructional only) | ☐ Facilities and Infrastructure |
| ☐ Assessment (Methodology) | ☐ Communication and Collaboration | | |

☐ Needs Not Met ☐ Nice to Have ☐ Needs Met

Initiatives/Projects:

e.g., Mosaic Program or Open Educational Resources (OER)

**Referenced Report(s)**
*(List any report(s) that was a direct precedent, relevant resource, or important inspiration to this improvement; enter either the report ID(s) or paste in direct report link(s) from ImprovE Insights)*

e.g., 12345678901 or https://improve.sanjac.edu/index.html?uid=12345678901

CMD

# Continuous Improvement Business Intelligence & Knowledge Management

Anthology elevate

CMD


CMD

Simple Text Search:

Search

# ImprovE InsightS



# PROGRAM DIRECTORY



## Academic

- Business AA (1BUSINESS)
- Communications AA (1COMM)
- Computer Science AS (2COSCI)
- Criminal Justice AA (1CRIMJUS)
- Education BAS (BAS-EDU)
- Engineering AS (2ENGINEER)

MS

IT-Web Application Dev AAS (3IT-WBDV)

Instrumentation AAS (3INST)

Instrumentation Tech ESC (EINST)

Maritime Transportation AAS (3MARITIME)

Massage Therapy Cert (4MASG-THRP)

Music-Recording AAS (3MUS-RCRD)

Nondestructive Testing AAS (3INSP-NDT)

Paralegal AAS (3PARA-LGL)

Pipefitting/Fabricator OC (6PIPEFIT)

Plumbing Technology, OC (6PLMB)

Process Tech Chem Techncn ESC (EPROT-CT)

Process Technology AAS (3PROT)

Real Estate AAS (3REAL)

Welding Tech AAS (3WLD)

MS

# ImprovE InsightS

# PROGRAM SUMMARY:

# Natural Science AS (2NATSCI)

## Innovations

- Signature Assignment on Enzymes for BIOL 1306/1106
  David Lang, Katlynn Colquitt, Jose Rivera, Erica Taylor, Anton Solovyov, and Desiree Wilson
- Natural Science Program Outcome Assessment – 2022-2023 Data
  Department Chairs Connie Gomez, Sharon Nelson, Lambrini Nicopoulos, Tyler Olivier, (PI) Faculty - Developed Or Review Questions In 2023 Paul Barron, (C) JohnFranklin Dzuryak (GP) Festus Fajuyigbe, (GP) Paul Goains, (N) Cecily Haley, (S) Bennie Jenkins, (N) Danielle McGrath, (GP) Tyler Olivier, (GP) Malcolm Sadler, (C) Faculty – Assessed Program Outcomes In This Study Chris Allen, (GP) Paul Barron, (C) Rama Damarwinasis, (S) Usha Devathosh, (GP) Ngoc Du, (C) JohnFranklin Dzuryak (GP) Jennifer Gernand, (S) Paul Goains

## Exemplars

- Improvement to the Physics I Free Fall Lab
  Andrew Whitley
- Implementation of Class Scribe in Online Course to Improve Note-Taking Skills
  Natandra Gradney
- Collaborative Grading for Instant Feedback from Instructors to Students
  Festus Fajuyigbe
- Improve students understanding of A&P (BIOL2301) concepts.
  Archana Kumar
- Free Fall Lab Experiment to Increase Student

MS

2. Communicate scientific principles, experiments, or investigations in written, oral and/or visual formats. (NATSCI-2NATSCI-PLO-02-00) **12 weeks**

Completed:

- [Signature Assignment on Enzymes for BIOL 1306/1106]
  David Lang, Katlynn Colquitt, Jose Rivera, Erica Taylor, Anton Solovyov, and Desiree Wilson
- [Natural Science Program Outcome Assessment – 2022-2023 Data]
  Department Chairs Connie Gomez, Sharon Nelson, Lambrini Nicopoulos, Tyler Olivier, (PI) Faculty - Developed Or Review Questions In 2023 Paul Barron, (C) JohnFranklin Dzuryak (GP) Festus Fajuyigbe, (GP) Paul Goains, (N) Cecily Haley, (S) Bennie Jenkins, (N) Danielle McGrath, (GP) Tyler Olivier, (GP) Malcolm Sadler, (C) Faculty – Assessed Program Outcomes In This Study Chris Allen, (GP) Paul Barron, (C) Rama Damarwinasis, (S) Usha Devathosh, (GP) Ngoc Du, (C) JohnFranklin Dzuryak (GP) Jennifer Gernand, (S) Paul Goains, (N) Bennie Jenkins, (N) Jennifer Ludlow, (C) Lewis Moore, (GP) Kristy Mueck, (GP) Sheema Nasir, (S) Robert Nieto, (GP) Jean Nono, (S) Jose Nunez, (S) Tyler Olivier, (GP) Valerie Santillan, (S) Faryal Shaukat, (S) Rodrigo Vinluan, and (C)
- [Flexible deadlines and equitable grading in science lab classes; skill assessments]
  Liana Boop and Doug John

MS

ImprovE InsightS

# REPORT DETAILS

## Teaching with an "Exploded View" of a Programmable Logic Controller

Jonathan.Whitlock | Joseph.Zwiercan

**Executive Summary:**
Students were struggling with a critical plant operation. They were unable to explain what happened in the system . We purchase d the component parts necessary to construct an "exploded view" of a PLC . Students were better able to complete the assignment going from a 5% success rate to a 100% success rate.

**Filename:** EINST_IP_MAY2024_ExplodedViewOfPLC.docx

| **Progress Status:** | **End Date:** | **Last Activity:** |
|---|---|---|
| Completed | 5/10/2024 | 04/15/2025 |

**Resolution:** Positive Result -- Consider for Scale, Program-Specific -- Maintain Practice -- Consider for Scale, Program-Agnostic

## Relevant Goals, Priorities, or Measures

**Annual Priorities:**
Career and Workforce Pathways

**College Goals:**
Student Success

**Program Review:**
Learning Outcome Success

**QEP Outcomes:**
None

**Student Success Strategic Measures:**
None

MS

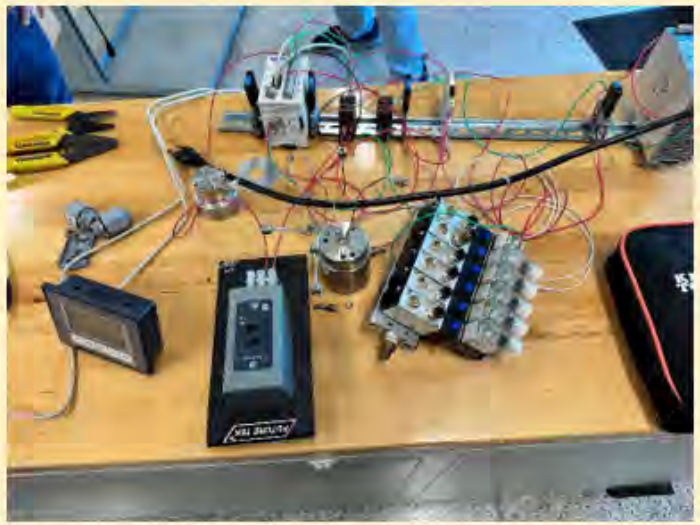
| | |
|---|---|
| t: | Instrumentation |
| g ployees: | Jonathan.Whitlock@sjcd.edu \| Joseph.Zwiercan@sjcd.edu |
| | Individual Report — Relevant Campus(es): ☒C ☐N ☐S ☐G ☐M ☐D |
| ummary | Students were struggling with a critical plant operation. They were unable to explain what happened in the system. We purchased the component parts necessary to construct an "exploded view" of a PLC. Students were better able to complete the assignment going from a 5% success rate to a 100% success rate. |

| | |
|---|---|
| | 1/15/2024 |
| pprox.): | 5/10/2024 |
| atus: | Completed |

| | |
|---|---|
| wed: | The students were working on the Continuous Emissions Monitoring System (CEMS). EPA regulates this at the plants, and this is of release of parts per billion (PPB) to the atmosphere. Plants must remain in compliance and not exceed the permitted value. This can result in fines &/or imprisonment. This is very critical to plant operations. Students were not grasping this concept. Working with them in the instrumentation lab, they were asked to make changes at a PLC panel and explain what happened in the system as a result. From my observations, all of the students were having difficultly explaining the inner workings of the PLC/ device/analyzer. They didn't comprehend how the readings were being gathered and recorded. More than 90% of the students struggled with the assignment. |


| | |
|---|---|
| QEP Outcomes: *(for instructional only)* | ☐ Explanation of Issues ☐ Influence of Context and Assumptions ☐ Conclusions ☐ Evidence ☐ Perspectives and Complexities of Issues |

| **Plan, Do, Check, Act** | |
|---|---|
| Plan: | The plan is to purchase the component parts necessary to construct an "exploded view" of a PLC. Students will engage program the system and then observe the effect of the programming on each component part. The intent is for students to more closely and more easily observe each component of the system. |
| Do: | Plan implemented as described. I did discover during the process that one component had not been included very explicitly in the course. The explanation and student experience with the mod bus component greatly improved their understanding of the system. |
| Check: | After implementing this instructional change, we repeated the original assignment. The number of students successfully explaining the changes in the system produced by changes at the panel increased from 5% to 100%. |
| Act: | Students will build this on a smaller scale as this was a light bulb moment for them. Content regarding the mod bus is being (or has been) added to all other relevant courses. This improvement to instruction will be maintained as part of the course in the future. |



MS

| **Resolution** | | | |
|---|---|---|---|
| Nature of Result: | ☒ Positive Result | ☐ Indifferent/Inconclusive Result | ☐ Negative Result |
| Next Steps: | ☐ Do Not Repeat | ☐ Additional Iteration | ☒ Consider for Scale, Program-Specific |
| | ☐ No Further Action | ☒ Maintain Practice | ☒ Consider for Scale, Program-Agnostic |

**Relevant Goals, Priorities, or Measures**

# EAC Visual Data –
# Natural Science, College-wide Analysis

- Collaborative report leveraged EAC to analyze exam data across multiple sections of six courses (2 BIOL, 2 CHEM, GEOL, PHYS)
- 20+ faculty and all department chairs engaged

Simple Text Search:

Search

# ImprovE InsightS



# EXEMPLARS GALLERY

## Exemplar: Full Report

- Assessing empirical and quantitative reasoning in Psychology
  Kelly Barnes
- Utilizing Cloud-Based Solutions to Streamline Travel Expenditure Reporting
  Andrea Dubois, Matthew Pinney, Amberly Dalton, and Nicole Lenderman
- Explaining Peer Review: An Interactive Approach
  Gregory Buchanan
- Personal Responsibility through Proper Planning
  Penny Oneal
- Using A.I. to Address Audience and Purpose
  Penny Oneal

## Exemplar: Data Reviewed

- Efficacy of Flexible and Adaptive Learning within MATH 0342 Online Anytime
  Kelley Bennett
- PTA Utilization of Mock Therapy In-Service
  Susan Hinson and Mina Cauthen
- Intentional instructional and learning activity on the nursing judgement NLN category
  Kerri Hines and Monica Taylor
- Intentional instructional and learning activity on the Safety and Infection Control NCSBN category.
  Kerri Hines and Monica Taylor
- Intentional instructional and learning activity on the

MS

Simple Text Search:

Search

ImprovE InsightS



Go to Support Services Innovations

# INSTRUCTIONAL INNOVATIONS INVENTORY

## Program-Agnostic Instructional Innovations

- Enhance content retention and engagement with in-class games
  Nada Alnounou
- Integrating AI in Engineering Education for Enhanced Student Learning & Skill Development
  Orlando Taylor
- Improve General Knowledge in History
  Paul McRee

## Program-Agnostic General Education Innovations

SJCGE-01-COM: Communication Skills

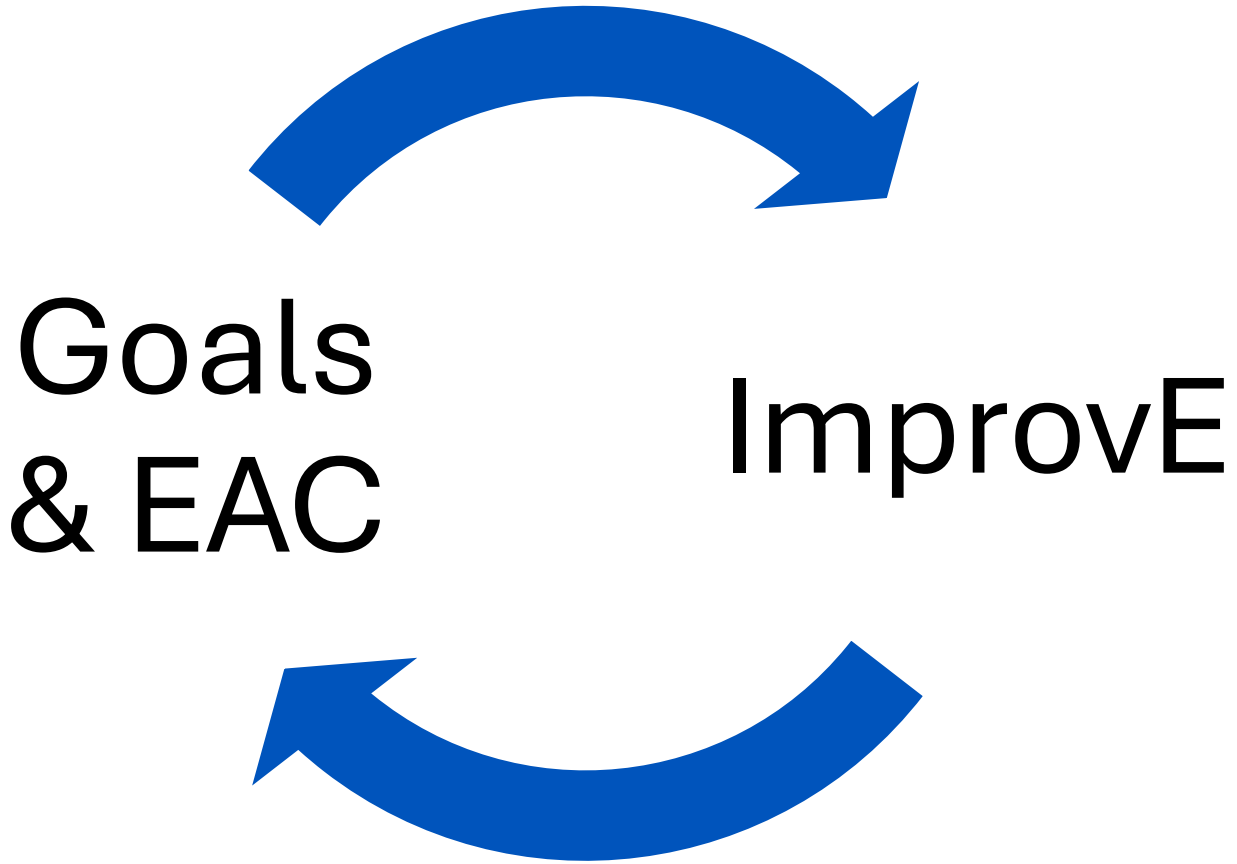
- Enhance content retention and engagement with in-class games
  Nada Alnounou

SJCGE-02-CT: Critical Thinking Skills

- Archival Literacy among Freshman in History

MS

# Synergy



# Accreditation takes a backseat . . .

# ImprovE alignment to Accreditation Principles

| ImprovE Report | SACSCOC 8.2.a |
|---|---|
| Program Outcomes addressed by the report. | **(a)** Identifies expected outcomes |
| Data. What data did you review that prompted this improvement? | **(b)** Assesses extent to which it achieves outcomes |
| Plan. What do you plan to do, and how does the plan address the challenge highlighted by the data? | **(c)** Seeks improvement based on analysis of the results |
| Do. What did you actually do? Describe any changes or adjustments to the original plan. | **(c)** Seeks improvement based on analysis of the results |
| Check. What results were observed after implementation? What conclusions may be drawn? | **(b)** Assesses extent to which it achieves outcomes |
| Act. What are the next steps? What are the implications of the results of your plan? | **(c)** Seeks improvement based on analysis of the results |

CMD

# Natural Science Associate of Science (2NATSCI)

## Identifies expected outcomes

In addition to the program learning outcomes listed in this section, each individual Improve Report included in "Provides evidence of seeking improvement..." section below explicitly identifies, where relevant and appropriate, the specific program learning outcome addressed by the analysis and improvement.

### Program Learning Outcomes

1. Collect, organize, and evaluate relevant data from credible sources to draw logical conclusions. (NATSCI-2NATSCI-PLO-01-00)
2. Communicate scientific principles, experiments, or investigations in written, oral and/or visual formats. (NATSCI-2NATSCI-PLO-02-00)
3. Utilize quantitative and empirical skills to analyze and explain natural science phenomena. (NATSCI-2NATSCI-PLO-03-00)
4. Interdependently consider scientific evidence and points of view to achieve a shared goal. (NATSCI-2NATSCI-PLO-04-00)
5. Develop investigative skills based on scientific evidence to make ethical decisions. (NATSCI-2NATSCI-PLO-05-00)
6. Apply scientific reasoning and principles to real world situations to make informed decisions. (NATSCI-2NATSCI-PLO-06-00)

# Assesses student attainment of the learning outcomes

1. Improve Reports (see the "Provides evidence of seeking improvement..." section below) include assessment data at two points of the improvement process. The *Data Reviewed* section of the report describes the data that prompted the need for and planning of the improvement sought which is sufficient to document compliance with 8.2.a. In addition however, once the implementation of the improvement is completed, the *Check* section of the report includes data and observations regarding the results of the improvement which may inform future improvements and/or potential application of the improvement to other programs.
2. In addition to assessment data collected directly by faculty, the College facilitates institutional assessment processes and data collection that provide supplemental data sources. These **may** include (a) results of an institutional juried assessment of general education outcomes which are part of every associate and bachelor's degree program and (b) prior to a program's transition to EAC in Blackboard, college-wide program outcomes assessment guides.

This program of study performs program assessment using EAC in Blackboard for which program-wide reporting is completed by faculty or instructional leaders and incorporated directly into ImprovE Reports. That provides more real-time assessment data than the legacy system that produced the "Program Outcomes Assessment Guides."

- General Education Report Written Communication
- General Education Report Critical Thinking
- General Education Report Empirical and Quantitative Reasoning
- General Education Report Social Responsibility

CMD

# Provides evidence of seeking improvement based on analysis of the results

1. Improve Reports (below) include evidence of seeking improvement at 2-3 points during the improvement process. The *Plan* section of the report identifies the original plan of the improvement sought which is sufficient to document compliance with 8.2.a. In addition however, additional evidence of seeking improvement may be documented (a) in the *Do* section if changes to the plan are made during implementation and (b) in the *Act* section which describes the future implications of the improvement.
2. In addition to the program specific ImprovE Reports listed below, all Improve Reports focused on the general education outcomes are documented in the General Studies Associate of Arts (AA, 1G-STUDY) program summary; each of those has potential relevance to all instructional programs given the inclusion of general education outcomes in each program.

- Plan to improve scores in Equation Writing and Nomenclature
- Leveling up algebra skills needed in chemistry courses
- Instruction of SI (International System) Unit Prefixes
- Pre-Lecture Quizzes PHYSICS
- Use of animated PowerPoints as a substitute for lectures for online anytime physics courses.
- Proposal to Improve Students' Interpretation of Anatomy and Physiology Textbook Images
- Improve student success on critical thinking in the biology department BIOL1306
- Using Prelabs to Increase Equity and Student Success in Microbiology Lab (BIOL 2120)
- Adjustment of Exam Reviews in PHYS 1301
- Using an Exemplar and Think-Pair-Share Activity to Increase Critical Thinking Skills in BIOL 2120

CMD

- Increase study guide participation
- Use of Discussion Board on Vaccines to assess ethical and informed decisions.
- BIOL 2301 5 Unit Lecture Plan
- Improvement of Student-Professor Meetings (early semester) in PHYS
- Collaborative Review Guides Enhance Student Success, Teamwork, and Communication
- Cells to Singularity
- Collaborate with Jennifer Gernand to use her course notebook, activities and HW for 1306
- Implementation of Class Scribe in Online Course to Improve Note-Taking Skills
- Collaborative Grading for Instant Feedback from Instructors to Students
- BIOL 1306 Chapter Outline/Activities/Review Packet
- STEM Student Volunteering at STEM Expos
- Covering the Basics to Increase Equity in Microbiology (BIOL 2320)
- Effectiveness of added Interactive Instructor Led Blackboard (Bb) Collaborate Histology Sessions or Anatomy and Physiology Revealed (APR) Graded Activities versus only Pre-recorded Histology sessions in Anatomy and Physiology Histology Lab
- Natural Science Program Outcome Assessment – 2022-2023 Data
- Empirical Formulas
- Dynamic Lab Schedule
- Question Formulation Technique (QFT) Implementation

CMD

# Questions?

# ImprovE Team

Dr. Chris.Duke@sjcd.edu

Associate Vice Chancellor

Dr. Rashmi.Chhetri@sjcd.edu

Dr. Michelle.Selk@sjcd.edu

Ms. Kennedy.Washington@sjcd.edu

Managers, Program Effectiveness

# RATE THIS SESSION

Don’t forget to rate the session in the app.

Anthology

# elevate