Measurement of Learning Outcomes Achievement :

CLA+ & Credentialate

Doris Zahner, PhD
Margo Griffith
INQAAHE| June 3, 2021

Introductions & Agenda

- Provide an introduction of yourself
  - Name, role, organization
- Complete the polling questions
- Learn about performance-based assessments, how to use them to measure generic skills, and preview results from our international database
- Complete the polling questions
- Participate in a discussion session
- Coffee Break
- Learn about personalized evidence and micro-credentialing
- Complete the polling questions
- Participate in discuss session
- Participate in a Q&A session

Introductions & Group Poll

Provide an introduction of yourself

- Name, role, organization

Polling questions

- How valuable does your organization/institution think generic skills are?

- What assessment are you currently using or recommending (if any) to measure students' generic skills as part of quality assurance?

Authentic Assessments Through Performance Tasks

About Council for Aid to Education (CAE)

Experts in Performance – Based Assessment

A nonprofit organization on a mission to improve student outcomes, CAE develops performance -based and custom assessments that authentically measure students' essential higher education and career readiness skills and identify opportunities for student growth.

CAE's Collegiate Learning Assessment (CLA+) for higher education evaluates the skills educational institutions and employers demand most: critical thinking, problem solving, and effective written communication.

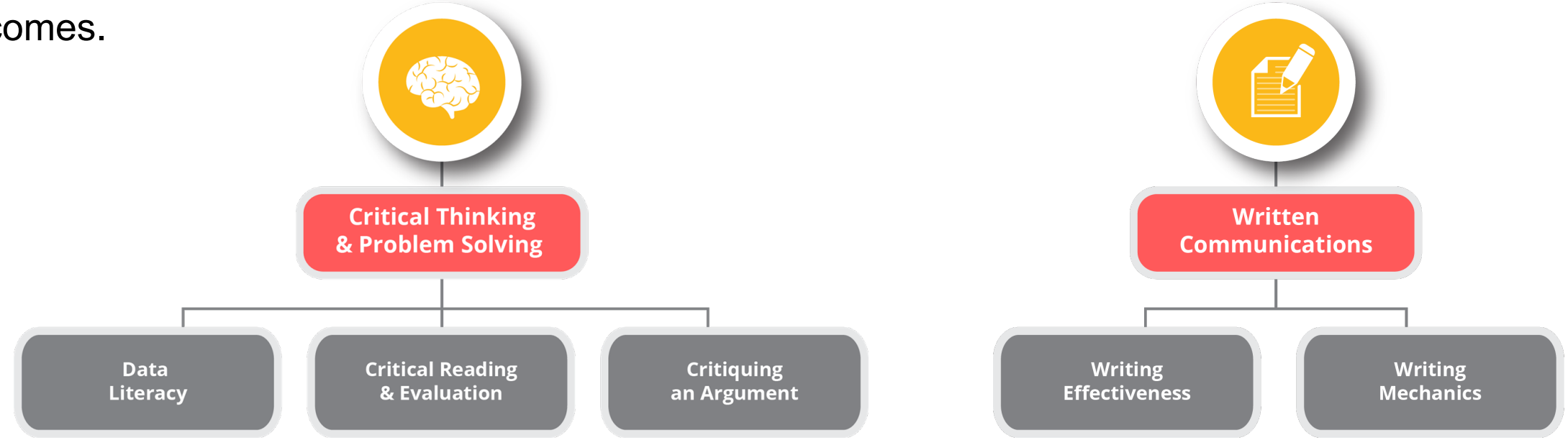
CAE also partners with its clients to design innovative performance assessments that measure the constructs vital to students, educators, and institutions, including subject area and grade specific assessments.

Assessing Higher Education and Career Readiness Since 2002

Content knowledge is no longer sufficient for higher education and career success.

CLA+ authentically measures students' essential higher education and career readiness skills, providing valid and reliable insights into students' preparedness for their next step.

CAE's research shows that these skills are predictive of positive higher education and career outcomes.



Authentic Assessments Through Performance Tasks

CLA+ diagnoses student strengths and opportunities for improvement, providing **reliable insights** to students, educators, and institutions **to increase future success** by:

- Situating students in scenarios that mimic **real-world**, complex decision environments
- Requiring students to **analyze and synthesize** data and information, address important issues, propose solutions, and recommend courses of action to resolve conflicts
- Instructing students to **support their responses** by utilizing information provided within the assessment, such as technical reports, data tables, newspaper articles, office memoranda, and emails
- Allowing for **more than one single "correct" answer** with scores that reflect a range of plausible and effective response strategies
- Evaluating students against CAE's **norm and criterion-referenced** standards

Essential Skills Can Help Improve Student Outcomes

Readiness

CAE's data show that **60%** of students entering higher education are **not proficient** in these skills and **44%** are still **not proficient** when they graduate.

Higher Education Success

Students who lack essential higher education and career skills of critical thinking, problem solving, and effective written communication are the ones **at risk** for not completing higher education (Venezia et al., 2005)

Career Success

While content knowledge is a requisite part of a student's education, it alone is **insufficient** for a student to thrive academically and professionally (Capital, 2016; National Association of College and Employers, 2018; Rios et al., 2020)

1

*Entering students who perform better on our assessment are more likely to have **higher cumulative GPAs** at the end of their senior year when compared with traditional higher education entrance assessments (Zahner, et al., 2012).*

2

*Students who perform better on our higher education assessment are more likely to have **positive post-university outcomes** as measured by employment, salary, and graduate school enrollment (Zahner & James, 2016).*

3

*Students who perform better on our higher education assessment are more likely to have **higher evaluations** from their managers and advisors (Zahner & Lehrfeld, 2018).*

Supporting Students and Institutions Around the Globe

Over 800,000 students at 1,300+ institutions have completed one of our performance-based assessments. Leading foundation have supported our research.

PARCC
Ministry of Education and Culture
Universidad de Guadalajara
OECD Better Policies for Better Lives
AHELO Assessment of Higher Education Learning Outcomes
Bill & Melinda Gates Foundation
Ford Foundation
Lumina Foundation
Birmingham City University
United States Army Cadet Command
NYC Department of Education
New Meridian
Virginia Beach City Public Schools Charting the Course
William + Flora Hewlett Foundation
RAND Corporation
دائرة التعليم والمعرفة Department of Education and Knowledge
Smarter Balanced Assessment Consortium smarterbalanced.org
Illinois Assessment of Readiness
The California State University
CUNY The City University of New York
CORE
W.K. Kellogg Foundation
UT Dallas
anvur
Universidad Andrés Bello
Wake County Public School System
Carnegie Corporation of New York
Alfred P. Sloan Foundation

Real World Scenario

1 of 13 00:12

Scenario

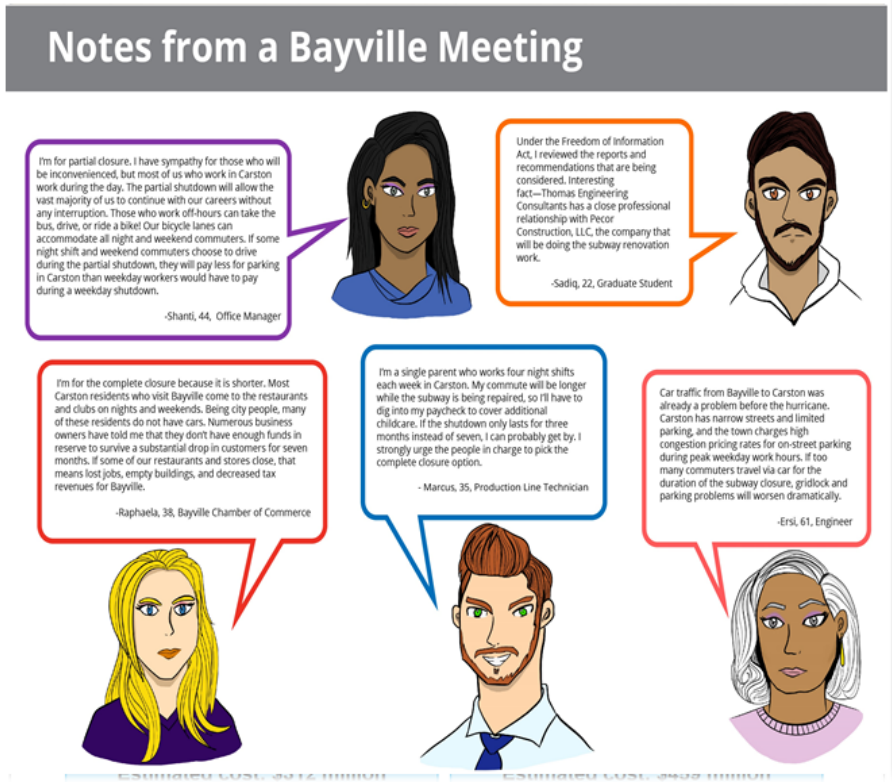
The Blue Line is the primary mode of transportation used by the many Bayville residents who commute to Carston for work. Carston residents, on the other hand, regularly use the Blue Line to shop and spend leisure time in Bayville. Many Bayville residents rely on visitors from Carston for their livelihoods.

Document-Based

7 of 13 01:10

Document Library

Document 4: Notes from a Bayville Meeting about the Proposed Shutdown



Item 1

Categorize the following pieces of information in terms of whether they are provided / not provided and relevant / not relevant.

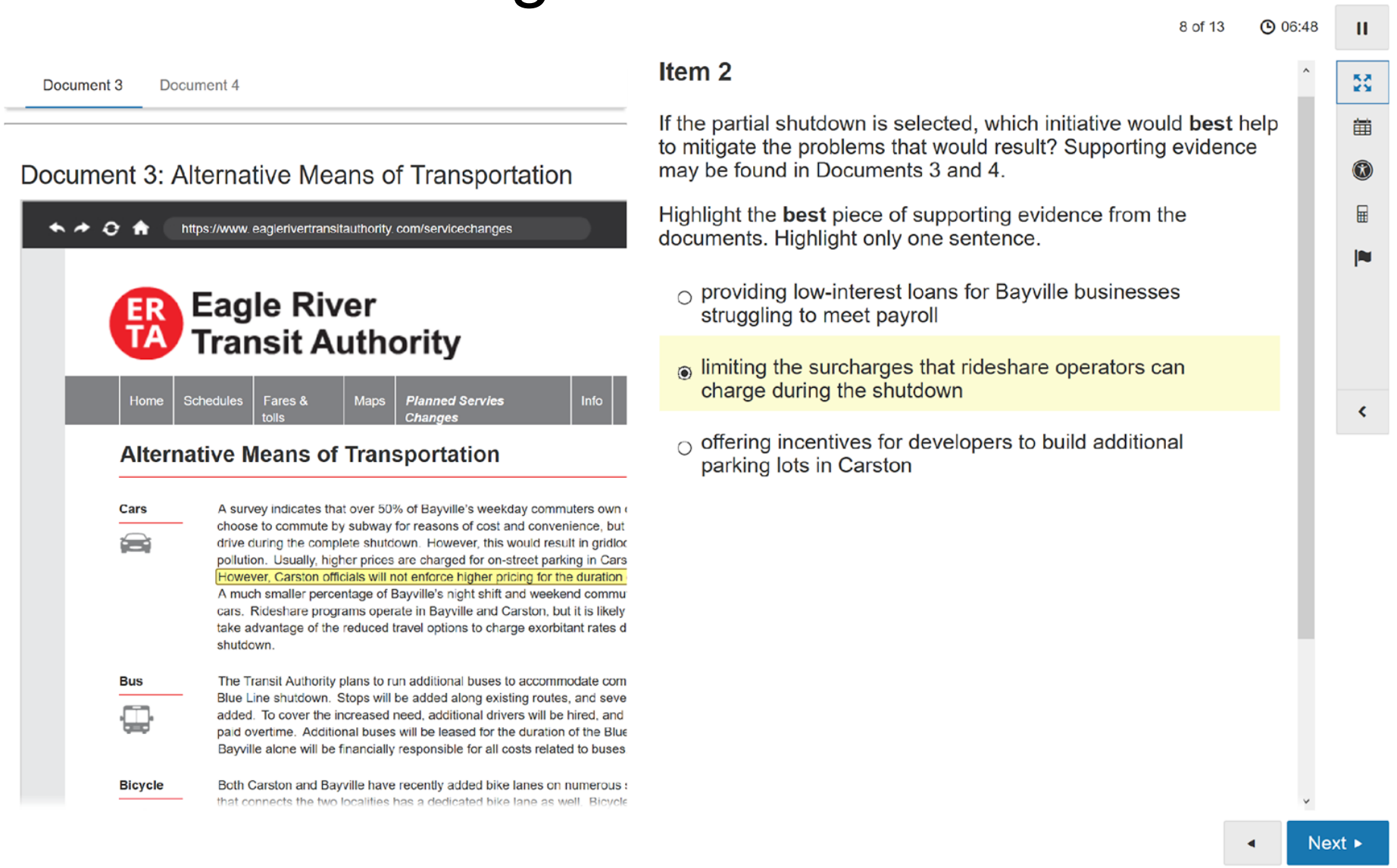
	Relevant	Not Relevant
Provided	Scientists' predictions about the likelihood of future flooding of the Eagle River	
Not Provided		A breakdown of the days and times when Carston residents travel to Bayville

The total amount of parking available in Carston

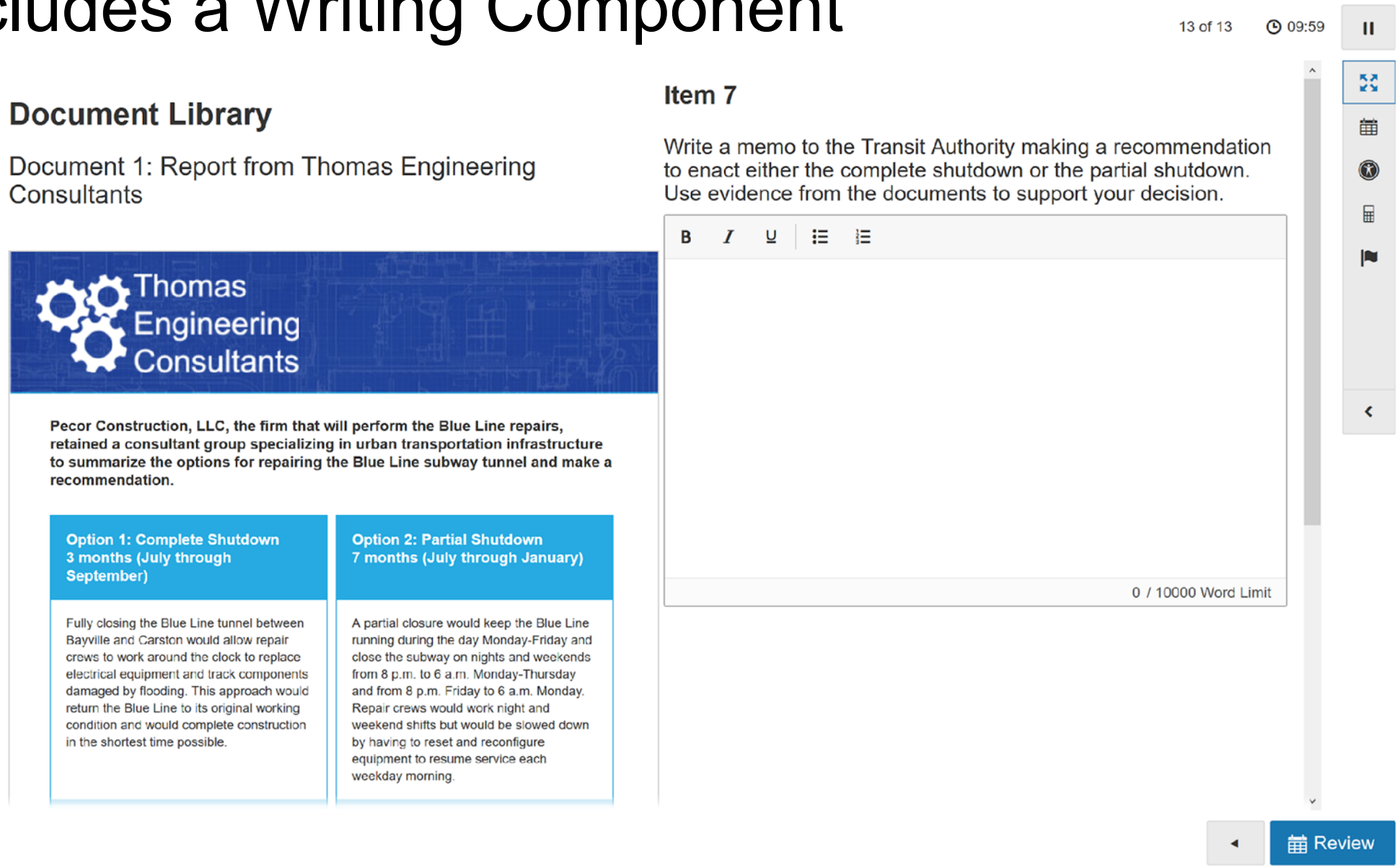
The number of passengers that can be accommodated by the increased bus service

◂ Next ▸

Provides Scaffolding

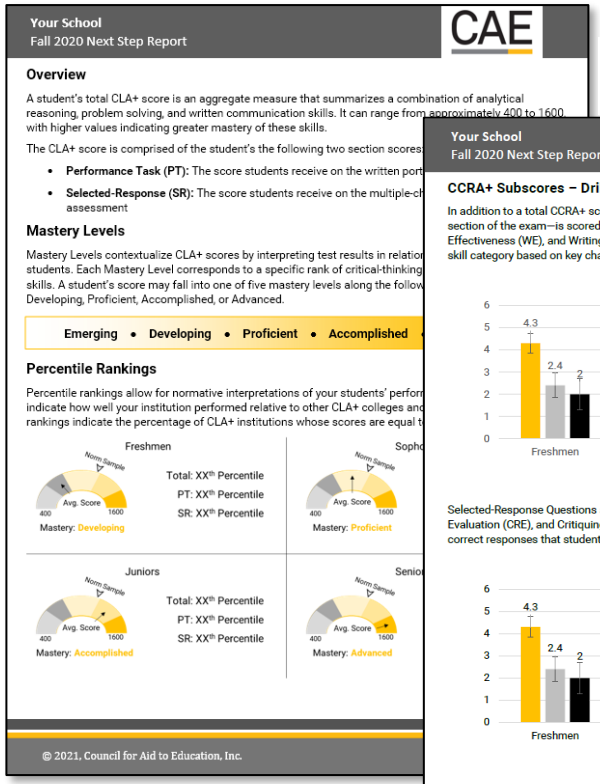


Includes a Writing Component



Providing Observations and Insights on Student Learning Gains

Mastery Levels


Your School
Fall 2020 Next Step Report

CAE

Overview

A student's total CLA+ score is an aggregate measure that summarizes a combination of analytical reasoning, problem solving, and written communication skills. It can range from approximately 400 to 1600, with higher values indicating greater mastery of these skills.

The CLA+ score is comprised of the student's the following two section scores:

- **Performance Task (PT):** The score students receive on the written port
- **Selected-Response (SR):** The score students receive on the multiple-ch assessment

Mastery Levels

Mastery Levels contextualize CLA+ scores by interpreting test results in relation students. Each Mastery Level corresponds to a specific rank of critical-thinking skills. A student's score may fall into one of five mastery levels along the follow Developing, Proficient, Accomplished, or Advanced.

Emerging • Developing • Proficient • Accomplished

Percentile Rankings

Percentile rankings allow for normative interpretations of your students' perfor indicate how well your institution performed relative to other CLA+ colleges and rankings indicate the percentage of CLA+ institutions whose scores are equal t

Freshmen

Total: XXth Percentile
PT: XXth Percentile
SR: XXth Percentile

Mastery: Developing

Sopho

Mastery: Proficient

Juniors

Total: XXth Percentile
PT: XXth Percentile
SR: XXth Percentile

Mastery: Accomplished

Senio

Mastery: Advanced

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Sub-scores

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CCRA+ Subscores – Drill Down

In addition to a total CCRA+ score, there are six sub scores. The Performance Task—the essay-based section of the exam—is scored in three skill areas: Analysis and Problem Solving (APS), Writing Effectiveness (WE), and Writing Mechanics (WM). Students receive criterion-referenced subscores for each skill category based on key characteristics of their written responses.

Average PT Subscores, by Class

Selected-Response Questions are also scored in three skill areas: Data Li Evaluation (CRE), and Critiquing an Argument (CA). These subscores are correct responses that students provide.

Average SR Subscores, by Class

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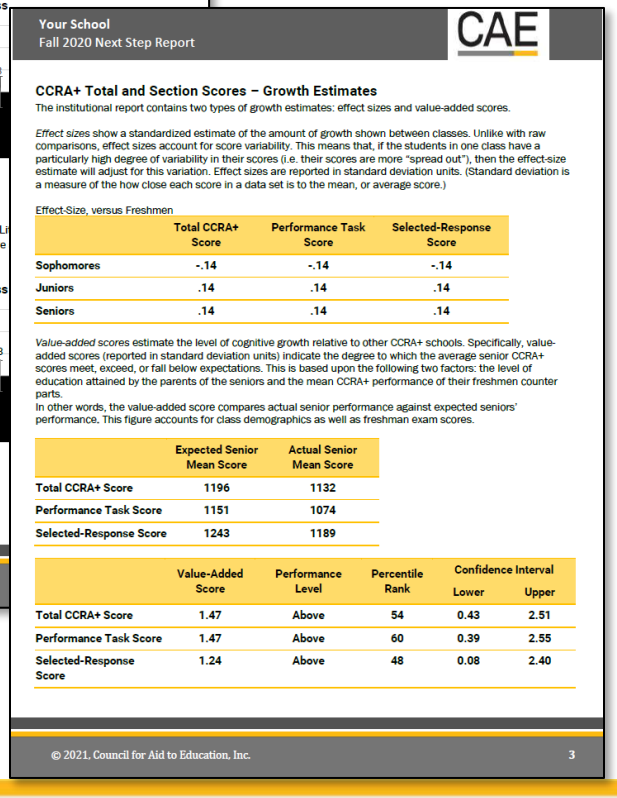
Learning Gains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CCRA+ Total and Section Scores – Growth Estimates

The institutional report contains two types of growth estimates: effect sizes and value-added scores.

Effect sizes show a standardized estimate of the amount of growth shown between classes. Unlike with raw comparisons, effect sizes account for score variability. This means that, if the students in one class have a particularly high degree of variability in their scores (i.e. their scores are more "spread out"), then the effect-size estimate will adjust for this variation. Effect sizes are reported in standard deviation units. (Standard deviation is a measure of the how close each score in a data set is to the mean, or average score.)

Effect-Size, versus Freshmen

	Total CCRA+ Score	Performance Task Score	Selected-Response Score
Sophomores	-.14	-.14	-.14
Juniors	.14	.14	.14
Seniors	.14	.14	.14

Value-added scores estimate the level of cognitive growth relative to other CCRA+ schools. Specifically, value-added scores (reported in standard deviation units) indicate the degree to which the average senior CCRA+ scores meet, exceed, or fall below expectations. This is based upon the following two factors: the level of education attained by the parents of the seniors and the mean CCRA+ performance of their freshmen counter parts.
In other words, the value-added score compares actual senior performance against expected seniors' performance. This figure accounts for class demographics as well as freshman exam scores.

	Expected Senior Mean Score	Actual Senior Mean Score
Total CCRA+ Score	1196	1132
Performance Task Score	1151	1074
Selected-Response Score	1243	1189

	Value-Added Score	Performance Level	Percentile Rank	Confidence Interval Lower	Confidence Interval Upper
Total CCRA+ Score	1.47	Above	54	0.43	2.51
Performance Task Score	1.47	Above	60	0.39	2.55
Selected-Response Score	1.24	Above	48	0.08	2.40

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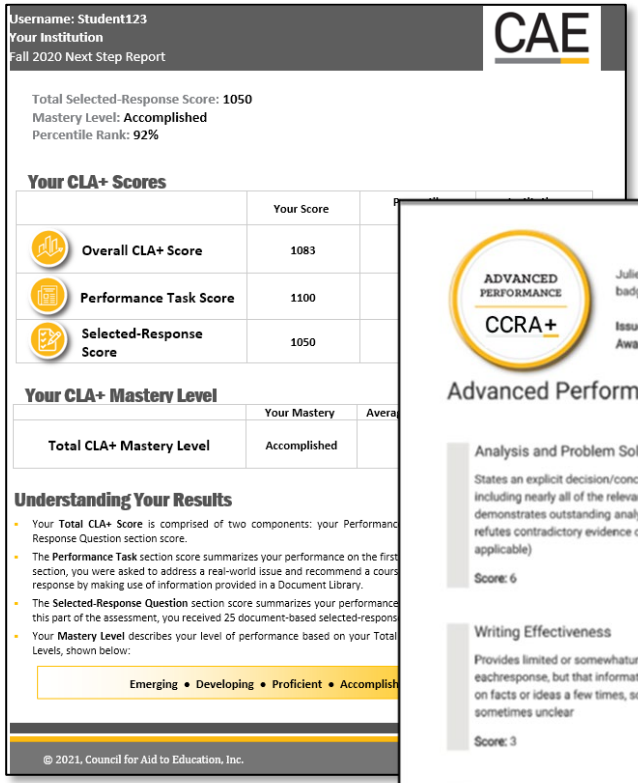
Student Diagnostic


Username: Student123
Your Institution
Fall 2020 Next Step Report

CAE

Total Selected-Response Score: 1050
Mastery Level: Accomplished
Percentile Rank: 92%

Your CLA+ Scores

	Your Score
Overall CLA+ Score	1083
Performance Task Score	1100
Selected-Response Score	1050

Your CLA+ Mastery Level

	Your Mastery
Total CLA+ Mastery Level	Accomplished

Understanding Your Results

- Your **Total CLA+ Score** is comprised of two components: your Performanc Response Question section score.
- The **Performance Task** section score summarizes your performance on the first section, you were asked to address a real-world issue and recommend a cours response by making use of information provided in a Document Library.
- The **Selected-Response Question** section score summarizes your performance this part of the assessment, you received 25 document-based selected-respons
- Your **Mastery Level** describes your level of performance based on your Total Levels, shown below:

Emerging • Developing • Proficient • Accomplish

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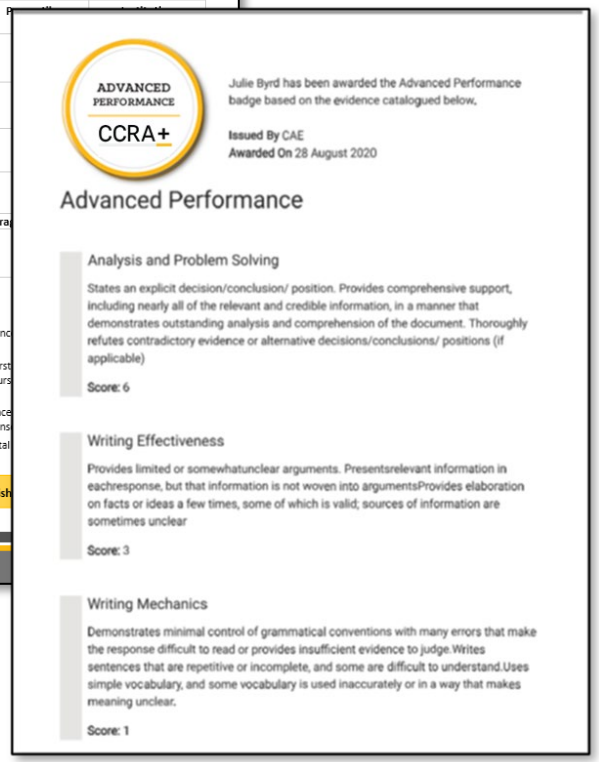
Micro - credential


ADVANCED PERFORMANCE
CCRA+

Julie Byrd has been awarded the Advanced Performance badge based on the evidence catalogued below.

Issued By CAE
Awarded On 28 August 2020

Advanced Performance

Analysis and Problem Solving

States an explicit decision/conclusion/ position. Provides comprehensive support, including nearly all of the relevant and credible information, in a manner that demonstrates outstanding analysis and comprehension of the document. Thoroughly refutes contradictory evidence or alternative decisions/conclusions/ positions (if applicable)

Score: 6

Writing Effectiveness

Provides limited or somewhatunclear arguments. Presentsrelevant information in eachresponse, but that information is not woven into argumentsProvides elaboration on facts or ideas a few times, some of which is valid; sources of information are sometimes unclear

Score: 3

Writing Mechanics

Demonstrates minimal control of grammatical conventions with many errors that make the response difficult to read or provides insufficient evidence to judge.Writes sentences that are repetitive or incomplete, and some are difficult to understand.Uses simple vocabulary, and some vocabulary is used inaccurately or in a way that makes meaning unclear.

Score: 1

CLA+ International Sample

CLA+ International Sample By Country

Table 1: Sample by country and student cohort

Country	Entering	Exiting	Total
Chile	2,387	568	**2,955**
Finland	1,469	831	**2,300**
Italy	0	6,589	**6,589**
Mexico	3,896	1,445	**5,341**
United Kingdom	2,086	155	**2,241**
United States	50,809	47,431	**98,240**
Total	**60,647**	**57,019**	**117,666**

CLA+ International Sample
CLA+ Total and Subscores

Table 2: Average total CLA+ scores and section scores, by cohort			
	Total CLA+ score	PT Score	SRQ Score
Entering	1084	1094	1074
	(135)	(162)	(168)
Exiting	1098	1108	1089
	(135)	(161)	(170)

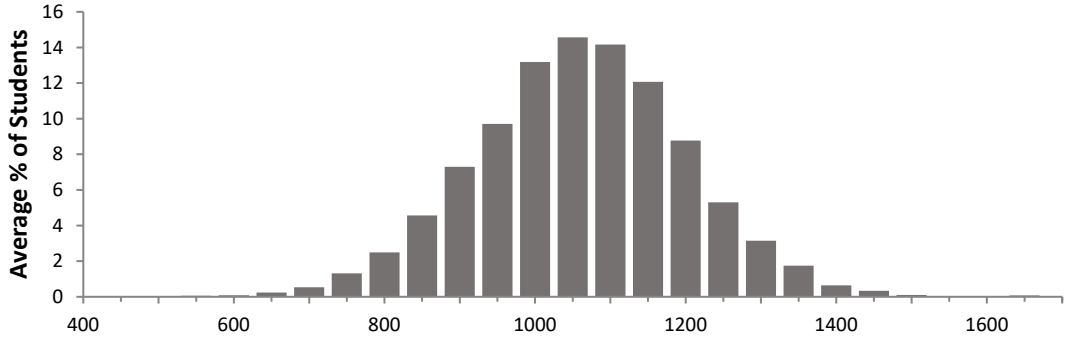


Figure 1: CLA+ total score distribution, entering students

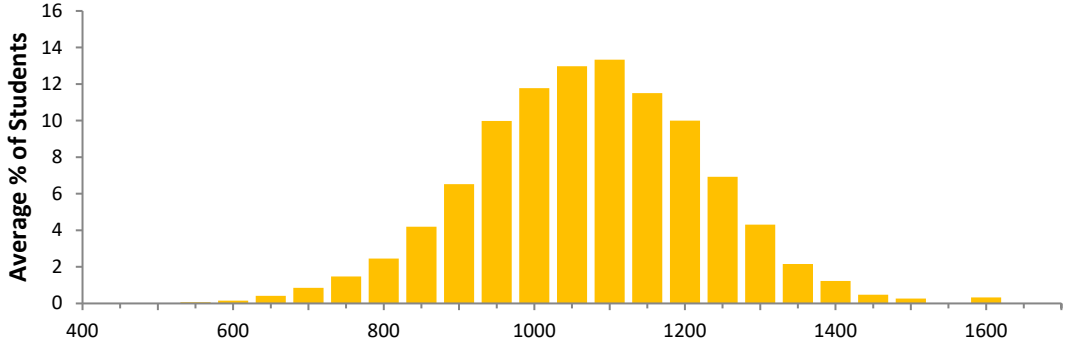


Figure 2: CLA+ total score distribution, exiting students

CLA+ International Sample
CLA+ Subscores

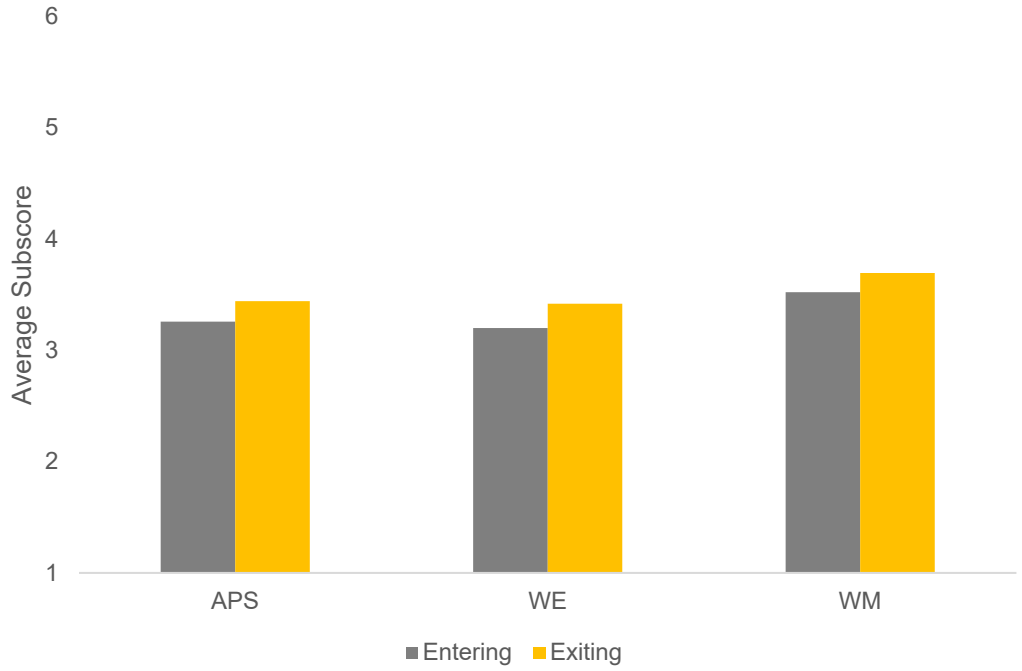


Figure 3: Performance Task subscores among entering and exiting students

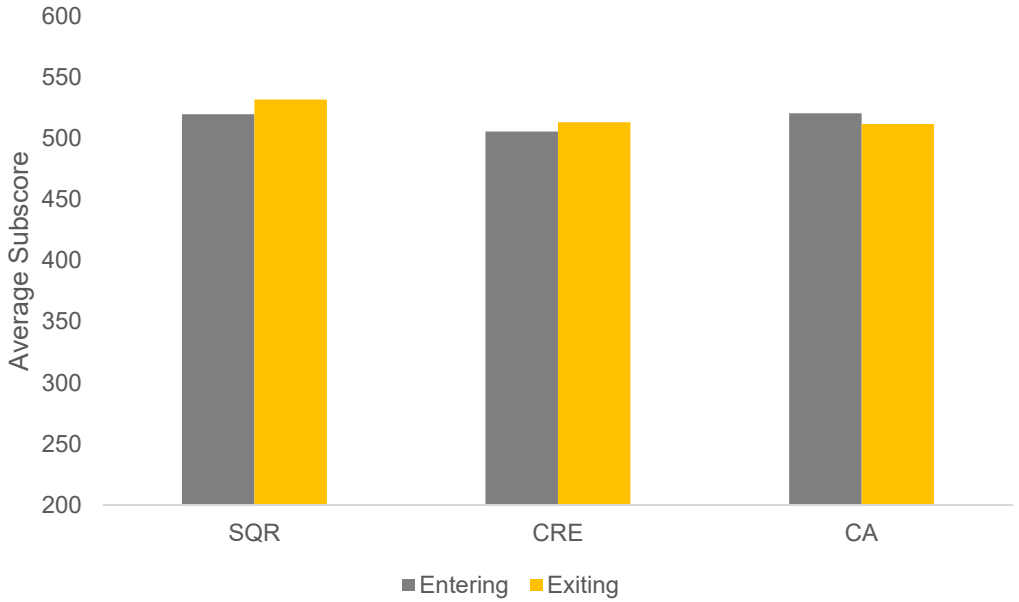
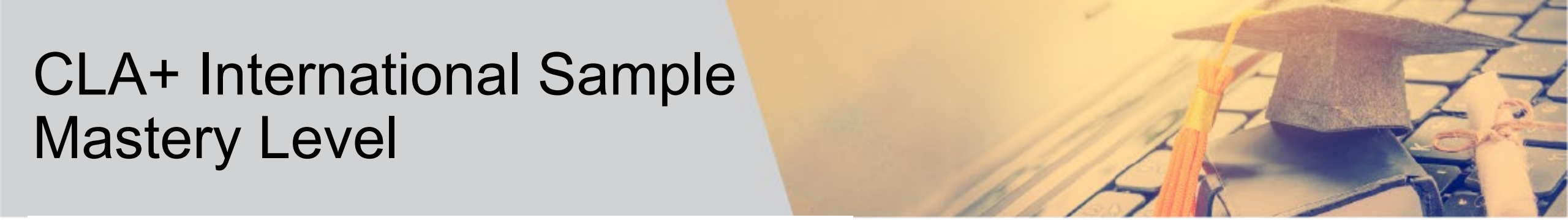


Figure 4: Selected-Response Question subscores among entering and exiting students

CLA+ International Sample Mastery Level



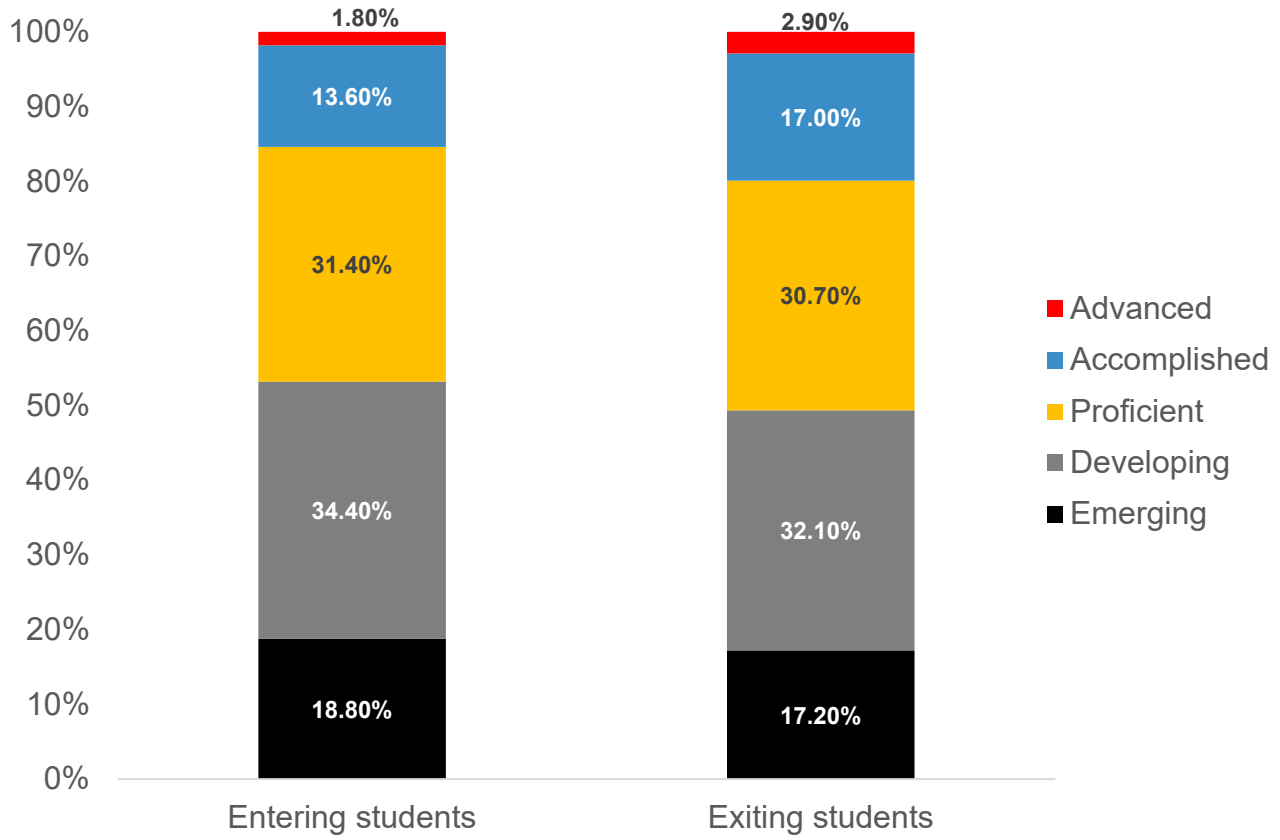


Figure 5: CLA+ mastery levels by cohort

- 46.8% of entering students from the international sample are at least proficient
- 50.6% of exiting students from the international sample are at last proficient.
- Of the proficient+ students, the proportion of accomplished and advanced students increases for exiting students
- There is much room for student learning gains between entering and exiting students

CLA+ International Sample Student Effort

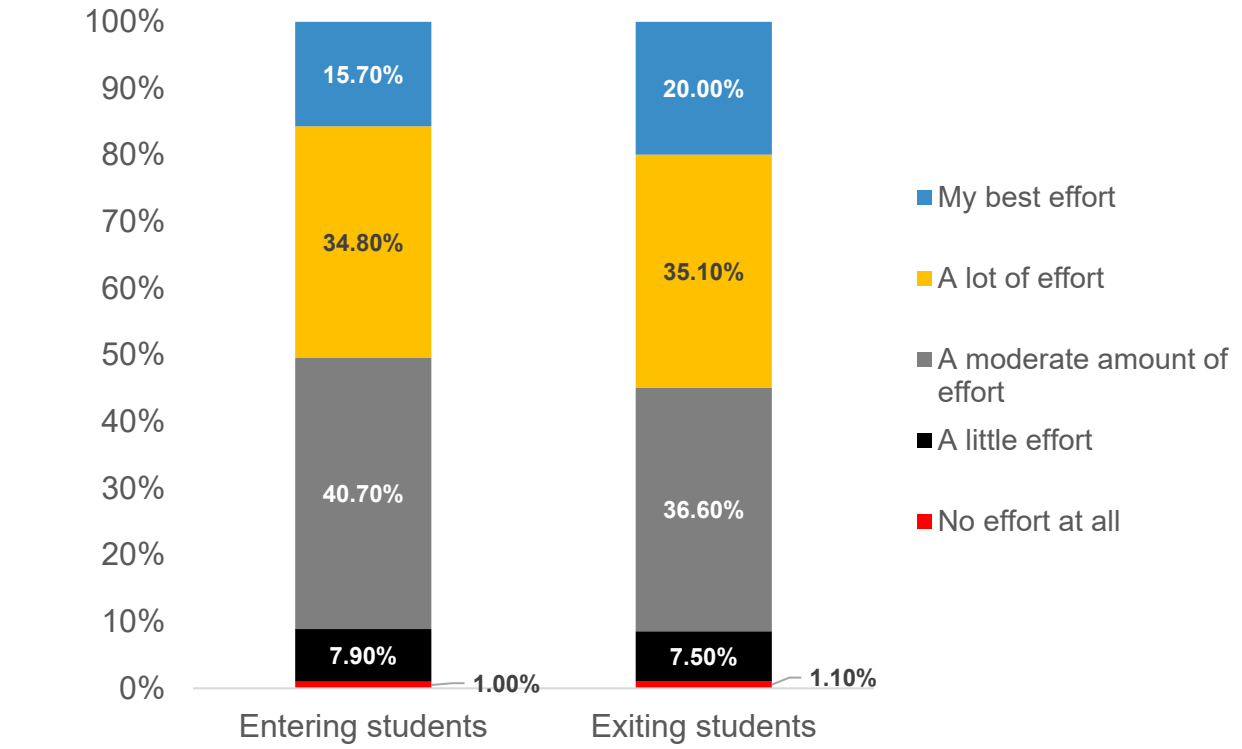


Figure 6: Self-reported effort for PT by cohort

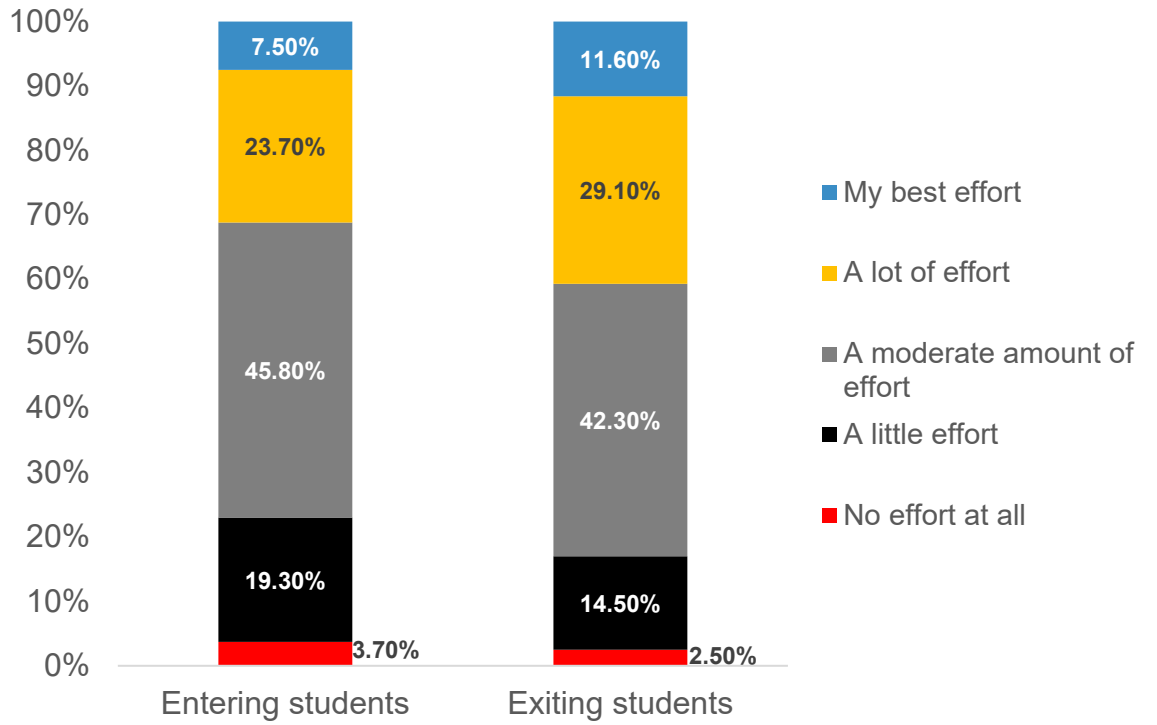
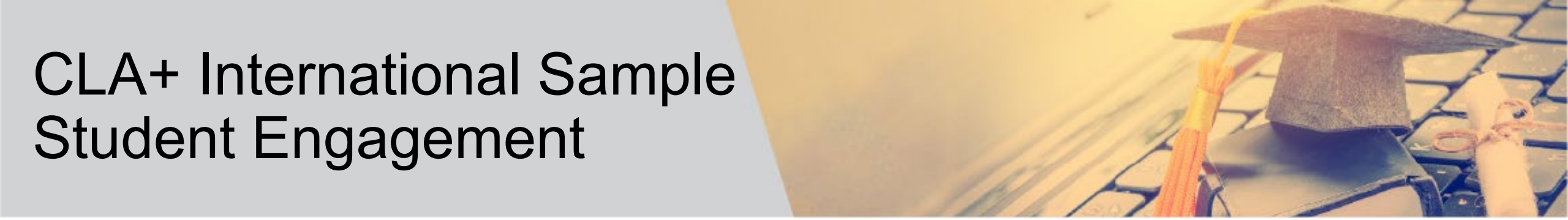


Figure 7: Self-reported effort for SRQ by cohort

CLA+ International Sample Student Engagement



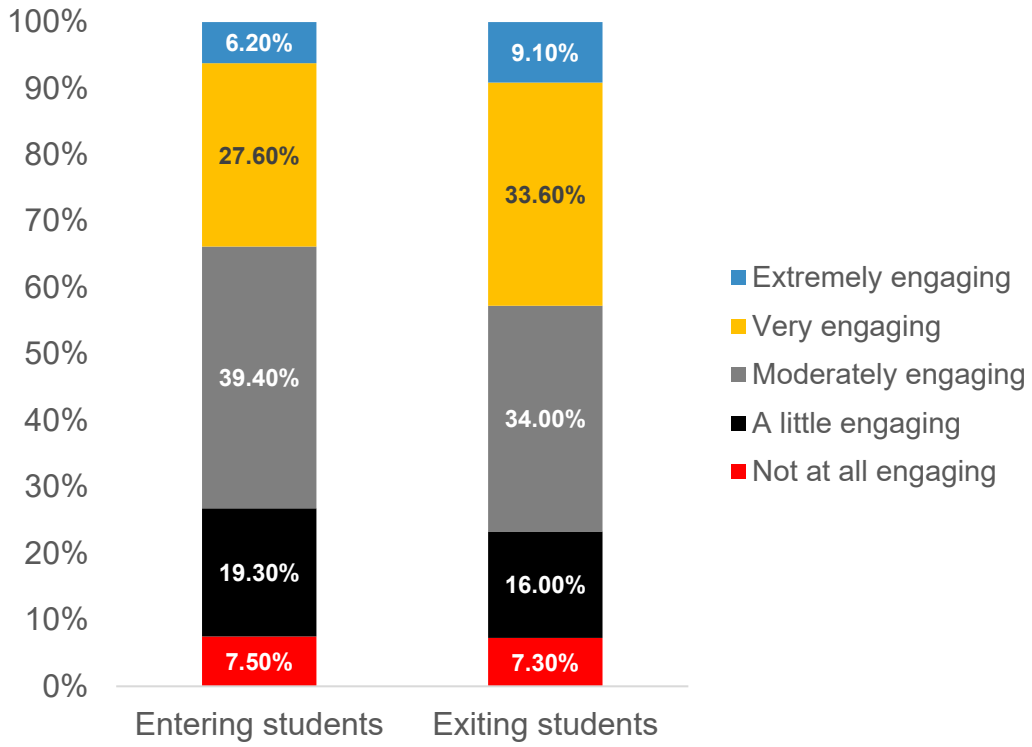


Figure 8: Self-reported engagement for PT by cohort

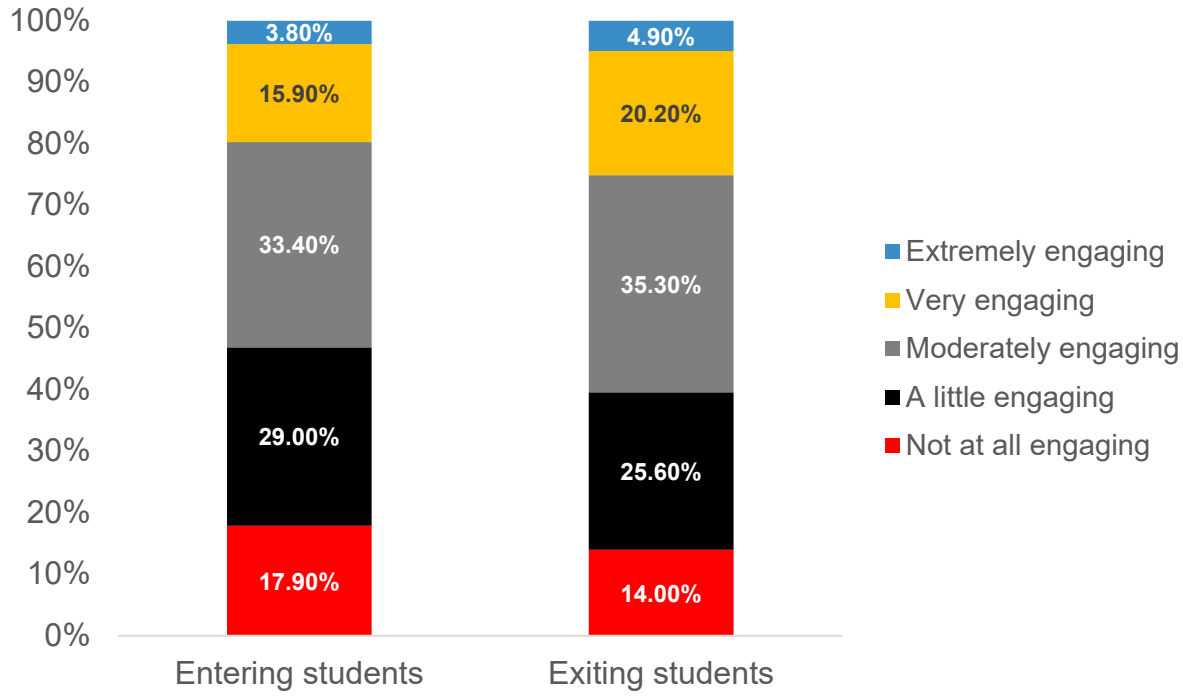


Figure 9: Self-reported engagement for SRQ by cohort

Performance Assessments Can Improve Student Learning Gains

- Students tend to like performance – based assessments more than multiple choice tests.
- Students will be more engaged and put forth more effort on performance – based assessments.
- Educators can use performance -based assessments to better identify students' individual strengths and opportunities for improvement.
- With close and careful attention paid toward students' knowledge, skills, and abilities as measured through performance -based assessments, even a small increase in the development of these skills could boost future outcomes for students.

Group Poll

Polling Questions

- How much does your organization/institution value measuring students' generic skills?
- How would your organization/institution use the data or recommend using the data from the assessment of students' generic skills?

Discussion Session Part I

Discussion Questions

- How might an assessment of generic skills help your organization/institution?
- What models of assessment would be most effective in your organization/institution?
- What type of data/reports would benefit your organization/institution?
- How useful is international comparative/benchmarking data?

Coffee Break

Credentialate

openEQUELLA

Edalex

Margo Griffith

Head of Business Development

Credentialate

openEQUELLA

Discover & share evidence of workplace skills

Edalex

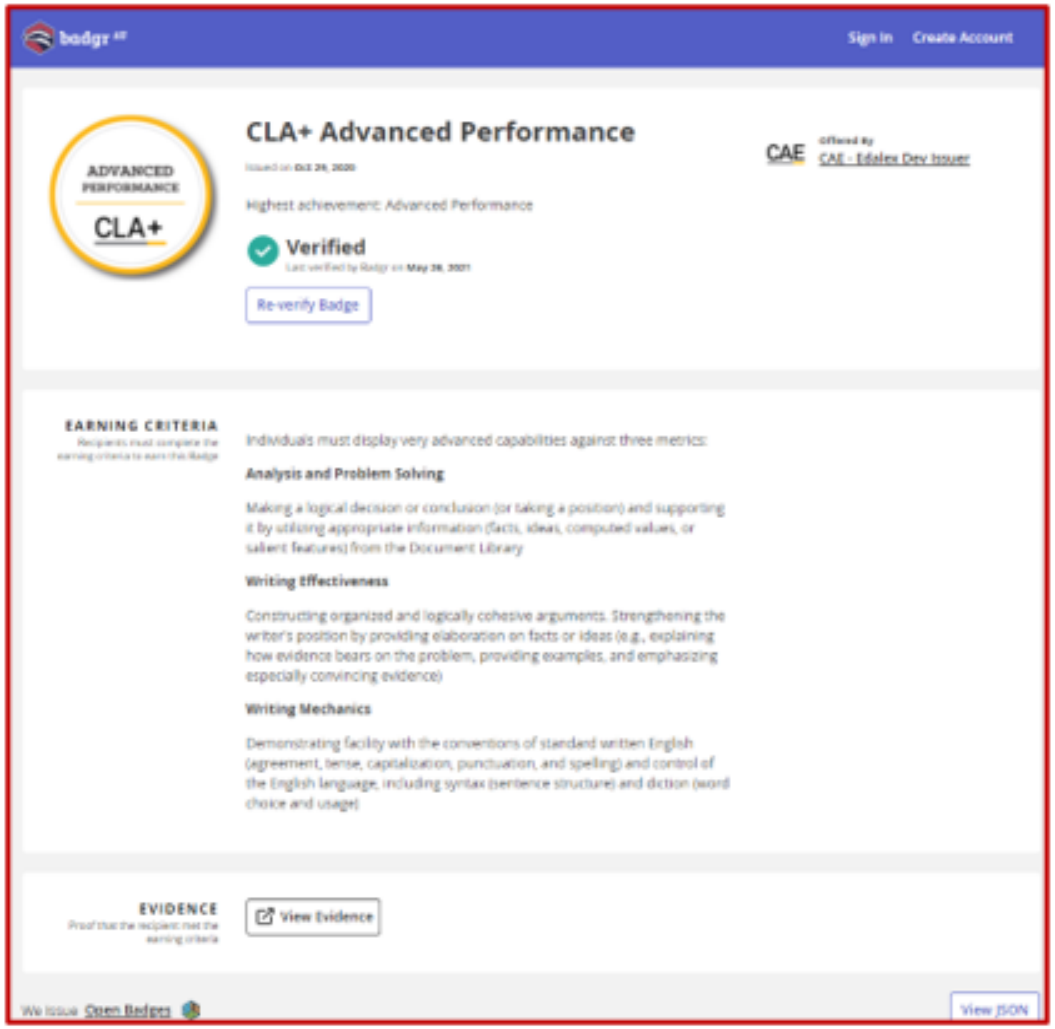
- ★ Helping to bridge the learning to earning gap
- ★ Personal skills via the Evidence Record
- ★ Representing ALL evidence of learning aligned to skills
- ★ Learner achievement data from YOUR systems
- ★ Skills data insights for institutions
- ★ Enable flexible learning pathways

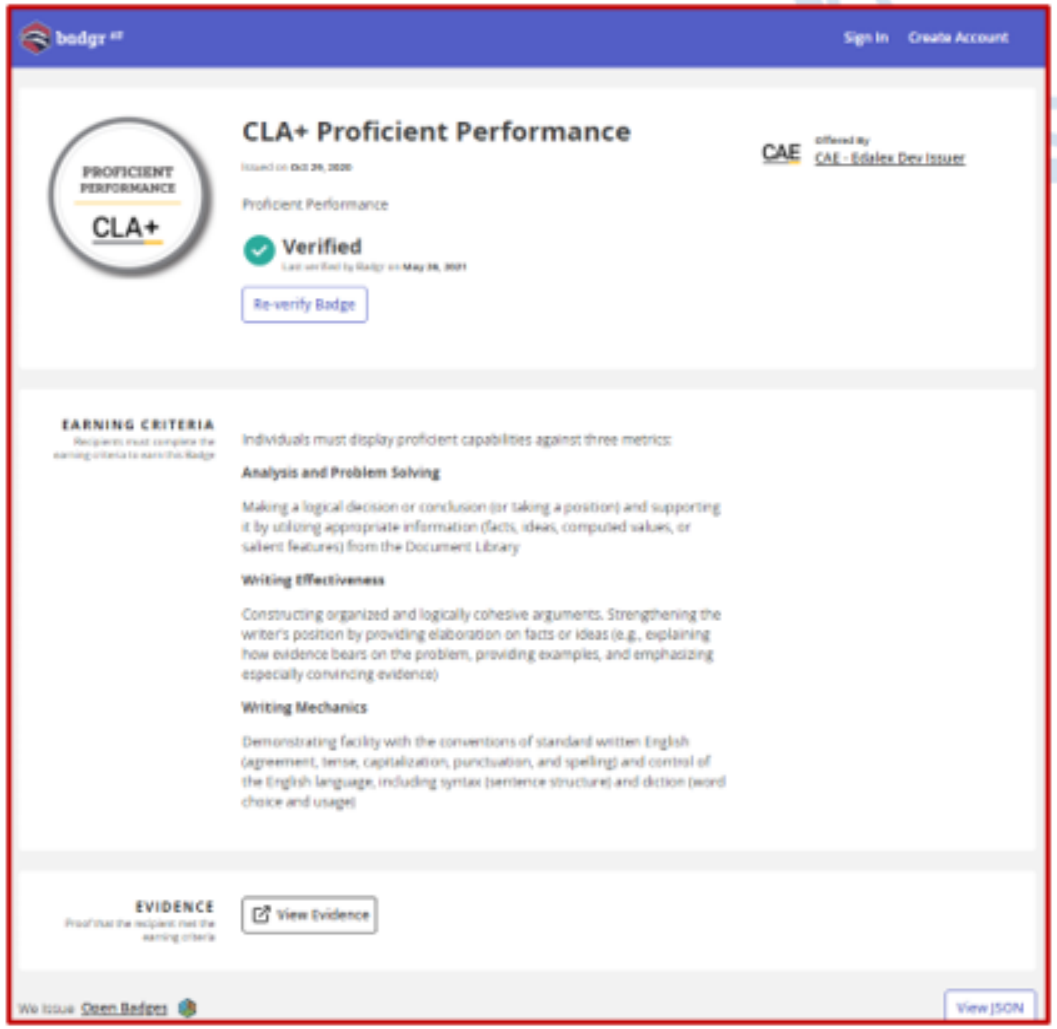
28 Institutional clients across Asia Pacific

2.3 Million learners across client institutions

93% Edalex client retention

All learners are not the same… so why are their credentials?





Credentialate brings meaning to micro -credentials

Samantha Fahey

Samantha Fahey has been awarded the Platinum badge based on the evidence catalogued below.

Issued By
Test institution

Awarded On
09 December 2020

VERIFY

Platinum

Adaptability and negotiation

Consistently adapts to the changing demands of the task. Demonstrates mastery of negotiation skills; routinely achieves a win-win outcome.

Score: 4

Individual contributions outside of team meetings

Completes all assigned tasks by deadline; work accomplished is thorough, comprehensive, and advances the project.

Score: 3.5

Responds to conflict

Addresses destructive conflict directly and constructively helping to manage/resolve it in a way that strengthens overall team cohesiveness and future effectiveness.

Score: 4

Lucy Ding

Lucy Ding has been awarded the Gold badge based on the evidence catalogued below.

Issued By
Test institution

Awarded On
09 December 2020

VERIFY

Gold

Adaptability and negotiation

Can usually adapt to the changing demands of the task. Demonstrates good negotiation skills; attempts to achieve a win-win outcome.

Score: 3.33

Individual contributions outside of team meetings

Completes all assigned tasks by deadline; work accomplished is thorough, comprehensive, and advances the project.

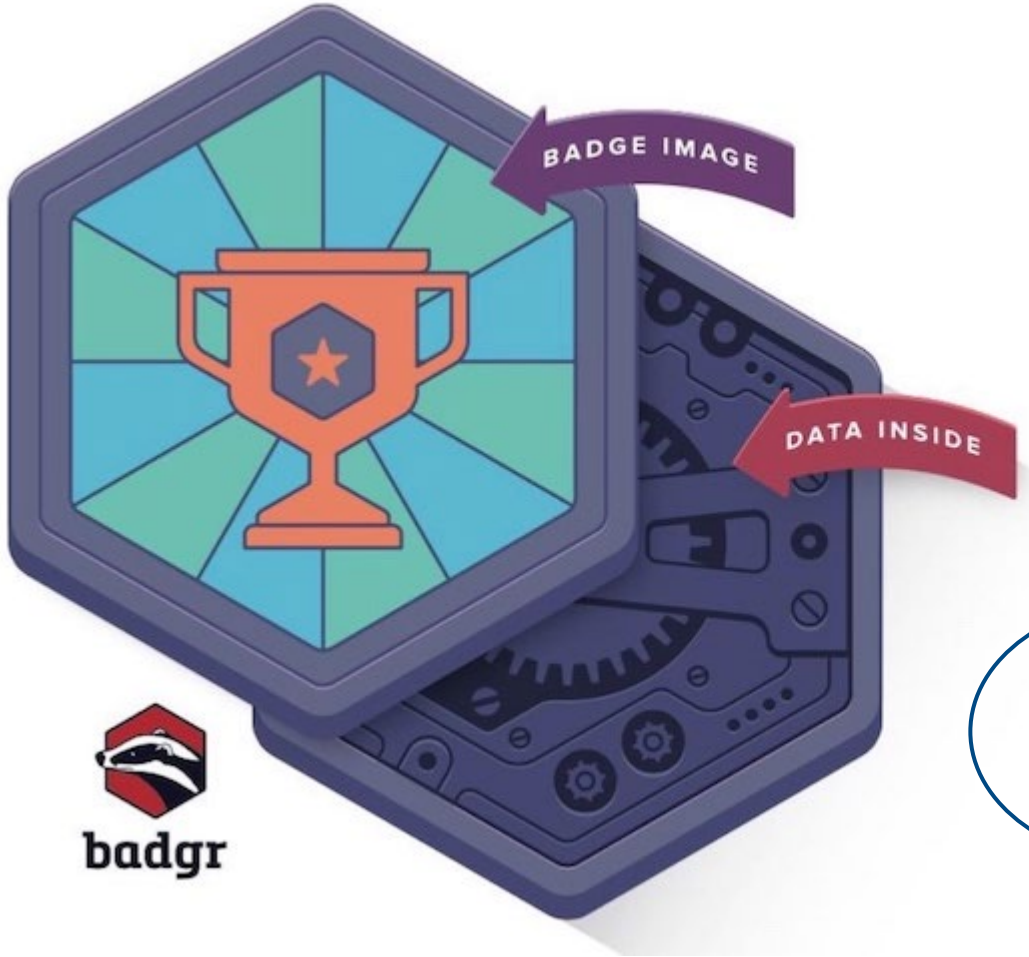
Score: 3.5

Responds to conflict

Identified and acknowledges conflict and stays engaged with it.

Score: 3.5

Adding robust evidence to the metadata



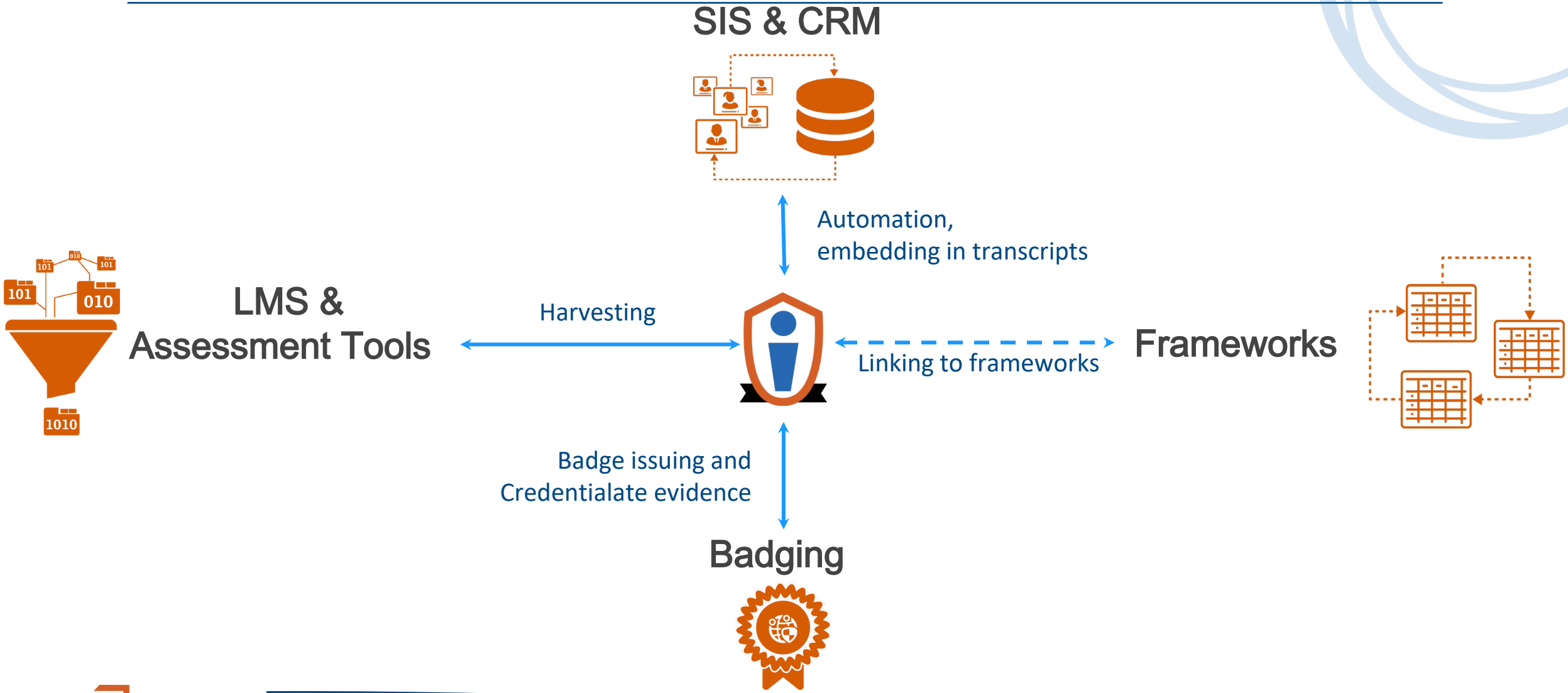
Open Badges 2.0

ANATOMY OF AN OPEN BADGE:

- Badge Name
- Badge Criteria
- Badge Image
- Issuer
- Recipient
- Tags
- Alignment (Standards)
- Issue Date
- Expiration Date
- Evidence
- Endorsement
- Language
- Version

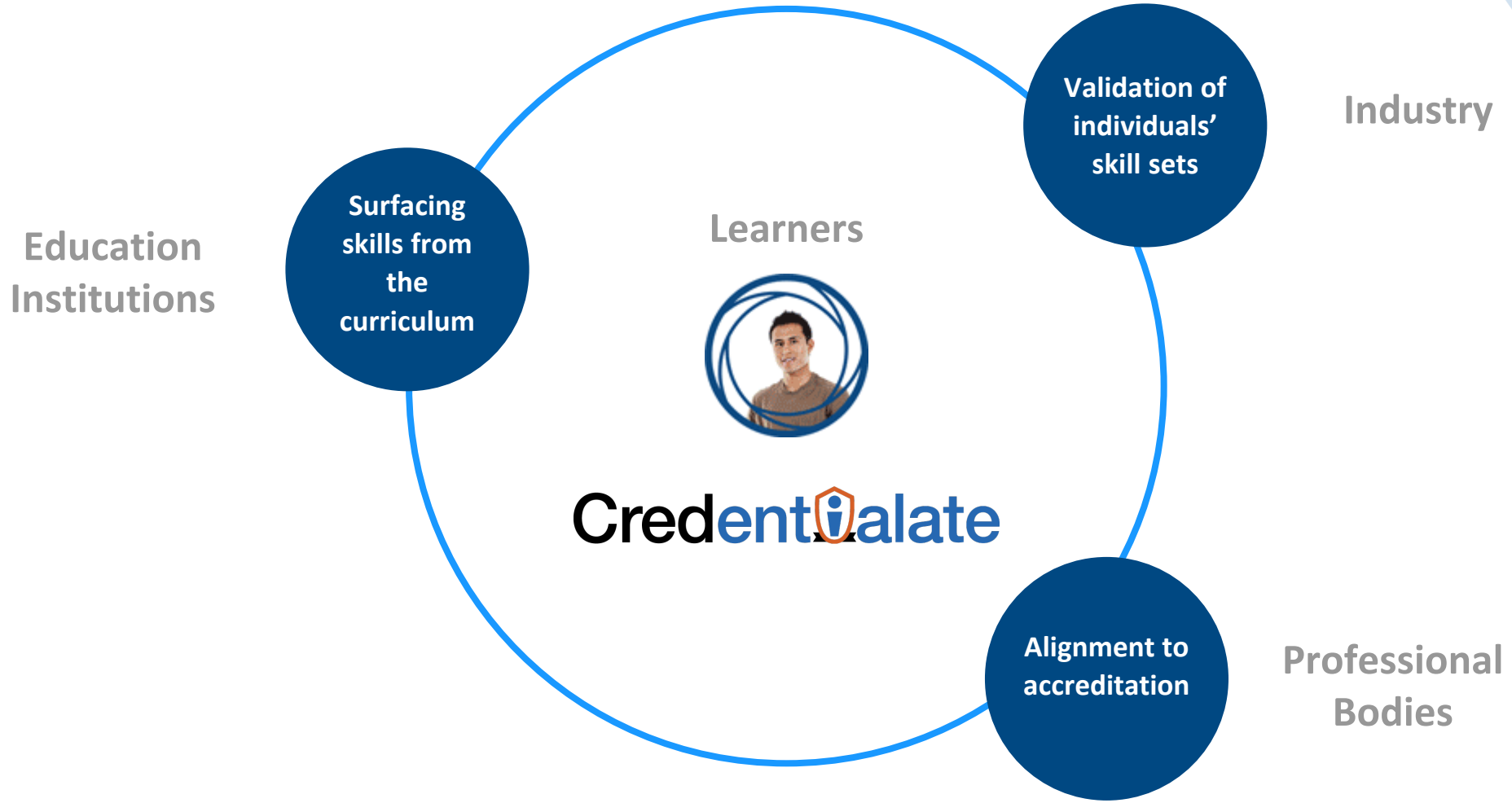
embedded personalised evidence

Credentialate in the edtech ecosystem

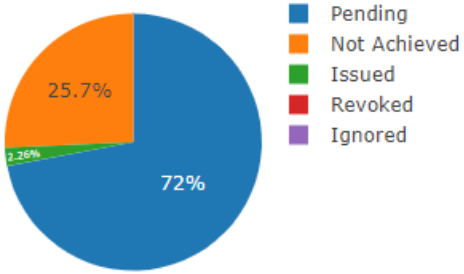


Edalex

Use case: learners

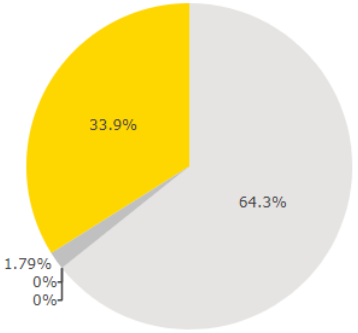


Use case: institutions

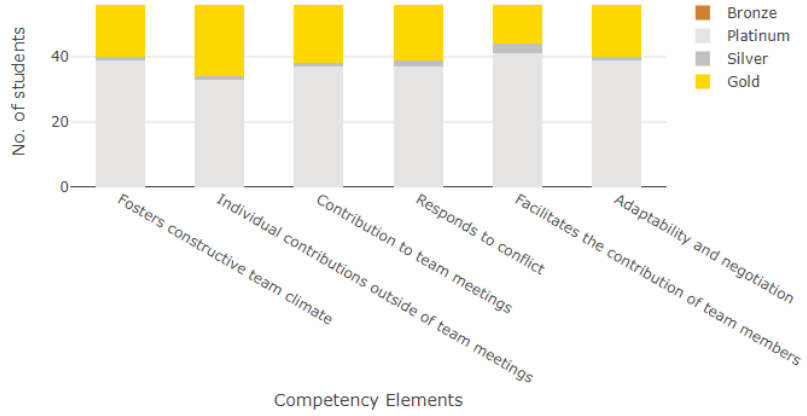


Ignored	3	0%
Issued	5,036	2%
Not Achieved	57,224	26%
Pending	160,428	72%
Revoked	5	0%
Total	**222,696**	

Teamwork



Element Scores for Teamwork



- Automation
- Scalability
- Analytics
- At-risk student insight
- Alignment to frameworks
- Creating currency for creds
- Stackability

Case Studies

UNSW SYDNEY

- Design Partner
- Strategic touch points;
- Data
- Learner Centricity
- Employability and Careers

tafe Queensland

- Micro-credentials for training gaps
- New technologies
- Industry alignment
- Pathways

كلّيات التقنية العليا
HIGHER COLLEGES OF TECHNOLOGY

- Flexibility
- Long term transformative curriculum change
- Personalisation
- Industry aligned

Washington State
Community and **Technical Colleges**
Better Jobs, Brighter Futures, a Stronger Washington

- Micro-credentials for industry alignment

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Group Poll

Polling Questions

- How interested is your organization/institution in providing or recommending personalized feedback of students' generic skills?

- How much do you think students value having competency in generic skills?

Discussion Session Part II

Discussion Questions

- What would you like to learn about individual students' generic skills?
- What do you think students would like to learn about their own generic skills?
- How might personalized evidence and microcredientials be useful at the institutional level?
- How helpful might personalized evidence and microcredentials be for students' next steps (e.g., career or graduate school)?

Q & A Session

QUESTIONS?

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