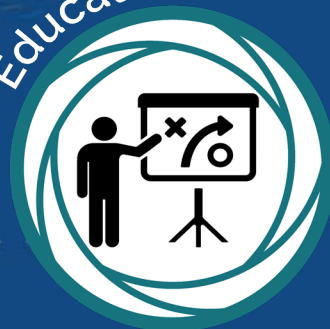


Learners

Educators

Associations

Employers



Micro-Credentials and Essential Academic and Career Skills

Measuring Learning Outcomes

Brought to you by:

Edalex

Credent*i*alate

CAE

Agenda

- Welcome and introductions
- Career readiness at QUT - ***Professor Kevin Ashford-Rowe***
- Measuring learning outcomes - ***Doris Zahner, PhD***
- The importance of personalised evidence - ***Dan McFadyen***
- Q&A

Our panel



Professor Kevin Ashford-Rowe

Pro Vice-Chancellor (Digital Learning), Academic Division, Education Portfolio, QUT

Professor Kevin Ashford-Rowe is institutional lead for digital learning at the Queensland University of Technology. He also leads the University's Learning and Teaching Unit. He has been an active participant in the Leading Change Institute since 2012. Kevin has a wealth of experience in strategic leadership, management, development and implementation of innovative and flexible education and training delivery at all levels of curriculum design, development and delivery.



Doris Zahner, PhD

Chief Academic Officer, Council for Aid to Education (CAE)

Dr. Doris Zahner is the Chief Academic Officer at CAE where she provides thought leadership and oversees all research and development studies pertaining to CAE's performance-based assessments. Dr. Zahner holds a PhD in cognitive psychology and an MS in applied statistics from Teachers College, Columbia University. In addition, Dr. Zahner is an adjunct associate professor at Barnard College and Teachers College, Columbia University and New York University.



Dan McFadyen

Managing Director, Edalex

Across the past 20+ years, 3 passions have driven Dan: shaping collaborative teams, evolving services businesses, and enabling innovation in education. Those passions have led him to key roles spanning 3 continents at Blackboard and Pearson as well as several start-ups. In 2016, he co-founded Edalex, developers of the Credentialate, openEQUELLA and openRSD platforms.

Tackling Career Readiness at QUT

- Work integrated learning (WIL)
- Identifying and recognising skills
- Industry alignment, relevant teaching applied research
- Educating for the workplace - University for the real-world
- How is the above playing out currently - and for the jobs of the future?

“Providing real world learning experiences and research solutions across a broad range of fields - with more than 50,000 students studying at our campuses”



**Queensland University
of Technology**

What is Required to Meet Future Need?

- If you had a magic wand - for both QUT and HE institutions - what is required to meet future need?

Frictionless Pathways for Learners in QLD

- Involvement in cross-sector working party aims to provide frictionless pathway for learners across all sectors in Queensland
- Why is this important and how is this progressing?



Solutions for Closing the Gap

About CAE

- A nonprofit whose mission is to **improve student learning outcomes**.
- Part of the **RAND Corporation** until 2005.
- CAE measures the essential success skills of **critical thinking, problem solving and written communication**.
- Over **800,000 students** at over **1,300 institutions** worldwide have been assessed through our performance-based assessments.
- CAE partners with Edalex to deliver **evidence-based microcredentials** of students' essential skills.



Ministry of
Education
and Culture



UNIVERSIDAD
IBEROAMERICANA
CIUDAD DE MÉXICO



UNIVERSITY
of HAWAII
HILO



THE SITUATION

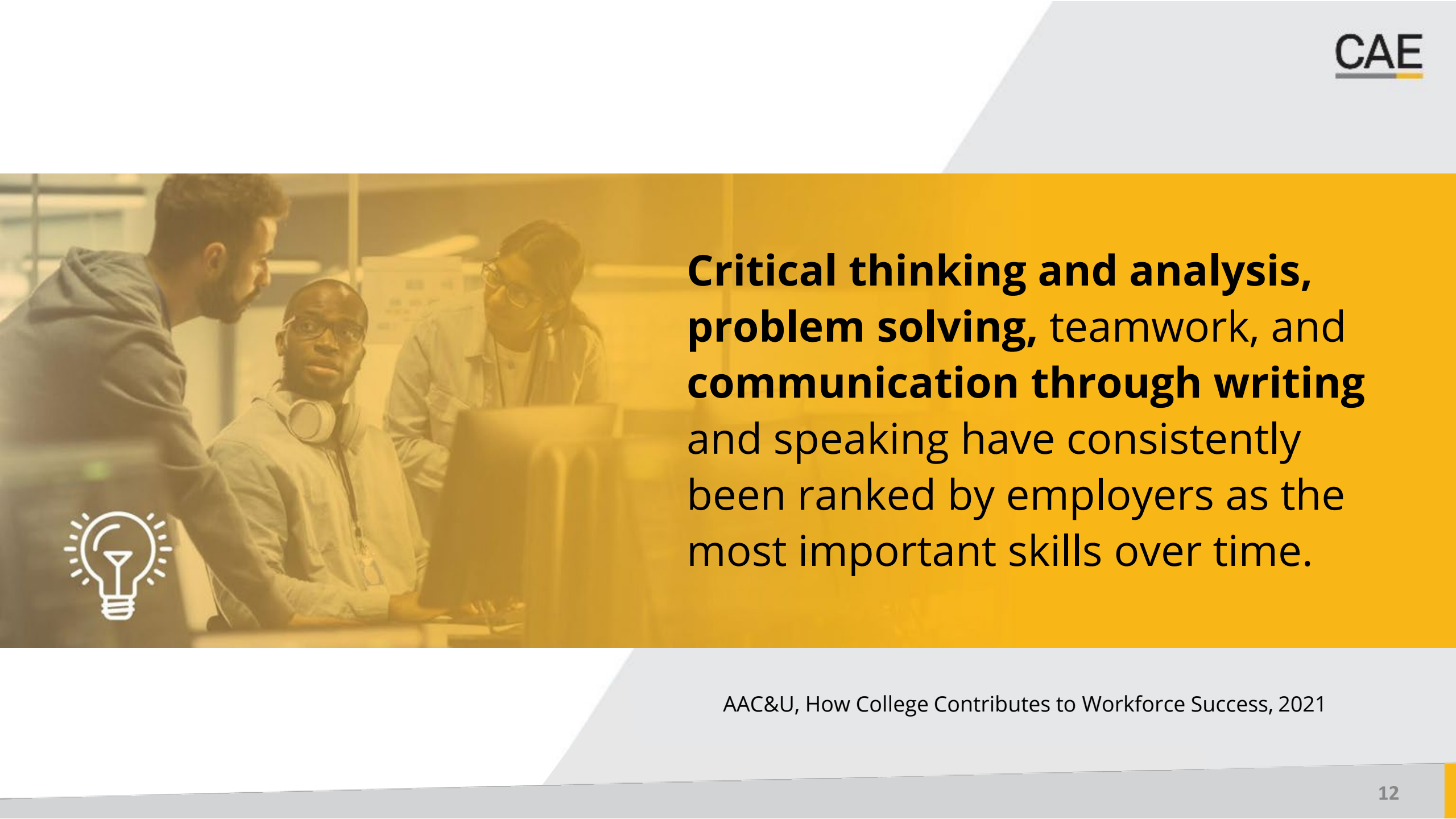
- **Critical thinking, problem solving, and written communication** are essential to academic and career success.
- Proficiency in these skills is **predictive of positive academic and career outcomes**.
- Yet, essential skills are **rarely explicitly taught or measured** by academic institutions.



- Today's **in-demand and emerging careers require these skills**, even if a traditional 4-year college degree is not required.
- Employers have a **lack of applicants who possess these skills**.

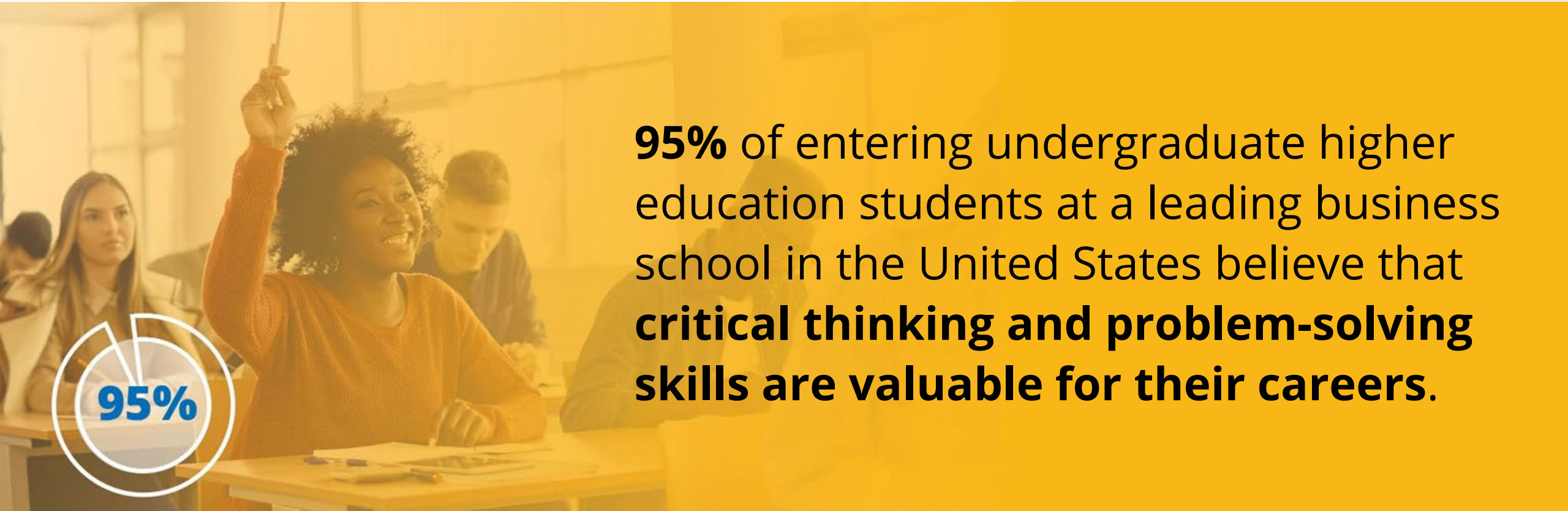
The background of the slide features a blurred photograph of a group of students sitting at a table, focused on their work. A large, semi-transparent yellow triangle is positioned on the right side of the image, partially covering the students. Overlaid on this background is the title text in a large, white, sans-serif font.

Importance of Essential Academic and Career Skills



Critical thinking and analysis, problem solving, teamwork, and communication through writing and speaking have consistently been ranked by employers as the most important skills over time.

AAC&U, How College Contributes to Workforce Success, 2021

A photograph of a classroom scene with a warm orange overlay. A young woman with dark curly hair, wearing an orange sweater, is raising her right hand and smiling. She is sitting at a desk with papers and pens. Other students are visible in the background, some looking towards the camera and others looking down.

95% of entering undergraduate higher education students at a leading business school in the United States believe that **critical thinking and problem-solving skills** are valuable for their careers.



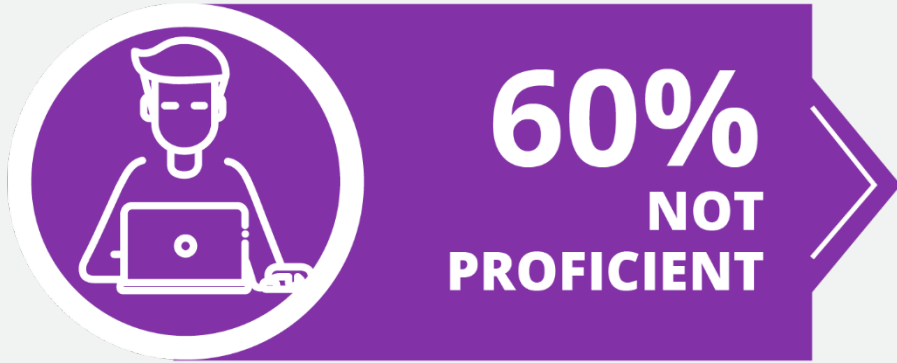
Survey of 552 students entering a leading U.S. business school at a public university, Fall 2021

But there is a gap in what students and employers want and the current reality...



60% of hiring managers say that recent college graduates **do not have the necessary critical thinking** and problem-solving skills and 44% saying graduates **lack writing proficiency**.

But there is a gap in what students and employers want and the current reality...



60% of U.S. students entering colleges and universities are **not proficient** in critical thinking, problem solving, and written communication.



40% of existing students are **STILL not proficient** in these skills.

Essential Skills Are Predictive of Positive Academic & Career Outcomes

A photograph of two students in a classroom. A male student in a red shirt is giving a high-five to a female student with blonde hair who is smiling. The background is slightly blurred, showing other students and classroom furniture.

Students who perform better on CAE's higher education assessment are more likely to have:

- **Higher cumulative GPAs** at the end of their senior year (Zahner & Steedle, 2012)
- **Positive post-university outcomes** as measured by employment, salary, and graduate school enrollment (Zahner & James, 2015) as well as employer ratings (Zahner & Lehrfeld, 2018)

The Jobs of Tomorrow Require Skills that Students Need to Build Today



Data
Literacy

Critical
Reading &
Evaluation

Critiquing an
Argument

Writing
Mechanics

Writing
Effectiveness

The background of the slide features a blurred photograph of a group of students sitting at a table, focused on their work. A large, semi-transparent yellow triangle is positioned on the right side of the image, partially covering the students. Overlaid on this background is the main title in a large, white, sans-serif font.

Improving Academic and Career Skills

Authentic Assessments



Real-World Scenarios

Students are situated in real-world scenarios that require the application of critical thinking, problem-solving, and written communication skills.



Recommend a Solution

Using supplied reference materials, students must organize information, define the problem, address issues, consider and evaluate solutions, and recommend and defend a course of action.



No Single “Right” Answer

Student scores reflect a range of plausible and effective response strategies — a process that, by design, mimics real-world, decision environments.

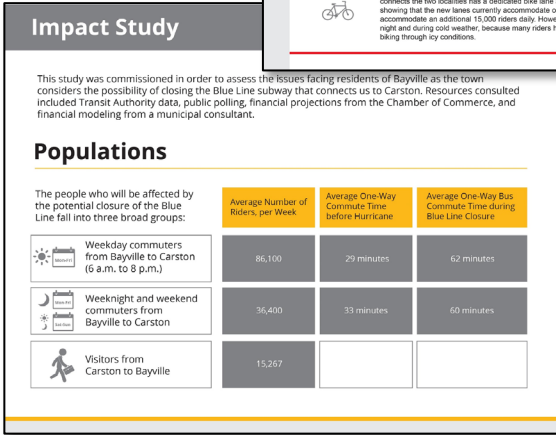
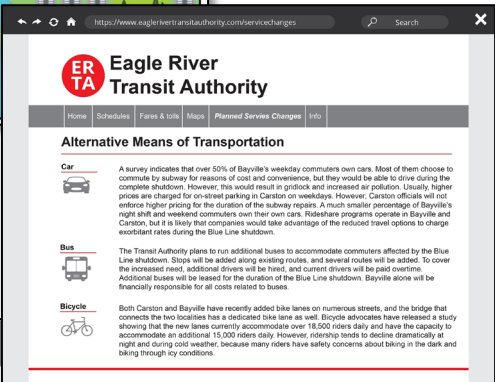
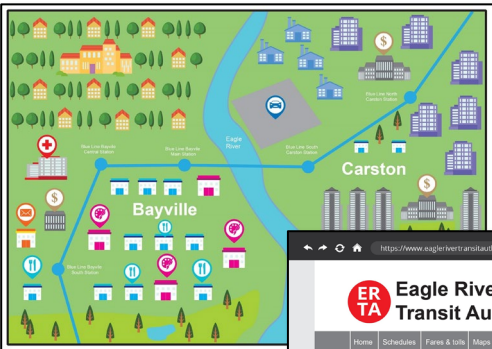
Performance Task Example

Scenario: You were just hired as a consultant for the Eagle River Transit Authority. Recently, a severe storm hit Bayville and flooded the Blue Line commuter rail tunnel, which connects Bayville to the neighboring city of Carston. The flooding caused severe damage to the tracks and electrical systems, resulting in greatly reduced operations.

Options: The Eagle River Transit Authority is considering the following two plans for repairing the tunnel:

- 1. Complete shutdown of the Blue Line for three months
- 2. Partial shutdown of the Blue Line for seven months

Your Task: You are preparing for a meeting to decide on a repair plan. The Eagle River Transit Authority has provided documents for your analysis. Your task is to analyze all the information in the documents and write a memo recommending a repair plan. Use evidence from the documents to support your recommendation.



Alternative Means of Transportation

Car A survey indicates that over 50% of Bayville's weekday commuters own cars. Most of them choose to commute by subway for reasons of cost and convenience, but they would be able to drive during the complete shutdown. However, this would result in gridlock and increased air pollution. Usually, higher prices are charged for on-street parking in Carston on weekdays. However, Carston officials will not enforce higher pricing for the duration of the subway repairs. A much smaller percentage of Bayville's night shift and weekend commuters own their own cars. RideShare programs operate in Bayville and Carston, but it is likely that companies would take advantage of the reduced travel options to charge exorbitant rates during the Blue Line shutdown.

Bus The Transit Authority plans to run additional buses to accommodate commuters affected by the Blue Line shutdown. Stops will be added along existing routes, and several routes will be added. To cover the increased need, additional drivers will be hired, and current drivers will be paid overtime. Additional buses will be leased for the duration of the Blue Line shutdown. Bayville alone will be financially responsible for all costs related to buses.

Bicycle Both Carston and Bayville have recently added bike lanes on numerous streets, and the bridge that connects the two localities has a dedicated bike lane as well. Bicycle advocates have released a study showing that the new lanes currently accommodate over 18,500 riders daily and have the capacity to accommodate an additional 15,000 riders daily. However, ridership tends to decline dramatically at night and during cold weather, because many riders have safety concerns about biking in the dark and biking through icy conditions.

Impact Study

This study was commissioned in order to assess the issues facing residents of Bayville as the town considers the possibility of closing the Blue Line subway that connects us to Carston. Resources consulted included Transit Authority data, public polling, financial projections from the Chamber of Commerce, and financial modeling from a municipal consultant.

Populations

The people who will be affected by the potential closure of the Blue Line fall into three broad groups:

	Average Number of Riders, per Week	Average One-Way Commute Time, before Hurricane	Average One-Way Bus Commute Time during Blue Line Closure
Weekday commuters from Bayville to Carston (6 a.m. to 3 p.m.)	86,100	29 minutes	62 minutes
Weeknight and weekend commuters from Bayville to Carston	36,400	33 minutes	60 minutes
Visitors from Carston to Bayville	15,267		

Case Study:



TEXAS A&M UNIVERSITY

Mays Business School

Goal: Improve the ability of students to think critically and problem solve, increasing academic success and preparing students to contribute on day one in the workforce.

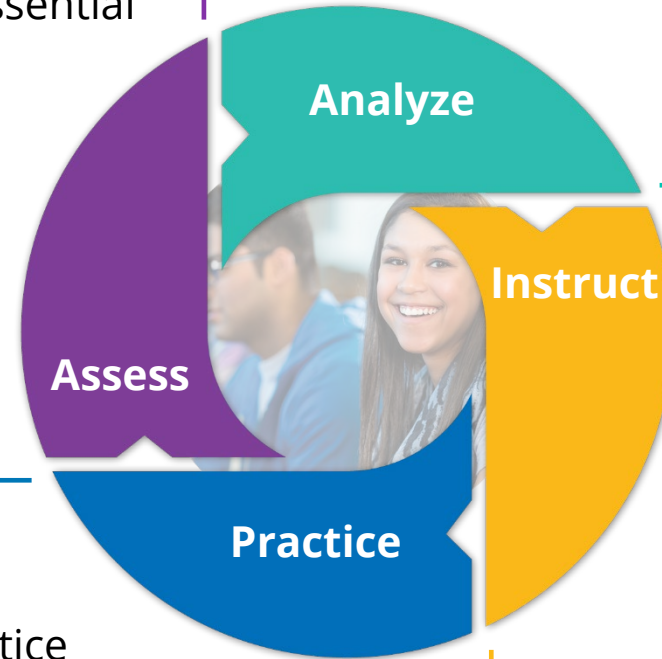
1. Assess incoming students to create a baseline and introduce students to the essential skills.

5. Re-assess exiting students and provide micro-credentials based on their mastery level.

4. Students practice applying each skill and subskill in a performance task over several weeks that aligns with instruction.

2. Review assessment data to determine specific areas to focus on class-wide and to identify students who may need additional support.

3. Provide critical thinking instruction.

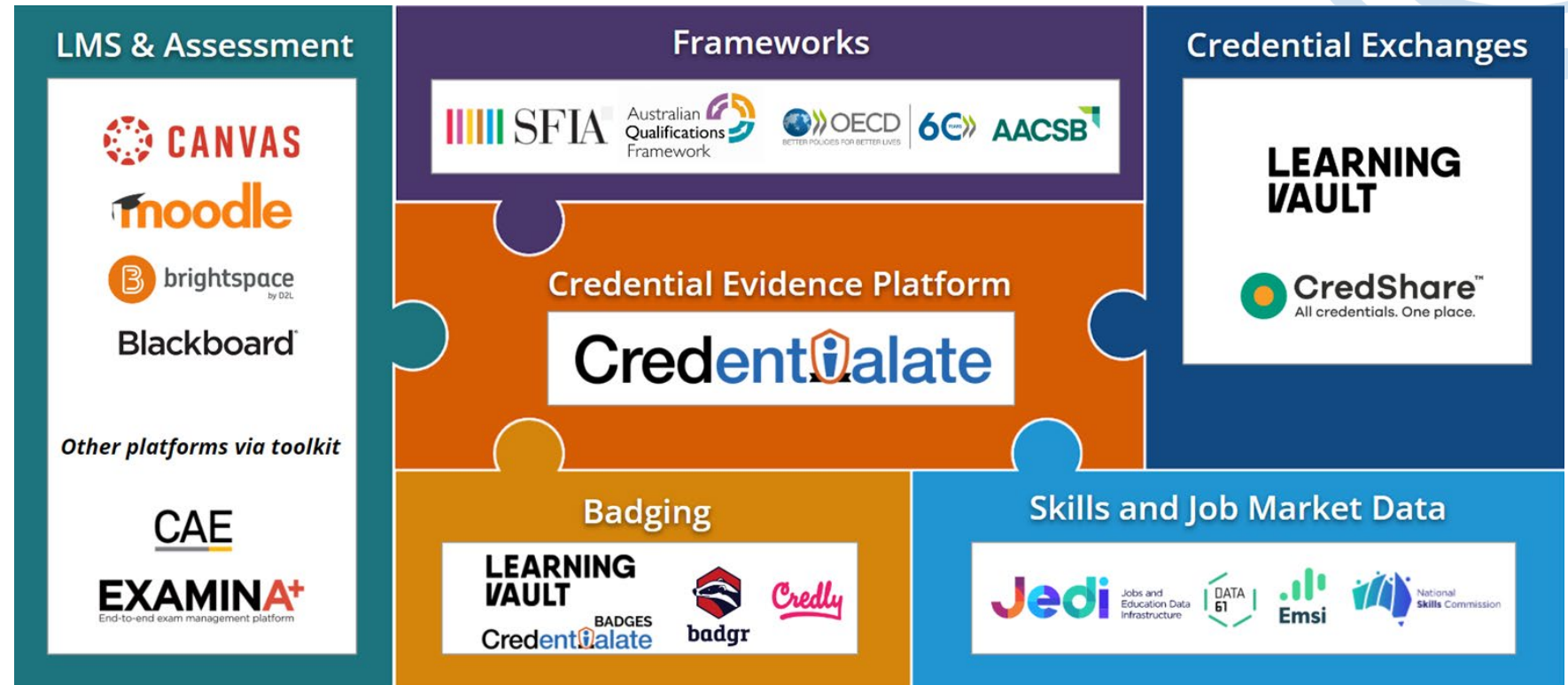


Summary

- Authentic, reliable, and valid assessments of students' **readiness** for higher education and career by helping them **improve** their essential skills.
- Instructional materials to **support skill development**.
- **Professional development** on using performance tasks and how to integrate essential skills instruction into existing curricula.
- **Microcredentials** are awarded for mastery of essential skills to help students **showcase** that they are **prepared for their next step**

Skills Recognition

Skills are the building blocks and translation piece between all stakeholders and sectors in the evolving skills ecosystem



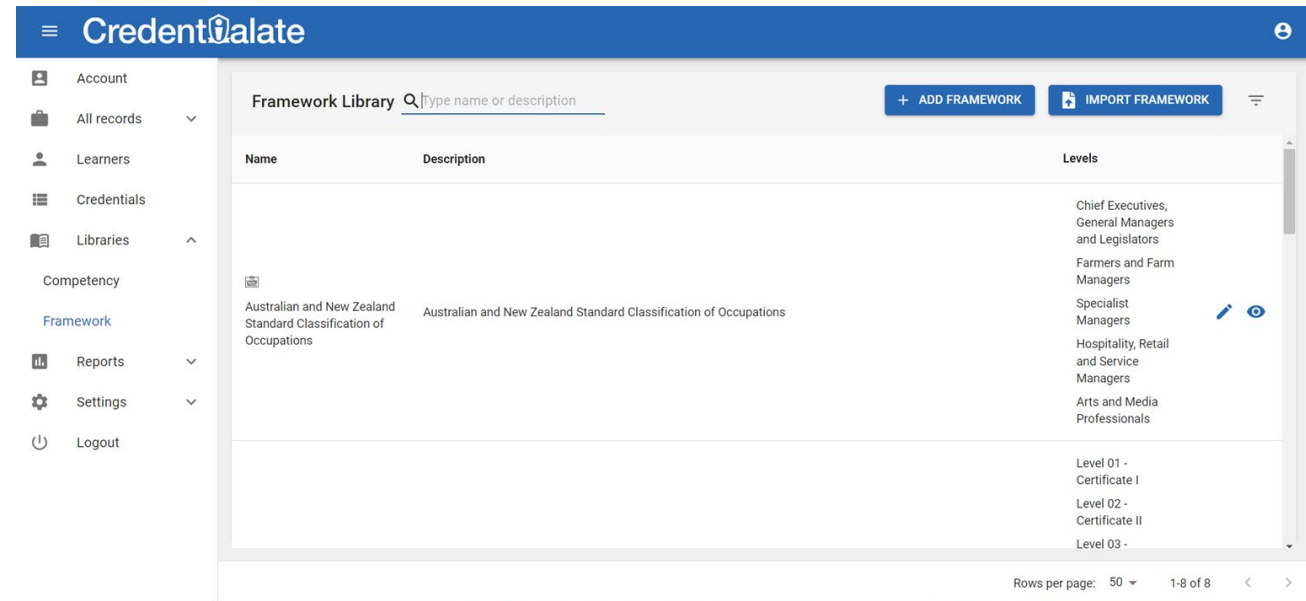
Human & Machine Readable Skills - RSDs

- Rich Skill Descriptors (RSDs)
- A common language in a standard format so that performance data can travel - within and between systems
- Open, global library available at openRSD.com



Importance of Alignment for Meaning

- Industry skills
- Frameworks
- Job and labour market data
- Anchors skills in real-world contexts



The screenshot shows the 'Credent@late' Framework Library interface. On the left is a sidebar menu with options: Account, All records, Learners, Credentials, Libraries, Competency, Framework (selected), Reports, Settings, and Logout. The main area is titled 'Framework Library' with a search bar and buttons for '+ ADD FRAMEWORK' and 'IMPORT FRAMEWORK'. A table lists frameworks with columns for Name, Description, and Levels. The first entry is 'Australian and New Zealand Standard Classification of Occupations' with levels including 'Chief Executives, General Managers and Legislators', 'Farmers and Farm Managers', 'Specialist Managers', 'Hospitality, Retail and Service Managers', 'Arts and Media Professionals', 'Level 01 - Certificate I', 'Level 02 - Certificate II', and 'Level 03 -'. The bottom right shows 'Rows per page: 50' and '1-8 of 8'.

Name	Description	Levels
Australian and New Zealand Standard Classification of Occupations	Australian and New Zealand Standard Classification of Occupations	Chief Executives, General Managers and Legislators Farmers and Farm Managers Specialist Managers Hospitality, Retail and Service Managers Arts and Media Professionals Level 01 - Certificate I Level 02 - Certificate II Level 03 -

Mobility *and* Meaning

- EdTech needs to enable mobility, such as between education and employment systems
- Needs to be achieved at scale for all stakeholders



Personal Evidence Record in CredentiaLate

- Learners can identify and speak to their skills
- Evidence they can use to prove what they know and what they can do

The screenshot displays a personal evidence record for Anthony Citizen on the CredentiaLate platform. The record is titled "Business Essentials" and includes a "Verify" button. It lists several skills with associated scores and evidence:

- Team development**: Consistently demonstrates knowledge of the five stages of team development and adjourning. Score: 100%.
- Team roles and interactions**: Consistently demonstrates an understanding of the roles of a team and the importance of communication and collaboration. Score: 90%.
- Power and influence**: Demonstrates knowledge of the roles of power vs influence in leadership roles within teams. Score: 60%.
- Improving team performance**: Demonstrates an understanding of team improvement strategies such as diversification, prioritisation, communication with context and clarification. Score: 80%.
- Decision making**: Demonstrates decision making skills such as defining the problem, encouraging critical thinking, creating real deadlines, overcoming biases and assumptions, assigning responsibility and turning decisions in action. Score: 60%.

Callouts highlight specific features:

- Instant Verification Embedded**: Points to the "Verify" button.
- Qualitative and Quantitative Evidence**: Points to the skill descriptions and scores.
- Share Options Embedded**: Points to the social media share buttons (LinkedIn, Twitter, Facebook).
- Score Key**: Points to the legend indicating "Proficient" (50% to 85%) and "Excellence" (85% and above).
- Enrich Evidence with Artefacts**: Points to the "Artefacts" section, which lists "Business pitch" (42 MB) and "Business poster" (3 MB).
- Framework Alignment**: Points to the "Alignments" section, which shows the record's alignment with the Digital Literacy Skills Framework (PL1 A) and the Digital Identity and Safety Framework (PL1 A).

Learner Agency - Empowering Learners

- Understand their skills and capabilities
- Communicate that within their current or future employers
- Learners can choose what and how they share
- Empower them to recognise skills - from formal and non-formal and informal learning gained throughout their life



Q&A



Thank you! Visit:

edalex.com

cae.org