



CAE

Edalex

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?

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.

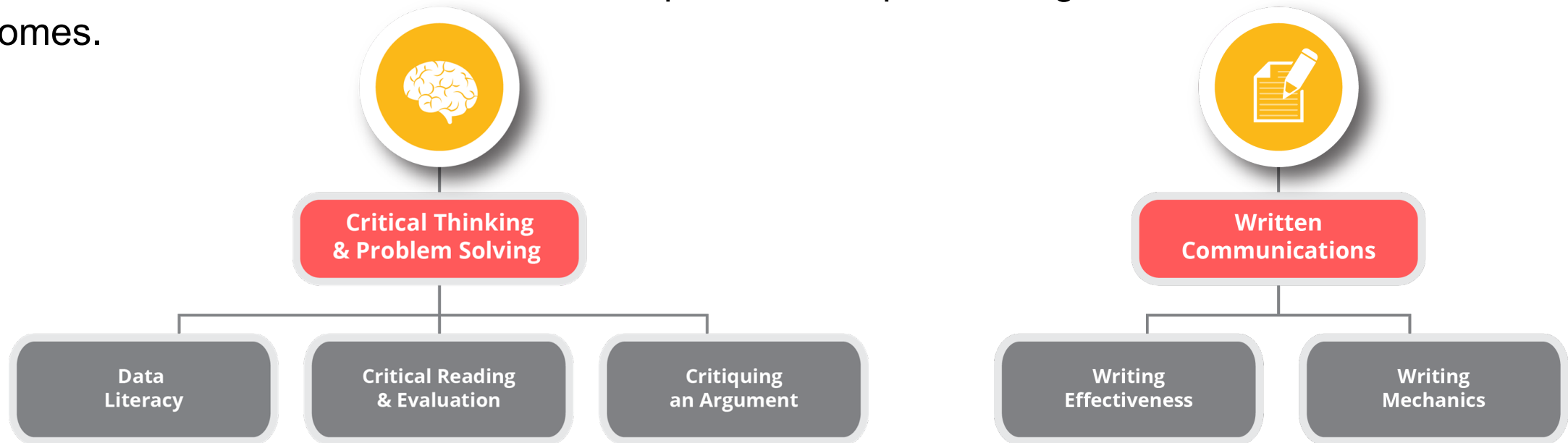
Assessing Higher Education and Career Readiness Since 2002



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

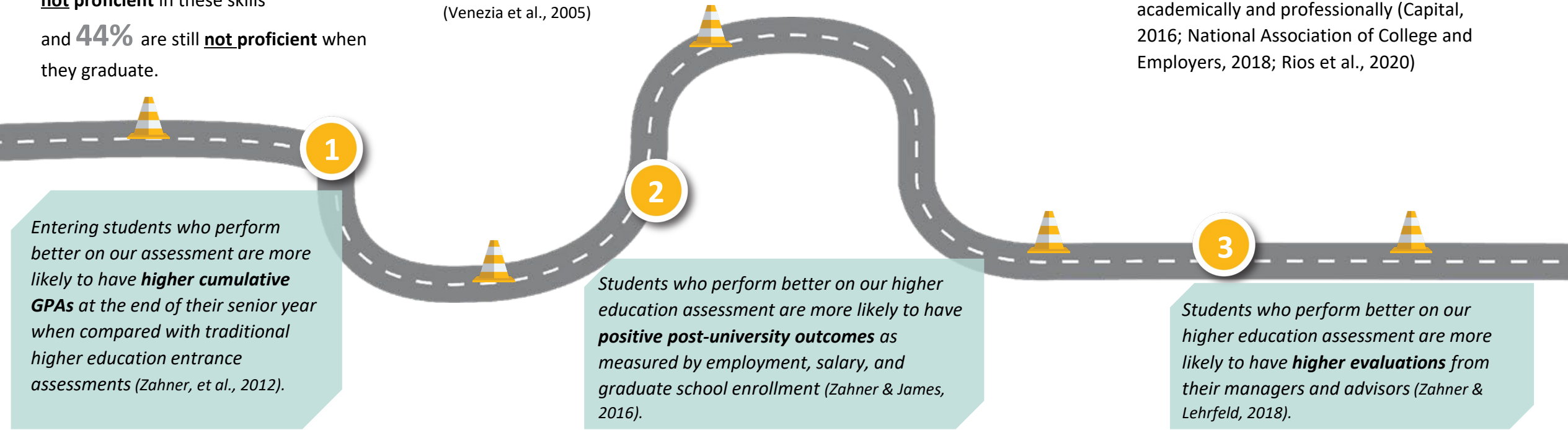
CAE's data show that **60%** of students entering higher education are **not proficient** in these skills and **44%** are still **not proficient** when they graduate.

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

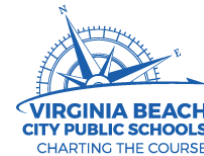
While content knowledge is a requisite part of a student's education, it alone is **insufficient** for a student to thrive academically and professionally (Capital, 2016; National Association of College and Employers, 2018; Rios et al., 2020)



Supporting Students and Institutions Around the Globe

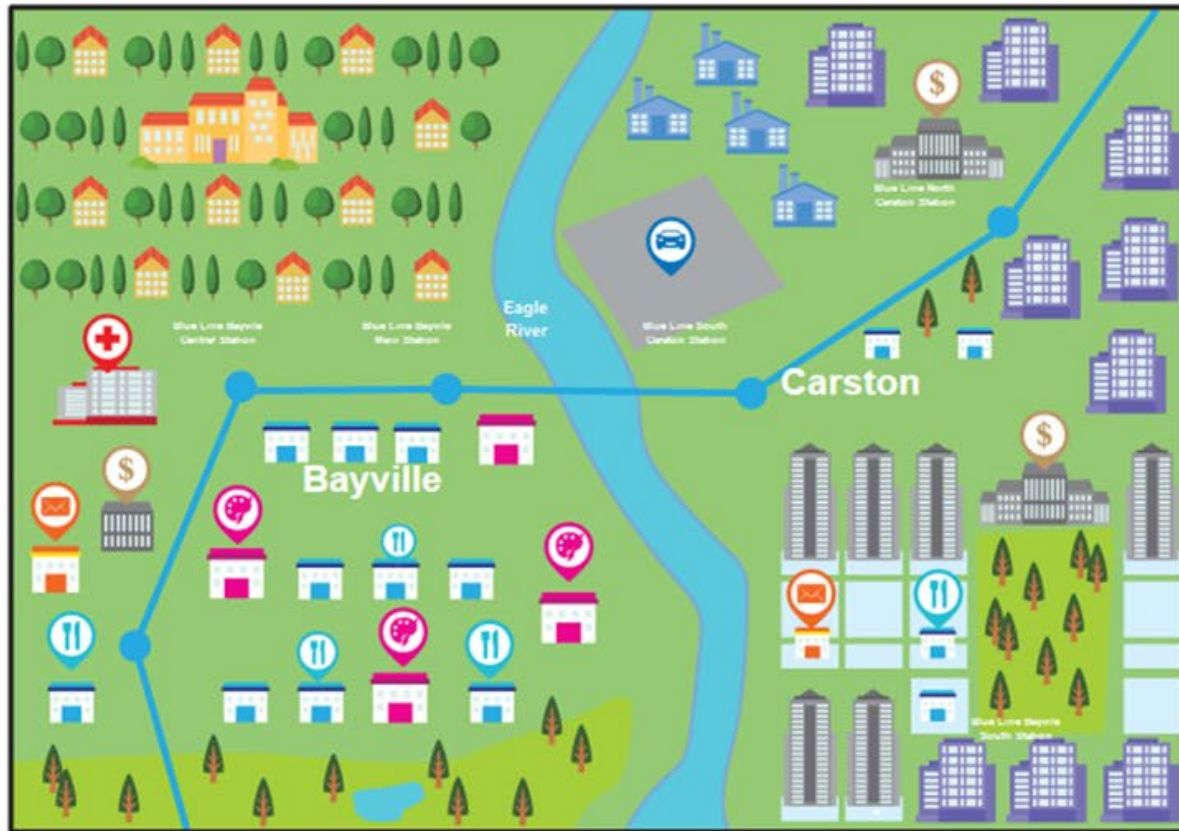


Over 800,000 students at 1,300+ institutions have completed one of our performance-based assessments.
Leading foundation have supported our research.



Real World Scenario

UI navigation controls including a pause button, a full-screen button, a calendar icon, a location pin icon, a calculator icon, a flag icon, and a back arrow.



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

Document Library

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

Notes from a Bayville Meeting

Shanti, 44, Office Manager: I'm for partial closure. I have sympathy for those who will be inconvenienced, but most of us who work in Carston work during the day. The partial shutdown will allow the vast majority of us to continue with our careers without any interruption. Those who work off-hours can take the bus, drive, or ride a bike! Our bicycle lanes can accommodate all night and weekend commuters. If some night shift and weekend commuters choose to drive during the partial shutdown, they will pay less for parking in Carston than weekday workers would have to pay during a weekday shutdown.

Sadiq, 22, Graduate Student: Under the Freedom of Information Act, I reviewed the reports and recommendations that are being considered. Interesting fact—Thomas Engineering Consultants has a close professional relationship with Pecor Construction, LLC, the company that will be doing the subway renovation work.

Raphaela, 38, Bayville Chamber of Commerce: I'm for the complete closure because it is shorter. Most Carston residents who visit Bayville come to the restaurants and clubs on nights and weekends. Being city people, many of these residents do not have cars. Numerous business owners have told me that they don't have enough funds in reserve to survive a substantial drop in customers for seven months, if some of our restaurants and stores close, that means lost jobs, empty buildings, and decreased tax revenues for Bayville.

Marcus, 35, Production Line Technician: I'm a single parent who works four night shifts each week in Carston. My commute will be longer while the subway is being repaired, so I'll have to dig into my paycheck to cover additional childcare. If the shutdown only lasts for three months instead of seven, I can probably get by. I strongly urge the people in charge to pick the complete closure option.

Ersi, 61, Engineer: Car traffic from Bayville to Carston was already a problem before the hurricane. Carston has narrow streets and limited parking, and the town charges high congestion pricing rates for on-street parking during peak weekday work hours. If too many commuters travel via car for the duration of the subway closure, gridlock and parking problems will worsen dramatically.

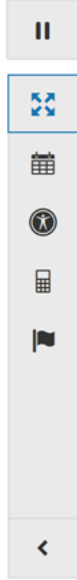
Item 1

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



Provides Scaffolding

8 of 13 06:48

Document 3 Document 4

Document 3: Alternative Means of Transportation

The screenshot shows the Eagle River Transit Authority (ERTA) website. The header includes the ERTA logo and a navigation menu with links for Home, Schedules, Fares & tolls, Maps, Planned Services Changes, and Info. The main content area is titled 'Alternative Means of Transportation' and is divided into three sections: 'Cars', 'Bus', and 'Bicycle'. The 'Cars' section contains a paragraph about a survey of commuters, with a highlighted sentence: 'However, Carston officials will not enforce higher pricing for the duration'. The 'Bus' section mentions additional buses and drivers. The 'Bicycle' section mentions bike lanes.

Item 2

If the partial shutdown is selected, which initiative would **best** help to mitigate the problems that would result? Supporting evidence may be found in Documents 3 and 4.

Highlight the **best** piece of supporting evidence from the documents. Highlight only one sentence.

- providing low-interest loans for Bayville businesses struggling to meet payroll
- limiting the surcharges that rideshare operators can charge during the shutdown
- offering incentives for developers to build additional parking lots in Carston


A vertical toolbar on the right side of the interface. It includes a play/pause button at the top, followed by a full-screen icon, a calendar icon, a magnifying glass icon, a list icon, and a flag icon. At the bottom of the toolbar is a left-pointing arrow.

Navigation buttons at the bottom right of the interface, consisting of a left-pointing arrow and a blue button labeled 'Next' with a right-pointing arrow.

Includes a Writing Component

Document Library

Document 1: Report from Thomas Engineering Consultants



Pecor Construction, LLC, the firm that will perform the Blue Line repairs, retained a consultant group specializing in urban transportation infrastructure to summarize the options for repairing the Blue Line subway tunnel and make a recommendation.

Option 1: Complete Shutdown 3 months (July through September)	Option 2: Partial Shutdown 7 months (July through January)
Fully closing the Blue Line tunnel between Bayville and Carston would allow repair crews to work around the clock to replace electrical equipment and track components damaged by flooding. This approach would return the Blue Line to its original working condition and would complete construction in the shortest time possible.	A partial closure would keep the Blue Line running during the day Monday-Friday and close the subway on nights and weekends from 8 p.m. to 6 a.m. Monday-Thursday and from 8 p.m. Friday to 6 a.m. Monday. Repair crews would work night and weekend shifts but would be slowed down by having to reset and reconfigure equipment to resume service each weekday morning.

Item 7

Write a memo to the Transit Authority making a recommendation to enact either the complete shutdown or the partial shutdown. Use evidence from the documents to support your decision.

B I U | **☰ ☰**

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⏪ **Review**

Providing Observations and Insights on Student Learning Gains

Mastery Levels

Your School
Fall 2020 Next Step Report

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 portion of the exam.
- **Selected-Response (SR):** The score students receive on the multiple-choice assessment.

Mastery Levels

Mastery Levels contextualize CLA+ scores by interpreting test results in relation to 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 following: Developing, Proficient, Accomplished, or Advanced.

Emerging • Developing • Proficient • Accomplished

Percentile Rankings

Percentile rankings allow for normative interpretations of your students' performance. They indicate how well your institution performed relative to other CLA+ colleges and universities. Percentile rankings indicate the percentage of CLA+ institutions whose scores are equal to or lower than your institution's score.

Freshmen

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

Avg. Score: 1000

Mastery: **Developing**

Sophomores

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

Avg. Score: 1000

Mastery: **Proficient**

Juniors

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

Avg. Score: 1000

Mastery: **Accomplished**

Seniors

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

Avg. Score: 1000

Mastery: **Advanced**

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Sub-scores

Your School
Fall 2020 Next Step Report

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

Class	APS	WE	WM
Freshmen	4.3	2.4	2
Sophomores	2.5	4.4	2
Juniors	3.5	1.8	3

Average SR Subscores, by Class

Class	DL	CRE	CA
Freshmen	4.3	2.4	2
Sophomores	2.5	4.4	2
Juniors	3.5	1.8	3

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

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Learning Gains

Your School
Fall 2020 Next Step Report

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 how close each score in a data set is to the mean, or average score.)

Effect-Size, versus Freshmen

Class	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 counterparts.

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

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

Your CLA+ Scores

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

Your CLA+ Mastery Level

Total CLA+ Mastery Level	Your Mastery	Average
Accomplished	Accomplished	

Understanding Your Results

- Your Total CLA+ Score is comprised of two components: your Performance Task 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 course of action by making use of information provided in a Document Library.
- The Selected-Response Question section score summarizes your performance on this part of the assessment, you received 25 document-based selected-response questions.
- Your Mastery Level describes your level of performance based on your Total CLA+ Score.

Emerging • Developing • Proficient • Accomplished

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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 somewhat unclear arguments. Presents relevant information in each response, but that information is not woven into arguments. Provides 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)

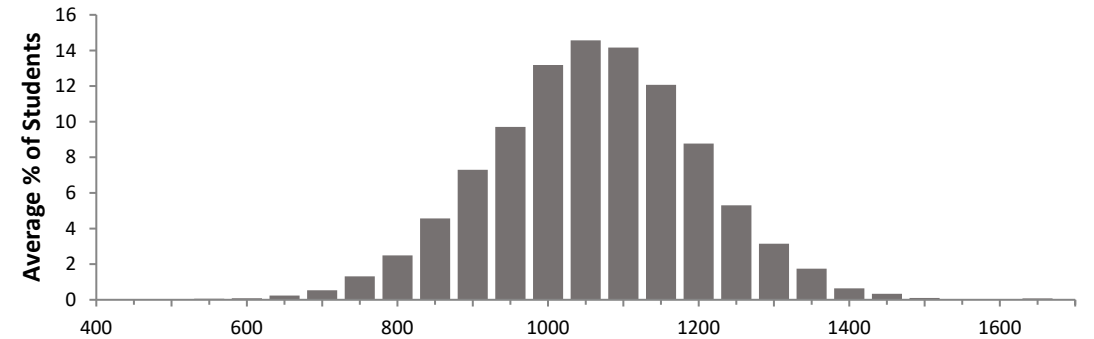


Figure 1: CLA+ total score distribution, entering students

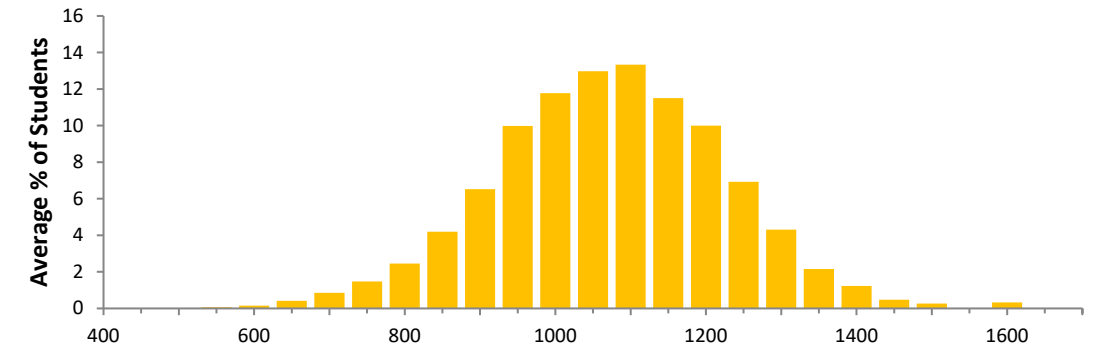


Figure 2: CLA+ total score distribution, exiting students

CLA+ International Sample

CLA+ Subscores

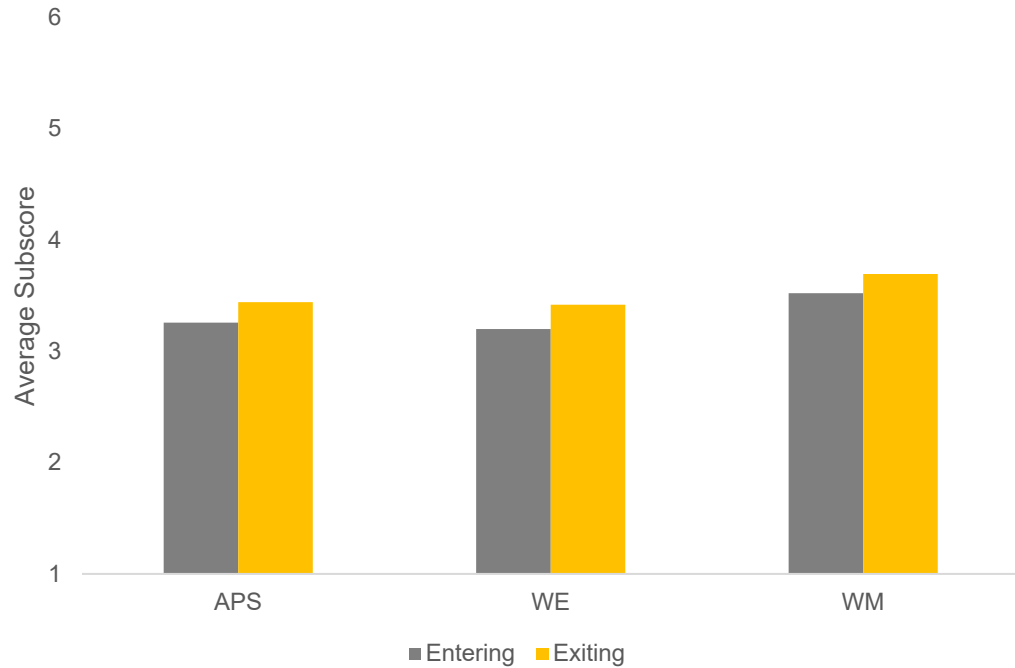


Figure 3: Performance Task subscores among entering and exiting students

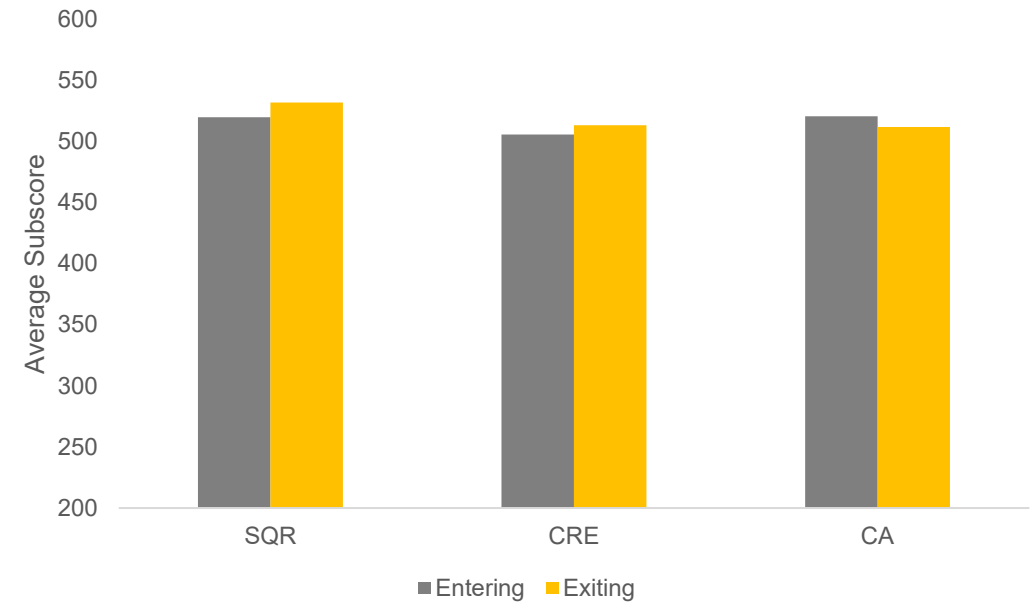
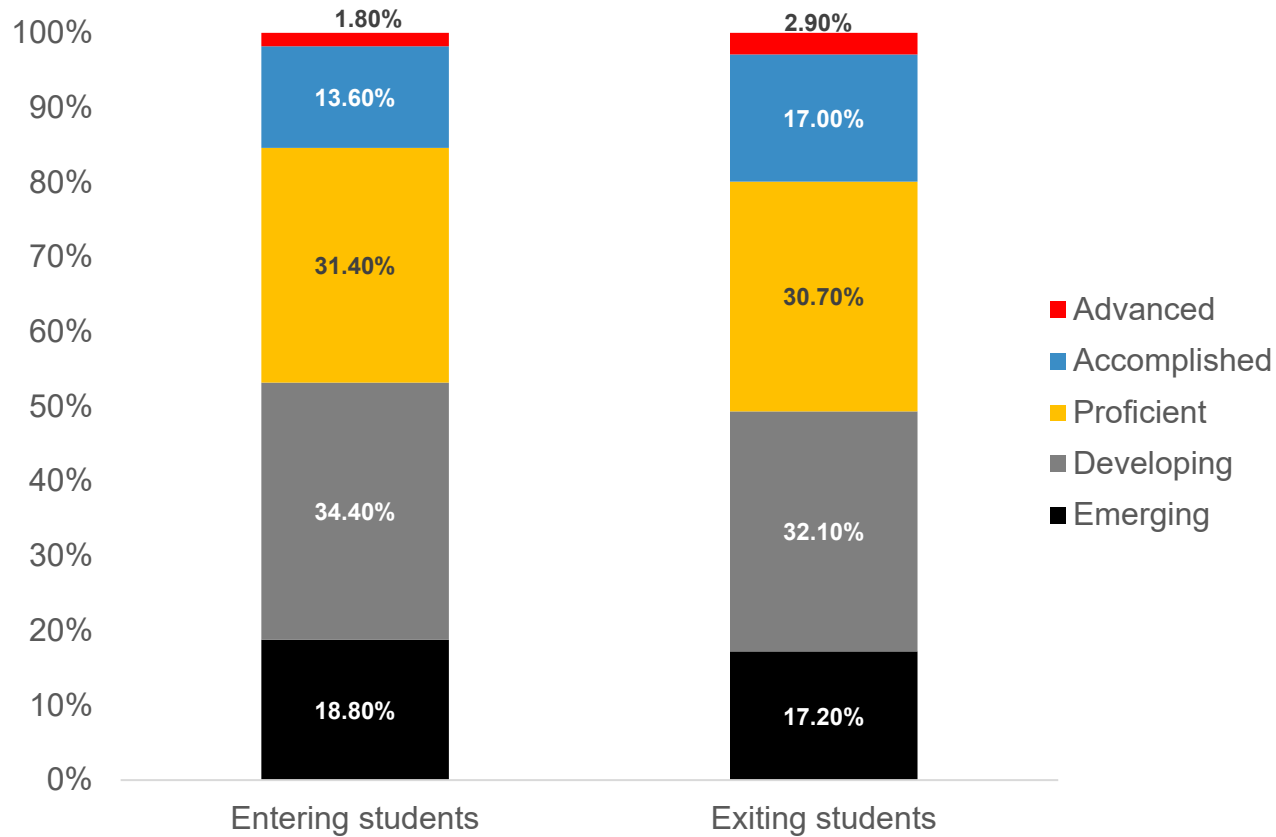


Figure 4: Selected-Response Question subscores among entering and exiting students

CLA+ International Sample Mastery Level



- 46.8% of entering students from the international sample are at least proficient
- 50.6% of exiting students from the international sample are at least 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

Figure 5: CLA+ mastery levels by cohort

CLA+ International Sample Student Effort

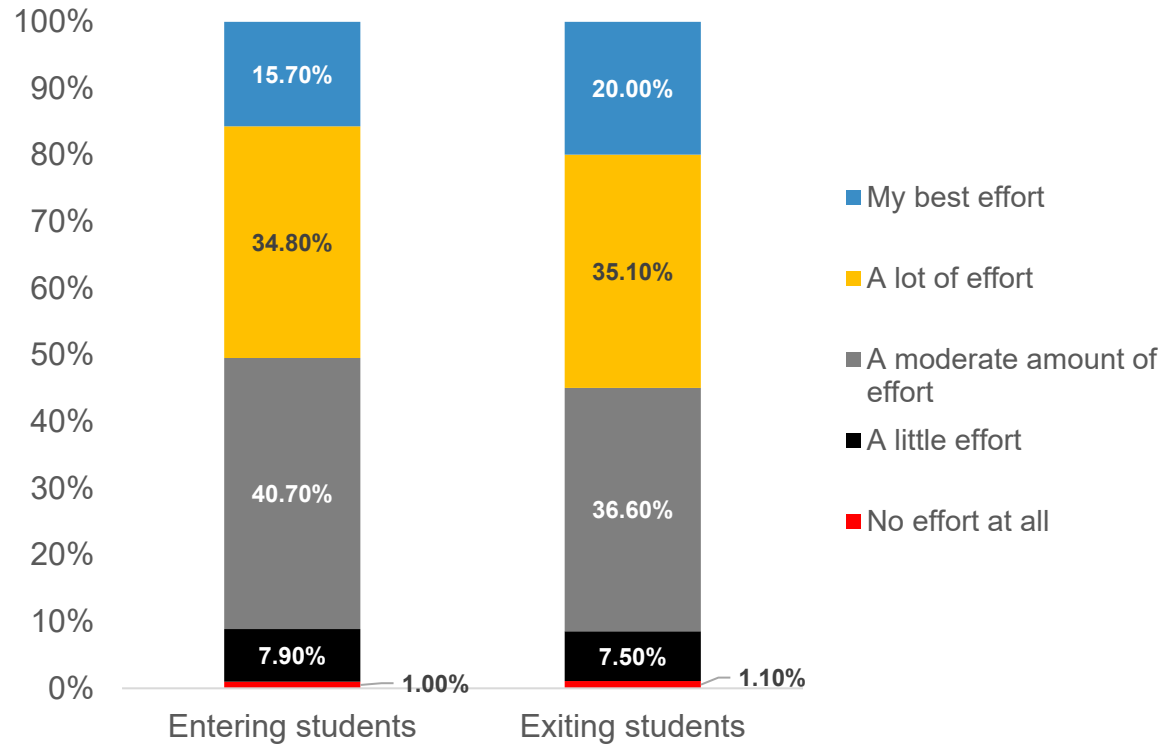


Figure 6: Self-reported effort for PT by cohort

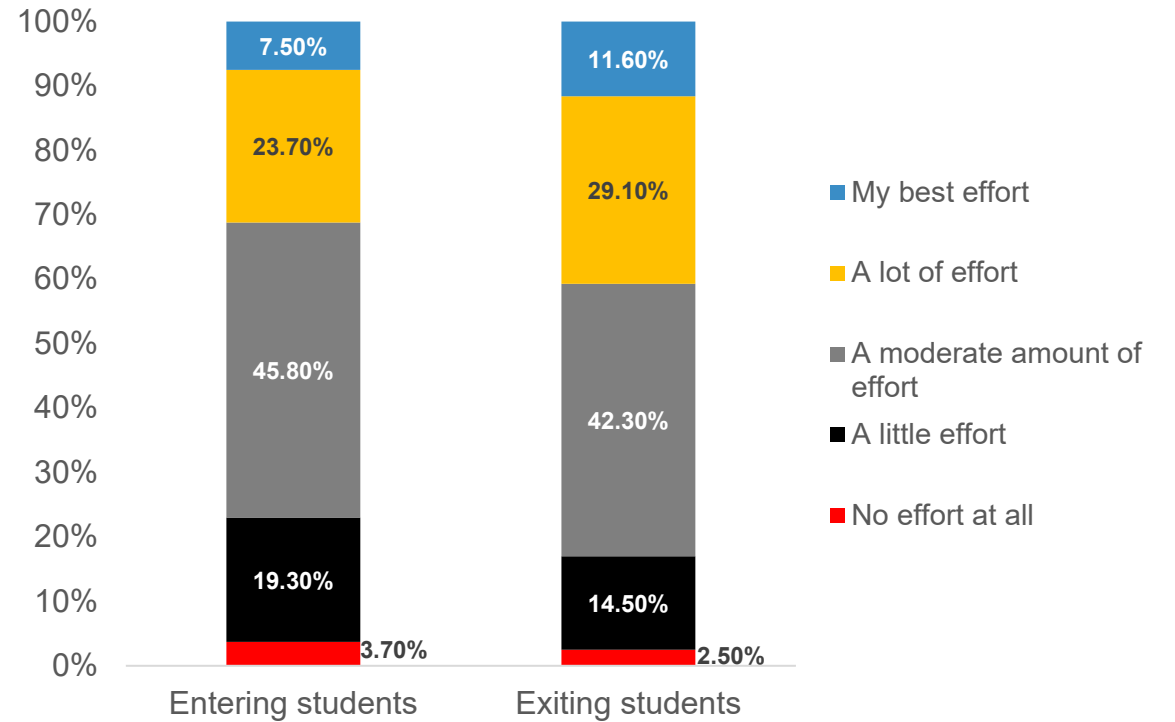


Figure 7: Self-reported effort for SRQ by cohort

CLA+ International Sample Student Engagement

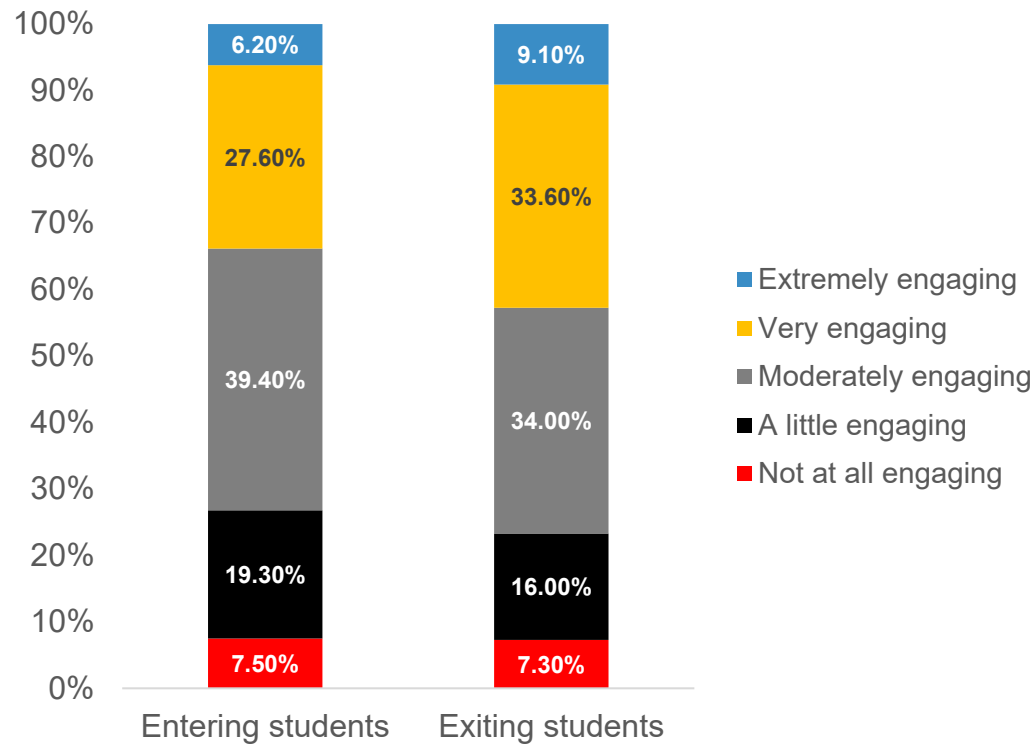


Figure 8: Self-reported engagement for PT by cohort

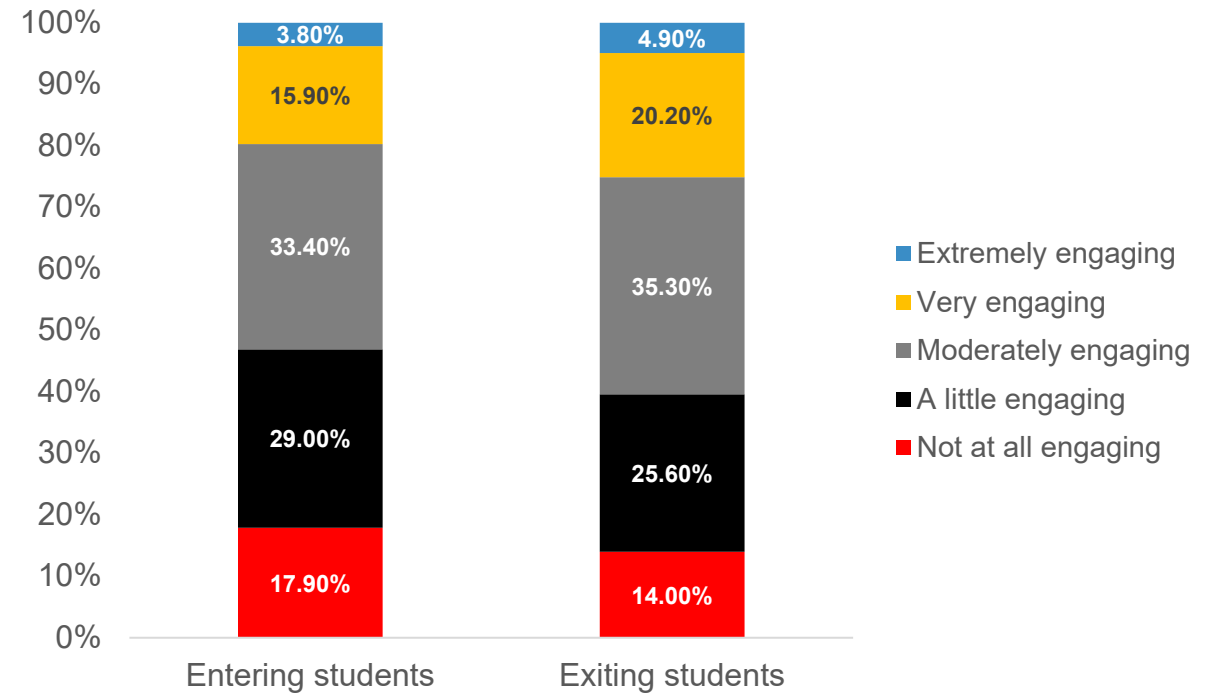


Figure 9: Self-reported engagement for SRQ by cohort

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

Credent*i*alate
openEQUELLA



Margo Griffith

Head of Business Development

Credent*i*alate

openEQUELLA

- ★ 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

*Discover & share
evidence of workplace
skills*



28

Institutional clients
across Asia Pacific

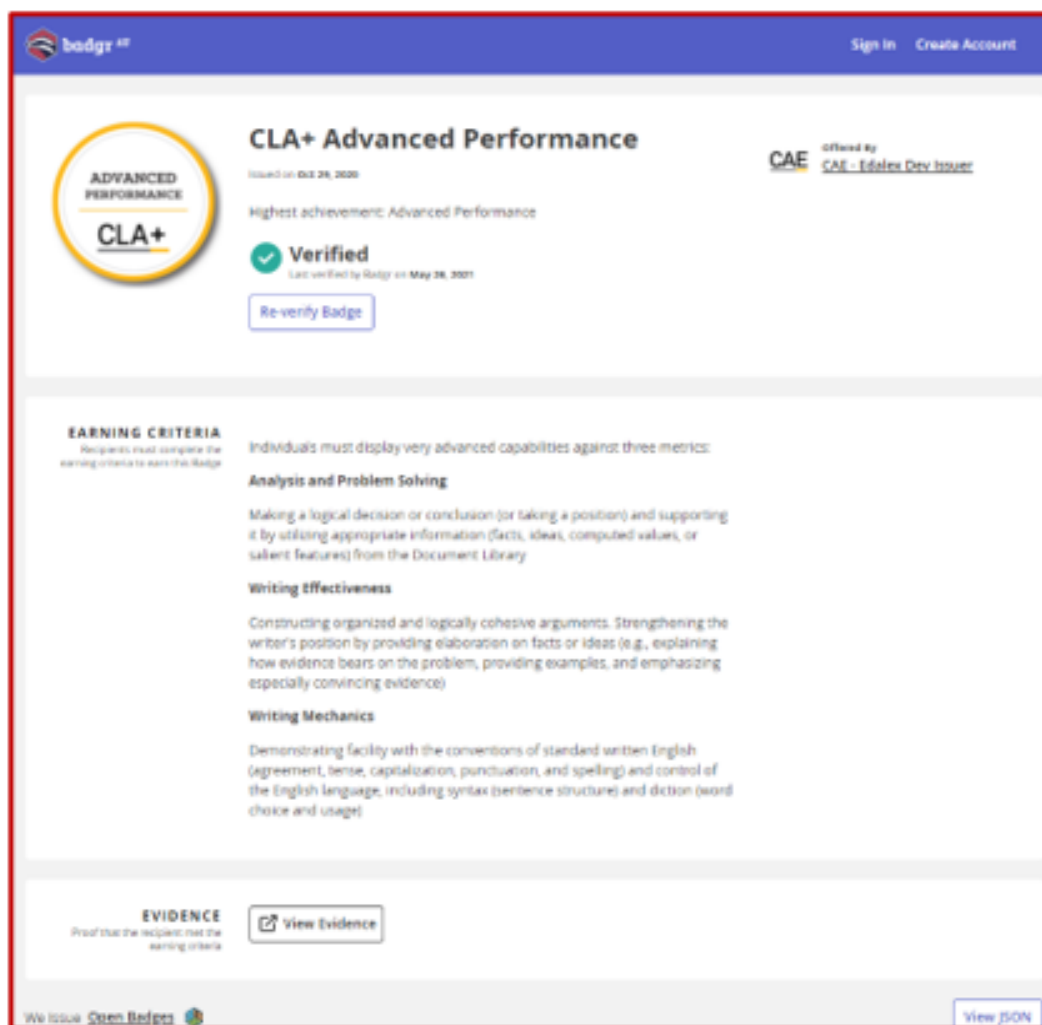
2.3

Million learners across
client institutions

93%

Edalex client
retention

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



CLA+ Advanced Performance
Issued on Oct 29, 2020
Offered by CAE - Edalex Dev Issuer

Highest achievement: Advanced Performance

Verified
Last verified by Badgr on May 26, 2021

[Re-verify Badge](#)


EARNING CRITERIA
Recipients must complete the earning criteria to earn this badge.

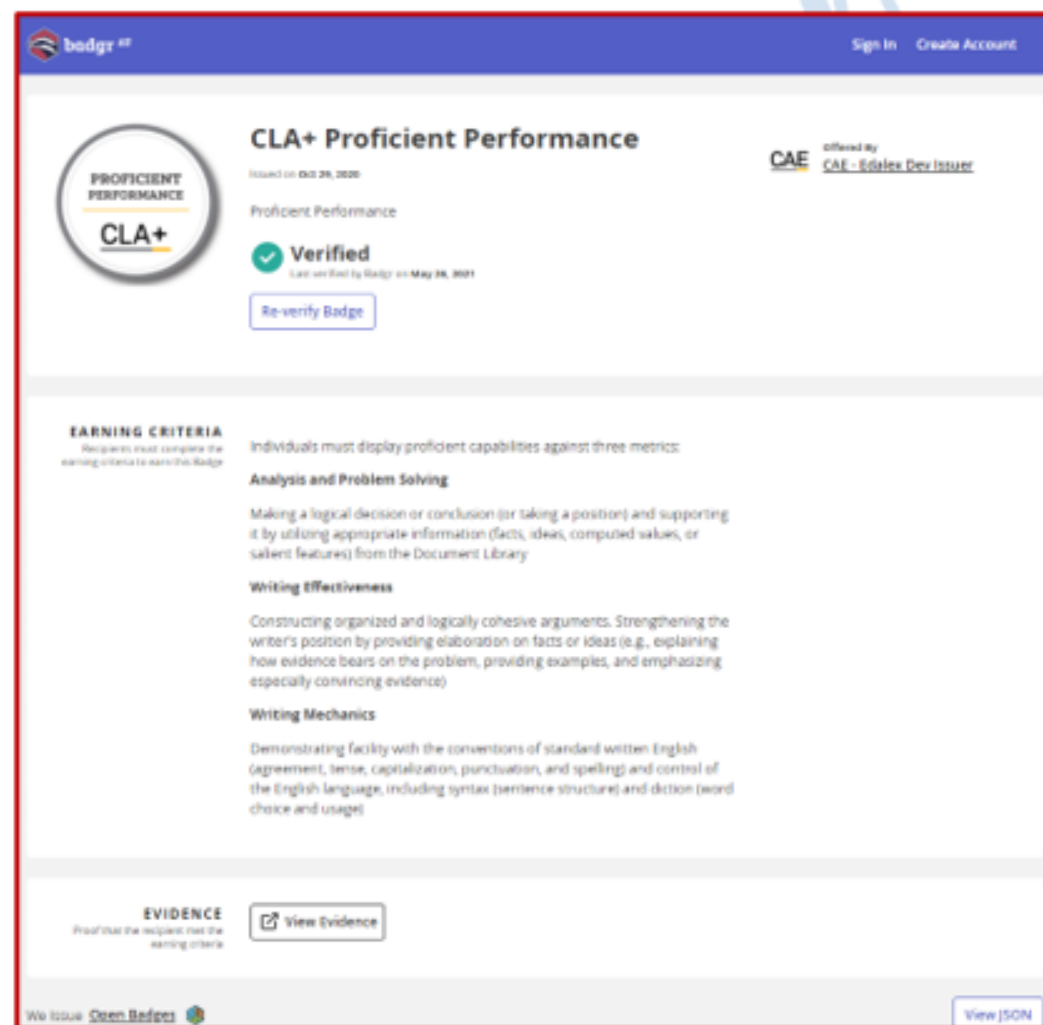
Individuals must display very advanced capabilities against three metrics:

- Analysis and Problem Solving**
Making a logical decision or conclusion (or taking a position) and supporting it by utilizing appropriate information (facts, ideas, computed values, or salient features) from the Document Library
- Writing Effectiveness**
Constructing organized and logically cohesive arguments. Strengthening the writer's position by providing elaboration on facts or ideas (e.g., explaining how evidence bears on the problem, providing examples, and emphasizing especially convincing evidence)
- Writing Mechanics**
Demonstrating facility with the conventions of standard written English (agreement, tense, capitalization, punctuation, and spelling) and control of the English language, including syntax (sentence structure) and diction (word choice and usage)

EVIDENCE
Proof that the recipient met the earning criteria

[View Evidence](#)

We issue [Open Badges](#)  [View JSON](#)



CLA+ Proficient Performance
Issued on Oct 29, 2020
Offered by CAE - Edalex Dev Issuer

Proficient Performance

Verified
Last verified by Badgr on May 26, 2021

[Re-verify Badge](#)


EARNING CRITERIA
Recipients must complete the earning criteria to earn this badge.

Individuals must display proficient capabilities against three metrics:

- Analysis and Problem Solving**
Making a logical decision or conclusion (or taking a position) and supporting it by utilizing appropriate information (facts, ideas, computed values, or salient features) from the Document Library
- Writing Effectiveness**
Constructing organized and logically cohesive arguments. Strengthening the writer's position by providing elaboration on facts or ideas (e.g., explaining how evidence bears on the problem, providing examples, and emphasizing especially convincing evidence)
- Writing Mechanics**
Demonstrating facility with the conventions of standard written English (agreement, tense, capitalization, punctuation, and spelling) and control of the English language, including syntax (sentence structure) and diction (word choice and usage)

EVIDENCE
Proof that the recipient met the earning criteria

[View Evidence](#)

We issue [Open Badges](#)  [View JSON](#)

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

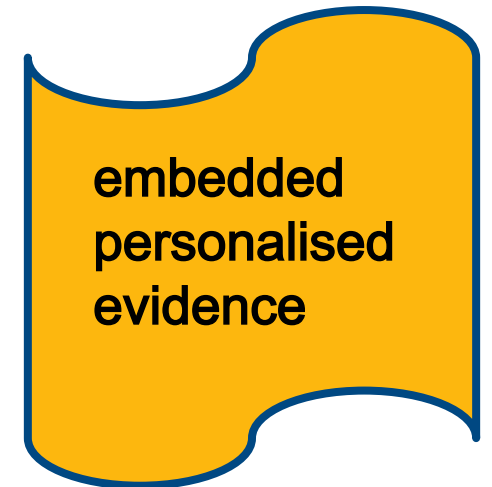
Adding robust evidence to the metadata



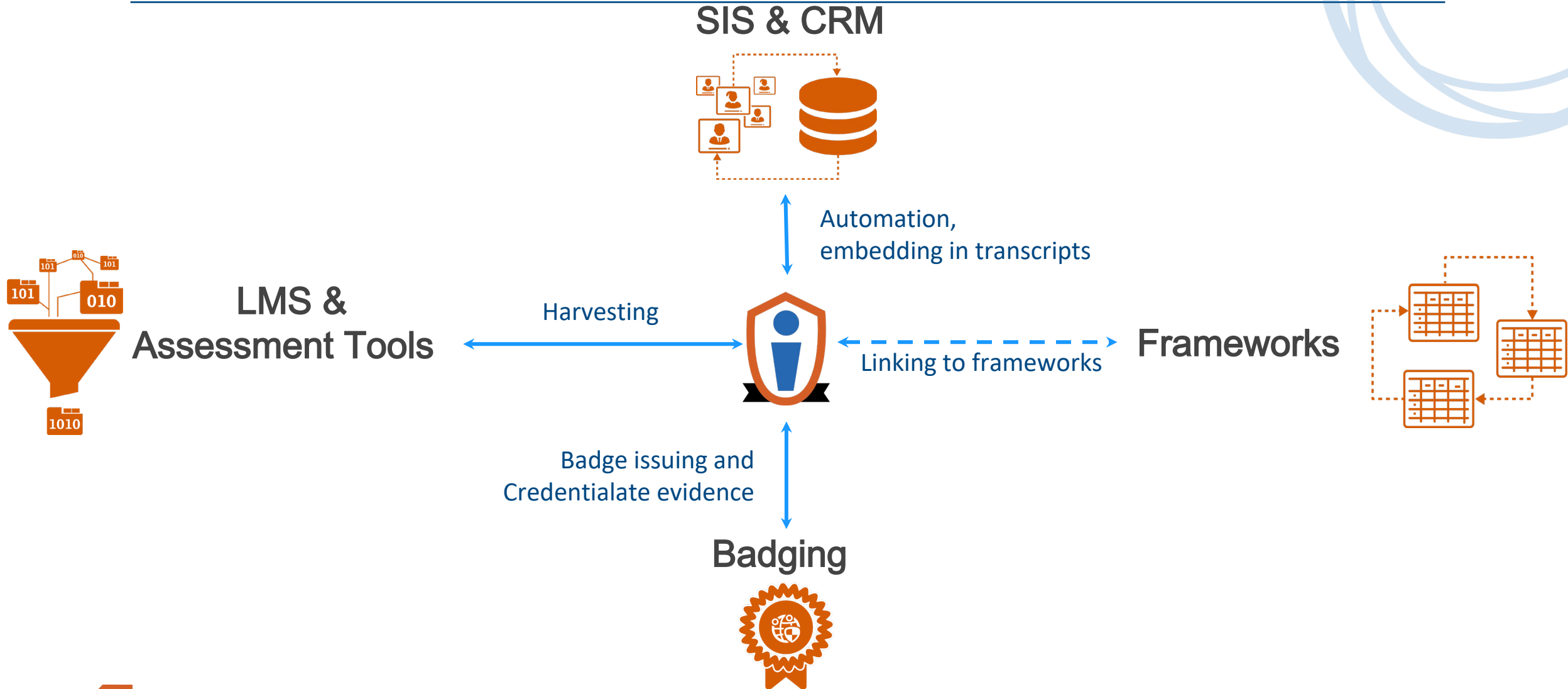
Open Badges 2.0

ANATOMY OF AN OPEN BADGE:

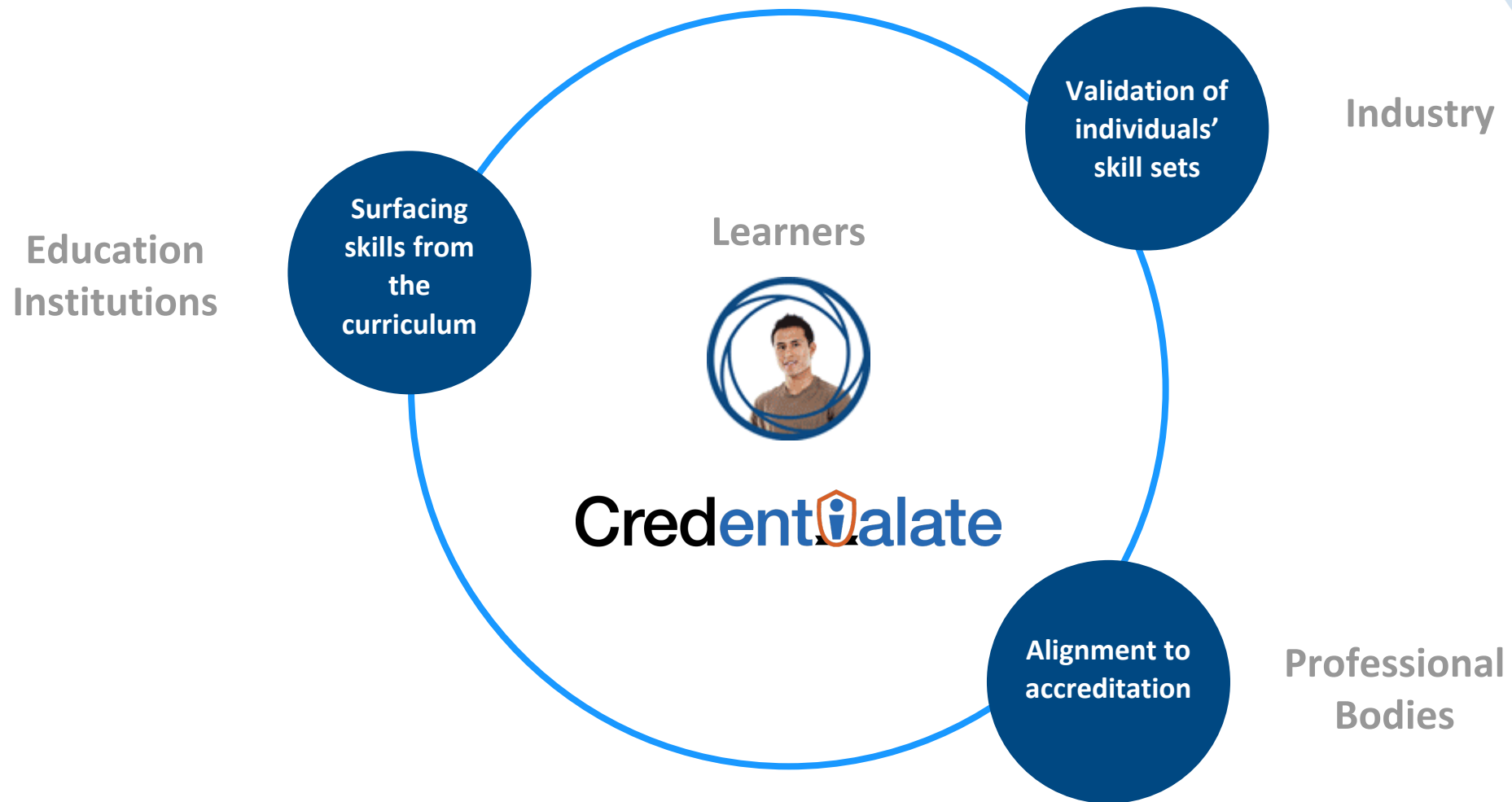
- Badge Name
- Badge Criteria
- Badge Image
- Issuer
- Recipient
- Tags
- Alignment (Standards)
- Issue Date
- Expiration Date
- Evidence
- Endorsement
- Language
- Version



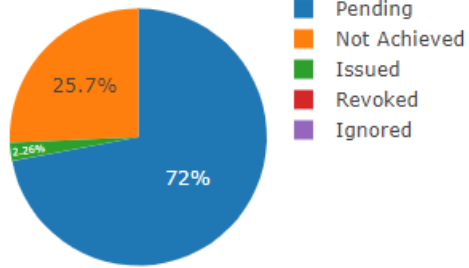
Credentialate in the edtech ecosystem



Use case: learners



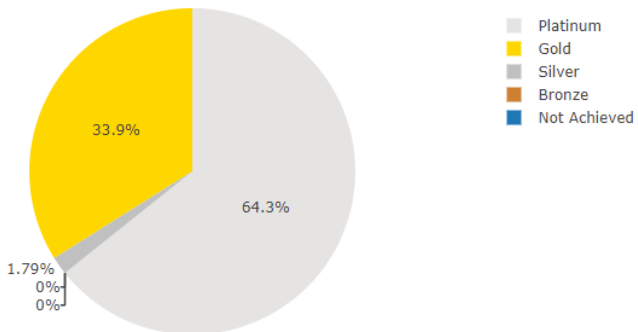
Use case: institutions



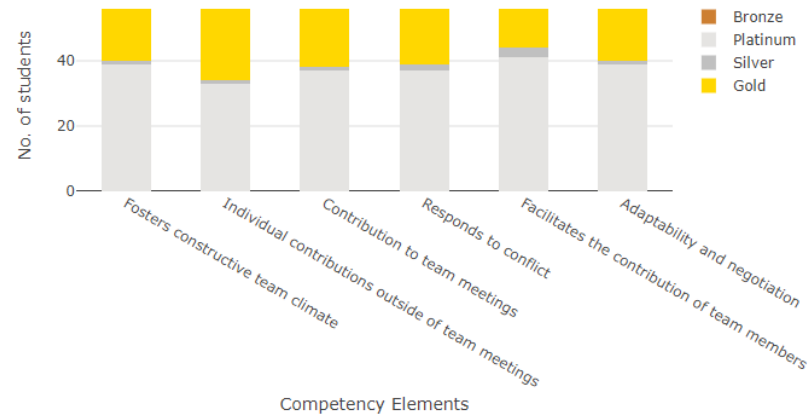
Ignored	3	0%
Issued	5,036	2%
Not Achieved	57,224	26%
Pending	160,428	72%
Revoked	5	0%
Total	222,696	

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

Teamwork



Element Scores for Teamwork



Case Studies



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



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



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



- Micro-credentials for industry alignment

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 microcredentials 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

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