L&T:22

Research Papers

Wednesday 28 September

THE UNIVERSITY OF SYDNEY
Business School

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Research Papers

Associate Professor Elaine Huber

Academic Director, Business Co-Design,
The University of Business School

Research 1

Cultivating Entrepreneurs and Innovators Through Connected Learning

- Claire Bi and Cheryl Brown

L&T:22

The University of Sydney Business School

Learning and Teaching Forum 2022

Cultivating entrepreneurs and innovators through connected learning: A cross-disciplinary study

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University of Canterbury
New Zealand

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CHRISTCHURCH NEW ZEALAND

Whakatauki

Nāu te rourou, nāku te rourou, ka ora ai te iwi

With your food basket and my food basket the people will thrive

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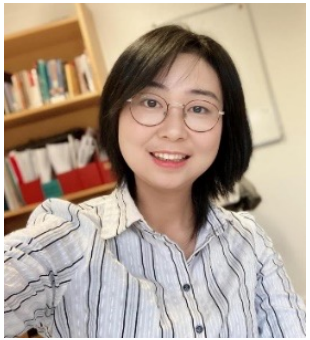
About the authors



Dr. Claire Bi,
Lecturer
Department of Management, marketing & Entrepreneurship
UC Business School
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- Teaching: **Entrepreneurship** and innovation
- Research: Entrepreneurial cognitions and behaviours, digital entrepreneurship

Assoc. Prof. Cheryl Brown
Co-Director Digital Education Futures Lab in the School of Educational Studies and Leadership
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- Teaching: **Tertiary teaching**, and learning design and assessment
- Research: Digital literacy, networked learning, online and blended learning

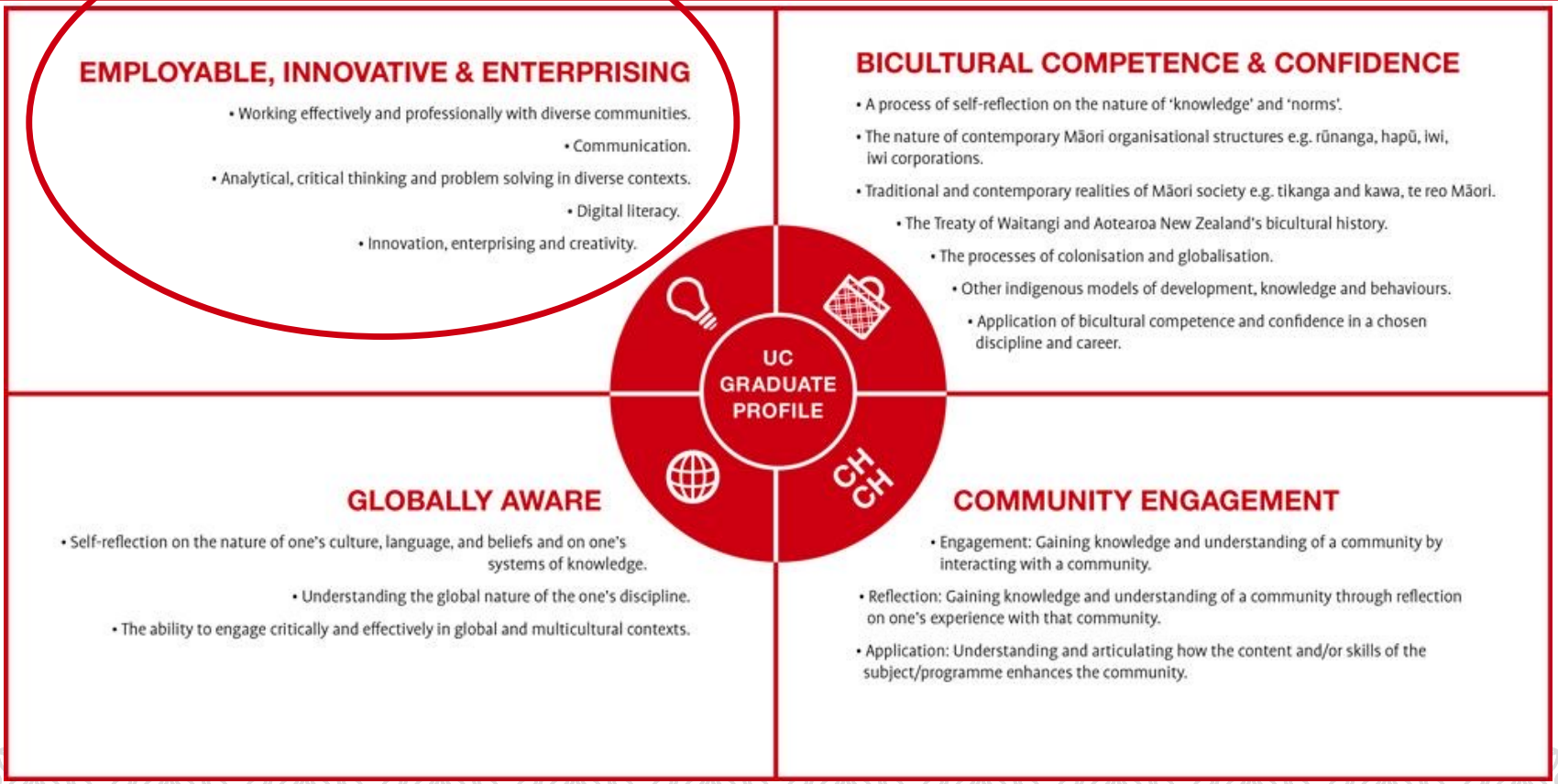
Research background

Postgraduate Certificate in Tertiary Teaching

PGCertTertTchg

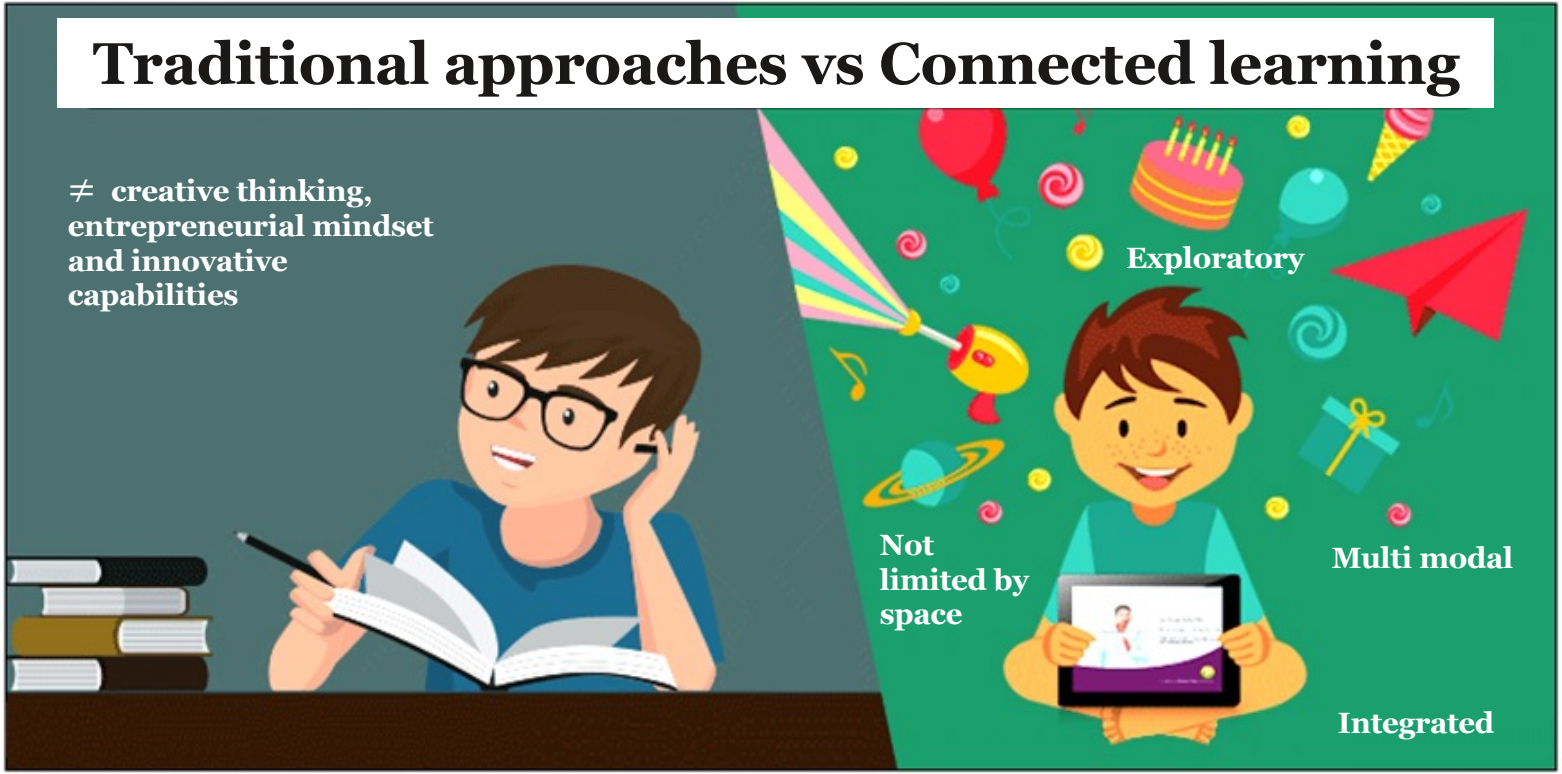
- Different tertiary teaching approaches
- How to apply in entrepreneurship education?
- More specifically, how to cultivate students' entrepreneurial and innovative attributes?
- Part of UC Graduate Attributes
- More broadly, Tertiary Education Strategy (New Zealand), 21st-Century Skills (National Research Council, United States), Key Competences (European Commission).

Graduate profile

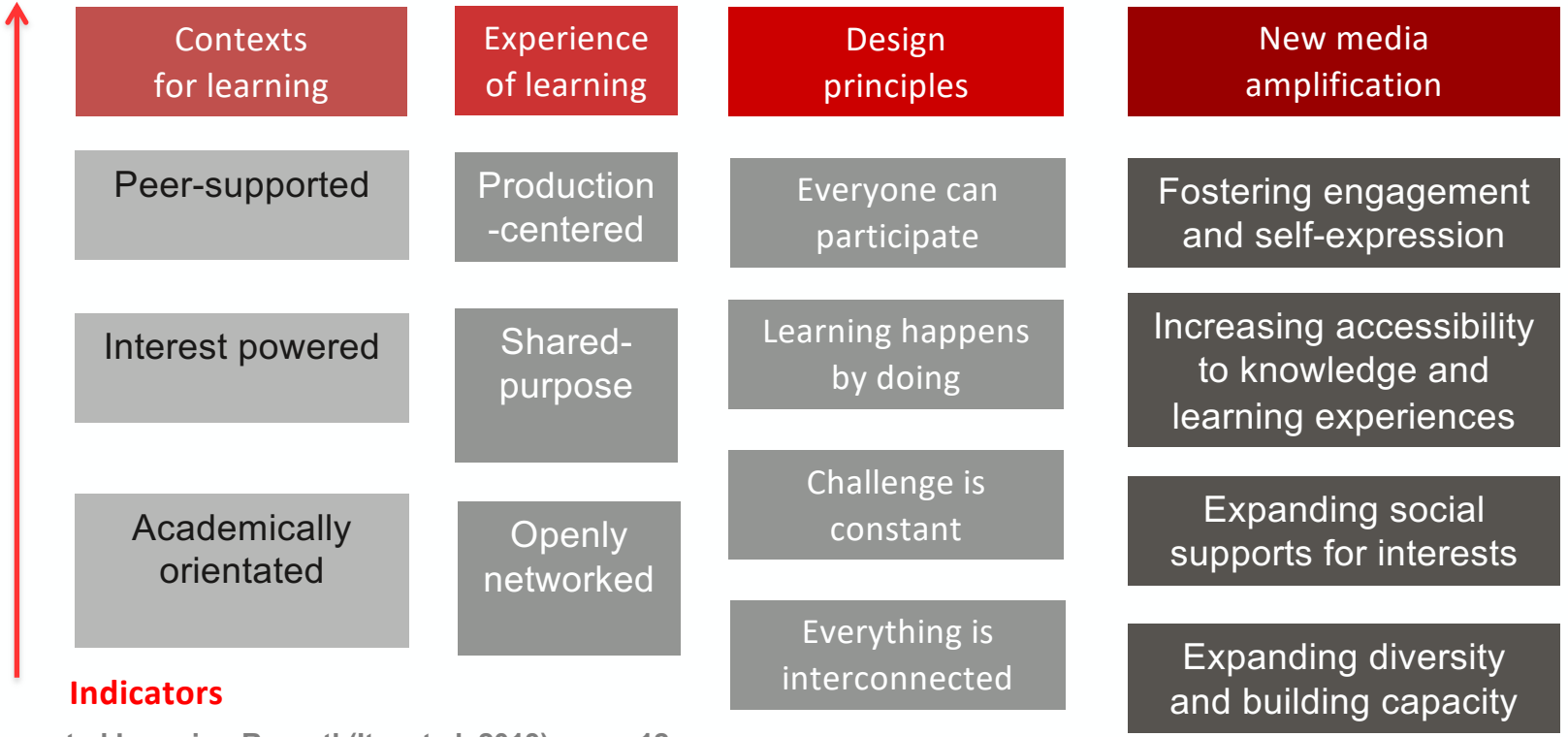


Source: https://www.canterbury.ac.nz/study/graduate-profile/academics/what-are-the-graduate-attributes/

Research motivation



Connected learning



'Connected Learning Report' (Ito, et al. 2013), page 12

Research gap

Most research on connected learning focuses on the **educational context for youth** (e.g., Ito et al., 2013; Kumpulainen & Sefton-Green, 2014).

BUT Tertiary students are different

- Different cognitive and behavioural patterns.
- At the life stage of getting themselves prepared for the workforce.
- Aim to develop employability, transferable skills and life-long learning capabilities.

Research questions

- *Can **connected learning** develop students' entrepreneurial and innovative capabilities?*

- *What are the **pedagogies and teaching practices** we can adopt from other disciplines?*

Research methodology

11 Teaching Awards TA winners

5 University
5 National
1 School

3 Leaders from University Centre for Entrepreneurship (UCE)

Director
Program Mgr
Enterprise Mgr

Level: 1 Senior Lecturer, 5 Assoc Prof, 5 Prof

6 Male, 8 Female

Semi structured interviews

Questions asked

- Teaching **philosophy** and teaching approaches?
- Understandings of entrepreneurial and innovative **capabilities** in your discipline?
- Understandings of **connected learning** and how do you reflect in your teachin

Research Findings

Teaching Philosophy

Outcome-oriented

- Prepare students for business setting
- Mastery of skills
- Prepare them for a sustainable and just world
- Important to society
- Better understanding of themselves, the world and their role in society

***Explicit* about connected learning**

Process-oriented

- Active role in their learning
- Optimise for students with diverse needs
- Students as part of the learning process
- Personal learning journey
- Teaching as a dialogue

***Implicit* about connected learning**

Capabilities

- **Theme 1: Entrepreneurial and innovative capabilities are emphasized across disciplines in different languages:**
  - Being comfortable with failure
  - Risk-taking attitudes
  - Problem-solving for challenges
  - Confidence skills
  - Team and communication skills
  - Critical thinking

"We don't think of it [entrepreneurial capability] like that in **law**, but I want them to **copy with challenges** through the exercises" (S05UC).

"In **geology** you often look at something that's under the ground, and you can't see what is under the ground. They have small data sets and you have to **imagine and connect this sort of data point**. I think there is quite a lot of **creativity** in geology." (S08BK)

Pedagogies and Assessment

- **Theme 2: Effective pedagogies and assessments for students' entrepreneurial and innovative capability development :**
  - ***Pedagogies:***
    - Peer-supported and co-learning
    - Interest-driven
    - Problem-centred
    - Students-led
  - ***Assessment***:
    - Peer review
    - Focus on experience and process
    - Formative assessments
    - Develop students' confidence via assessment

"I ask students to assess each others' assignments. This builds the **connection** between students, and also facilitate **co-learning**. And a lot of people say to me, I feel so uncomfortable doing this. And I say, well, just think about it that you're actually **helping that person** get a better grade." (S07KD)

Mechanisms

- **Theme 3: Connected learning can develop university students' entrepreneurial and innovative capabilities by creating**:
  - Relatedness
  - Sense of belonging
  - Empathy
  - Divergent thinking
  - Resource combination

"I think that in the academic environment, students normally do not think that way, but you are trying to **lead them into the situation [real world]**" (S09XN).

"We build connection between the students in the field trip. They live together and eat together. A very strong relationship is built between students so they have a **sense of belonging**" (S08BK)

Digital technologies

- **Theme 4: Pedagogical challenges and opportunities of using digital technologies in connected learning**:
  - *Challenges*:
    - Increase immediate gratification
    - Losses in subconscious feedback
    - Impede interpersonal skill development
  - *Opportunities*:
    - P2P learning
    - Assures students' commitments
    - Support frequent and informal communications

"I think there is definitely some of the **use of digital technology support frequent touch points with students**. It **reduces the overheads of short interactions**, because if you have to walk 30 minutes across campus and have a 10 minute conversation with your lecturer. It feels like a very expensive 10 minutes. Whereas if you have a quick meeting on Zoom, the burden to make that happen is much lower." (S13JC)

Place and space

- **Theme 5: University Centre for Entrepreneurship as a hub for connected learning:**
  - Students' diversity
  - Resource outreach
  - Non-traditional learning environment
  - Longer and multiple supports for students' interest-based learning

"**UCE isn't classroom living, it is different**. We think part of what the students really get out of it is actually having to engage with other students and who might have **different backgrounds and different opinions** about the way the world works in a way that is actually quite rare" (S12RW)

Enabling environments

"In this assessment, there is only a data seed. Students **can do anything they like**. It ends up with many interesting projects and the **creativity** is great" (S11JB)

- **Theme 6: Enabling environment to develop students' entrepreneurial and innovative capabilities**:
  - **Flexibility** encourages innovative solutions
  - **Autonomy** promotes students-led learning
  - **Supportive environment** increases students' willingness to take risks
  - **Project-based learning** develops students' creativity and problem-solving
  - **Role modelling for vulnerability** help students get comfortable with failure and uncertainty

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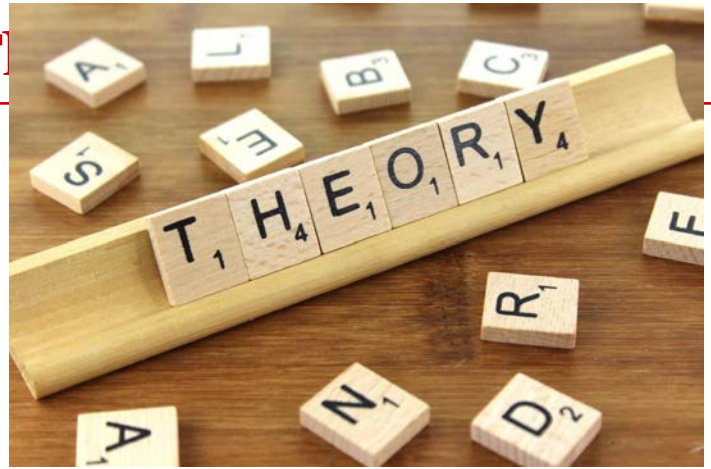

- Contributes to
  - Role of connected learning to **develop students' entrepreneurial capabilities and innovative skills**
  - **cross-disciplinary** - showcased shared and differentiated teaching practices and pedagogies

- Help entrepreneurship education in creating **authentic learning environments** for students
- Importance of setting up proper **learning environments** to develop students' entrepreneurial and innovative capabilities.

- Effective pedagogies identified in this study can be applied in **multi disciplinary** classrooms.
- Value of **cross faculty discussions** on how to develop students' enterprising attributes

- Insights into how to develop this **important graduate attribute** in a range of disciplines.
- Importance of a central "place" to **bridge in-class learning with out-of-class learning** and encourage students' project-based learning and problem-based learning.

- Entrepreneurial and innovative capabilities **are important** in different disciplines.
- Connected learning develops students' entrepreneurial and innovative capabilities through by creating **relatedness**, sense of **belonging**, **empathy**, **divergent** thinking and resource combination.
- Both challenges and opportunities exist when using digital technologies in connected learning.
- Creating a **supportive learning environment** at the university level is important to implement and promote connected learning to develop students' entrepreneurial and innovative capabilities.

References

- Brown, R., & Renshaw, P. (2006). Positioning students as actors and authors: A chronotopic analysis of collaborative learning activities. Mind, Culture, and Activity, 13(3), 247-259.
- Ito, M., Gutiérrez, K., Livingstone, S., Penuel, B., Rhodes, J., Salen, K., . . . Watkins, S. C. (2013). Connected learning: An agenda for research and design: Digital Media and Learning Research Hub.
- Linn, P. L., Howard, A., & Miller, E. (2003). Theories about learning and development in cooperative education and internships. In Handbook for research in cooperative education and internships (pp. 26-43): Routledge.
- Säljö, R. (2012). Schooling and spaces for learning: Cultural dynamics and student participation and agency. In Learning, Social Interaction and Diversity-Exploring Identities in School Practices (pp. 9-14): Brill Sense.
- Wiske, M. S., & Breit, L. (2013). Teaching for understanding with technology: John Wiley & Sons.

Thank you!

Question?

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Research 2

Finding Imperfection and Impact: Developing Self Reflection in our Future Managers

— Lynn Gribble

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Finding Imperfection and Impact: Developing Self Reflection in our Future Managers

Dr Lynn Gribble

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Authentic assessment for managers

- Management is not abstract
- Often learned in the process of doing
- More than what is learned in the classroom.
- More than what Fayol suggests (planning, leading, organizing and controlling)

Managers need to

reflect to make change and learn

Self reflections

- Often used
- Not a summary
- a sense making activity
- Need to measure change

Change – Difference or Impact?

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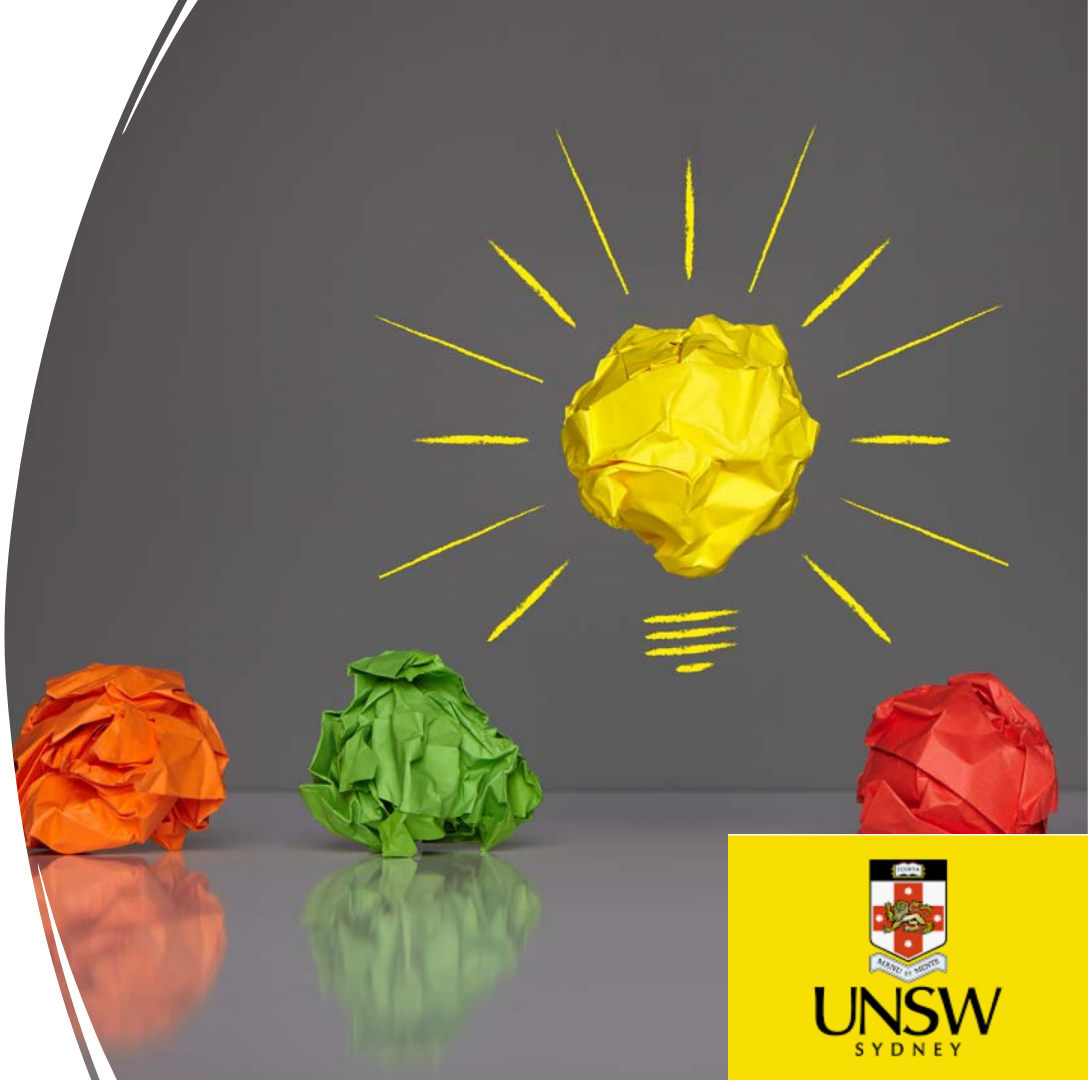
Personal narratives

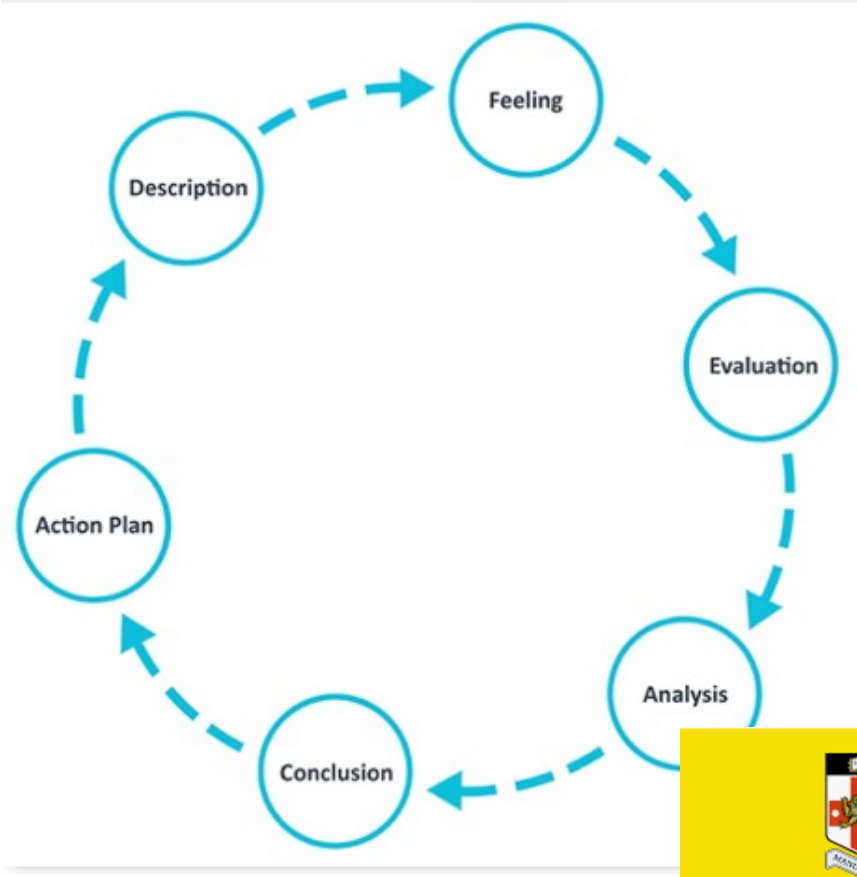
- Consider what was done, and what difference it made.
- Reflective but sense making
- Look for impact on others or results of change



Supported practice

- Each week
- Personal
- Change and impact focused

Gibbs model of self reflection



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Feedback to us

- The quality of their reflection is so much stronger than any of the class discussions I have marked over the years. It is evident that they are thinking about how this impacts them and have really engaged with the course content in a way that I have not seen before. The work that you have done on this program is really impressive. (T1, Tutor)

- Students have told us:
  - “Wiki provides me an opportunity to reflect my learning and understanding” (T1, Student)
  - “The best thing about this course was how it was structured to keep students engaged with the weekly topics.” (T1, Student)
  - “ Wiki is my favorite task, by doing it, I can review the course weekly, practice Harvard referencing, practice reflection skills, and practice overall writing skills” (T2, Student)
  - “Weekly WIKI can help us deepen our understanding of the course, and cooperate with tut to get more benefits.” (T2, Student)
  - “The weekly wiki allows me to better understand what the teacher is talking about and the teacher will give some new cases of study each week. These examples can be used to make the learning more practical.” (T2, Student)

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Research 3

Framework for evaluating online assessment in business education: Trade-offs in promoting innovation

—Andrew Cram, Sandris Zeivots and Corina Raduescu

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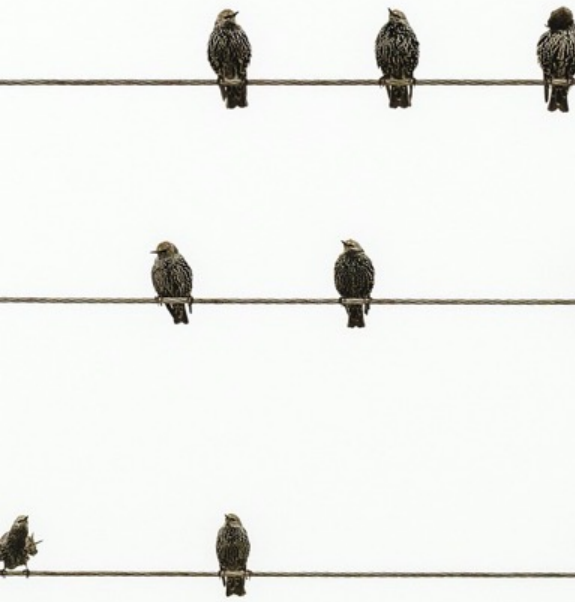
Framework for evaluating online assessment in business education: Trade-offs in promoting innovation

Dr Andrew Cram[1], *Business Co-Design*
Dr Sandris Zeivots[1], *Business Co-Design*
Corina Raduescu[1], *Business Information Systems*

Project team:
Associate Professor Elaine Huber[1] (Project Lead), *Business Co-Design;* **Professor Lynne Harris**[2], *Teaching and Learning;* **Professor Sue Wright**[3], *Accounting Discipline Group;* **Dr Amanda White**[3], *Accounting Discipline Group;* **Andrew Brodzeli**[1], *Senior Research Assistant*

[1]*University of Sydney Business School*
[2]*Chartered Accountants Australia New Zealand (CAANZ)*
[3]*University of Technology Sydney Business School*

Funded by the Australian Business Deans Council



Project aims

1. To understand current use of online assessment in Australian university business schools
2. To develop a framework of key design considerations for educators to use for online assessments.

Methods

1

Systematic literature review

- 67 articles identified (timeframe: 2011-2021)
- Identify key issues in online assessment and informed the framework

2

Online survey

- 97 respondents, from 15 business disciplines
- Examine respondents' usage of online assessment and framework application
- Respondents in multiple roles (85 unit coordinators, 69 lecturers, 36 program co ordinators, 32 tutors, 15 EDs/LDs, 2 Deans)

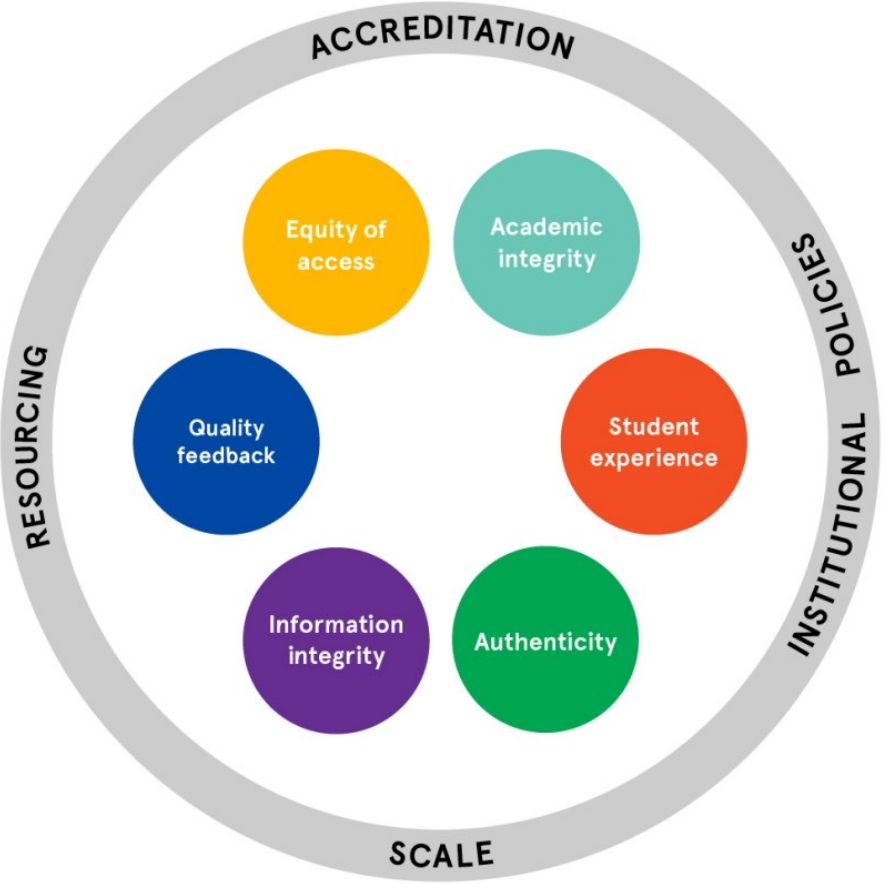
3

Focus groups (4)

- Deeper dive into issues in delivery/design of different forms of online assessment
- 19 participants (10 women, 9 men) from four states/territories and 14 universities

Framework for Evaluating Online Assessment in Business Education

www.bizonlineassessment.com



Academic integrity

Addresses academic dishonesty and is concerned with the security of an assessment

Student experience

Online assessments are convenient, increase student motivation, maximise comfort and ease of concentration, and minimise stress and anxiety.

Authenticity

Tasks common to professional settings. Authentic assessments deal with complexity, inquiry and will optimally involve self-assessment.

Information integrity

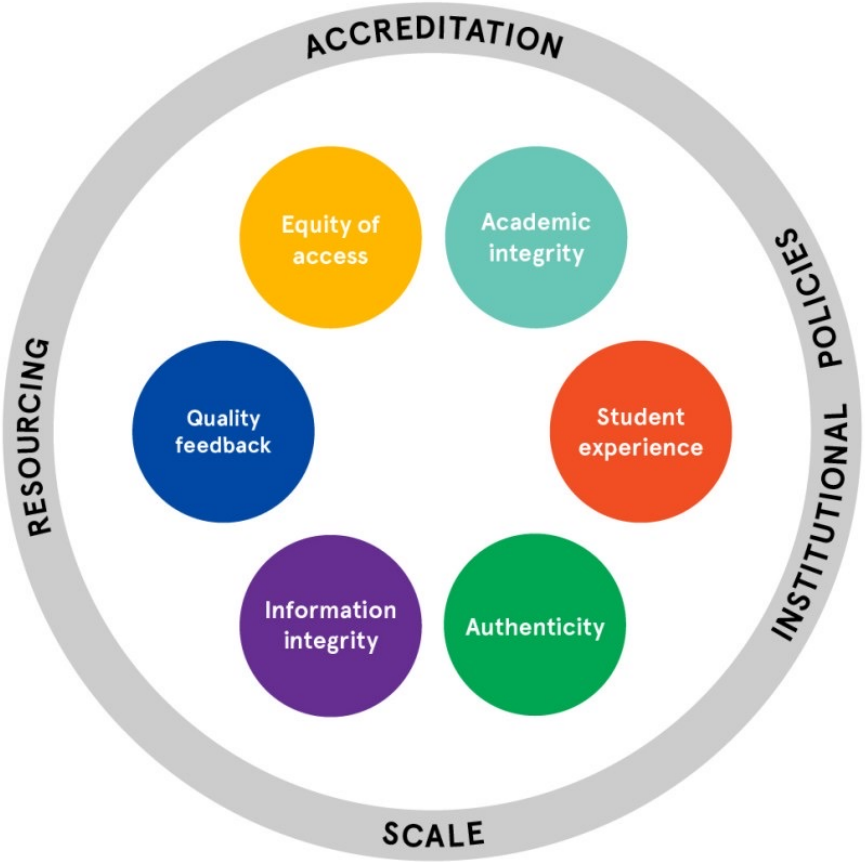
Well-designed online assessments will minimise the risk of unauthorised access to student personal information and data.

Quality feedback

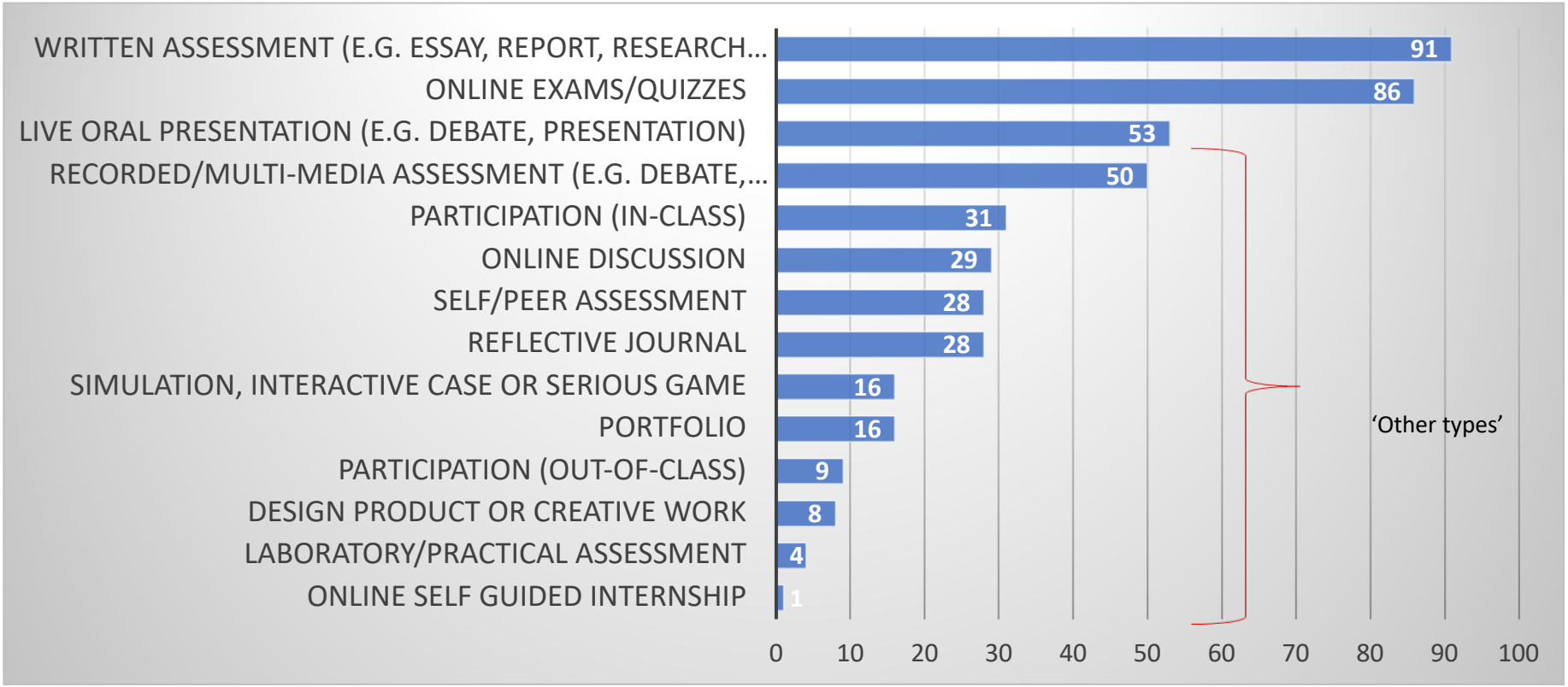
Timely and formative feedback that supports students' understanding of their performance and how to improve.

Equity of access

Removal of barriers for students' completion of the online assessment. Assessment conditions are customised to meet individual student needs.



What forms of assessment were being used?

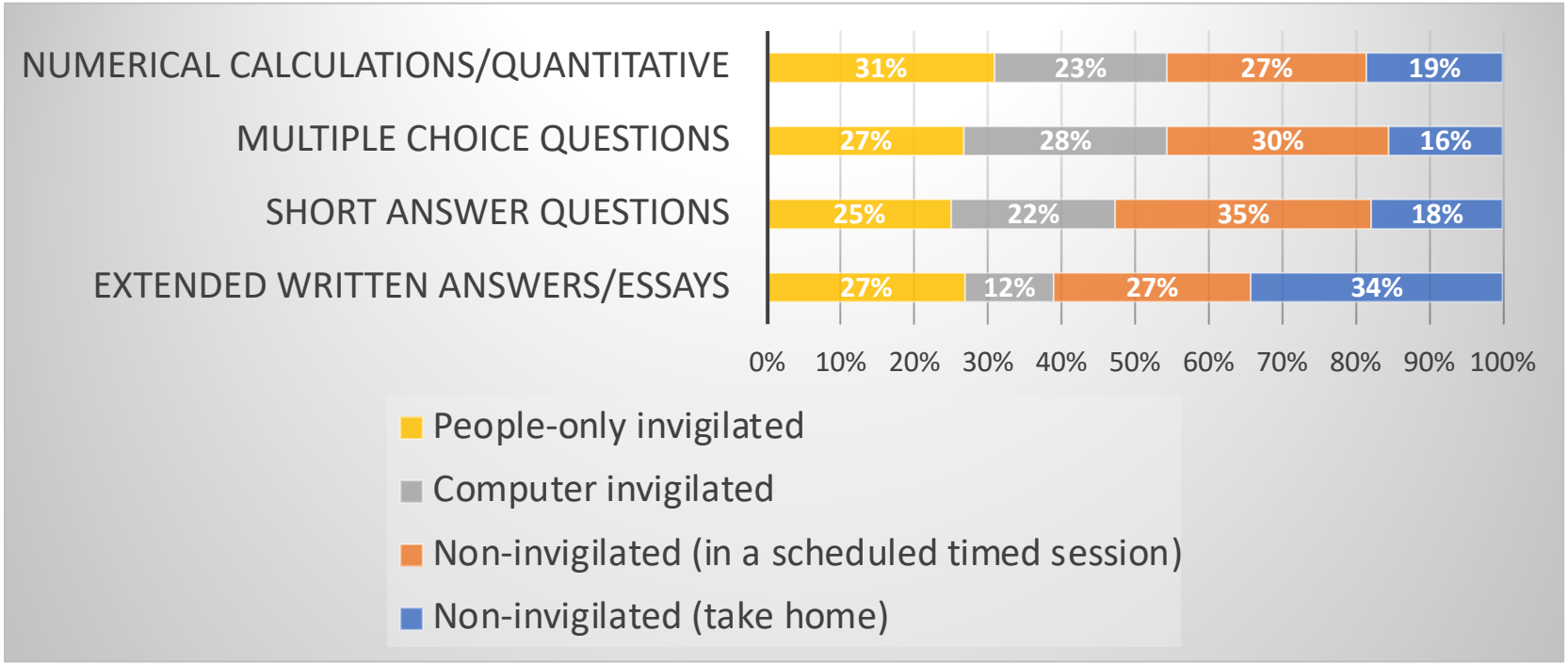


Where is innovation in assessment type occurring?

- High weighted assessments (>30%) are more often exams/quizzes or written assessments.
- Greater diversity in assessments with lower weightings and in smaller cohorts (<100 students).

Suggests that innovation related to the adoption of more performative assessment is mostly happening in smaller units and for lower-weighted assessments.

Invigilation methods used in online exams/quizzes

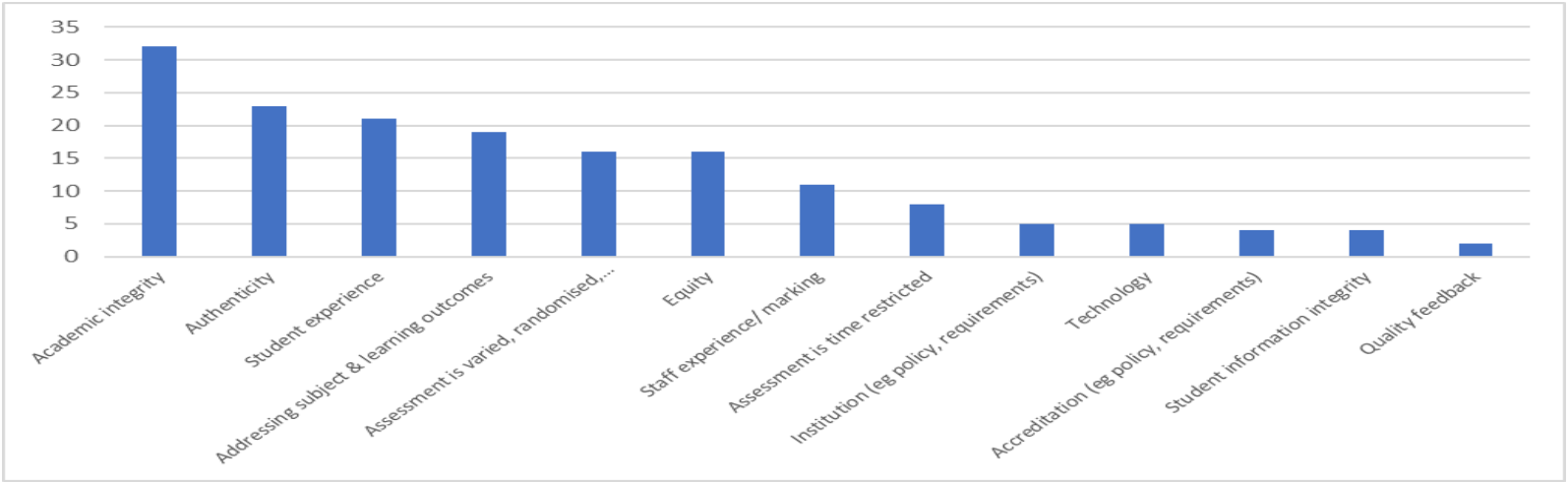


Is there a relationship between professional accreditation and forms of assessment?

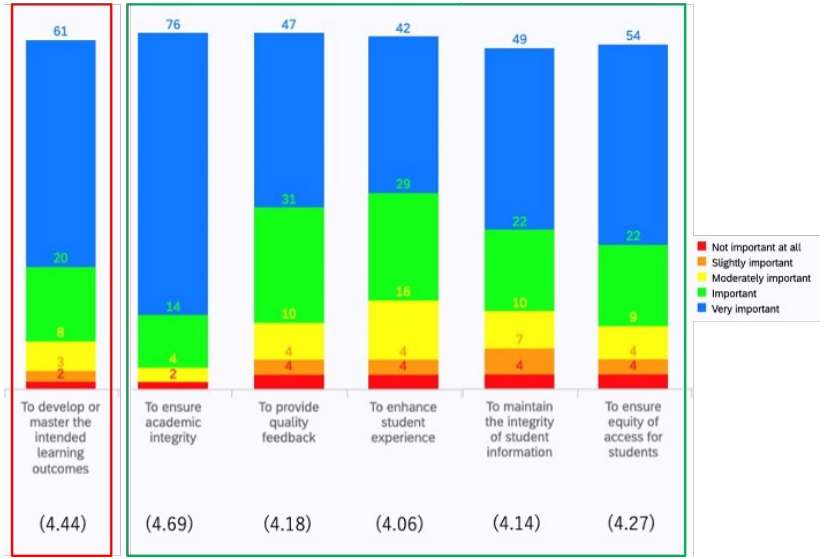
- 13 professional accreditation bodies reported (including accounting, HR, finance, computing, law, marketing, property, actuarial sciences, PR and engineering)
- Over a third of respondents were accredited by CPA and/or CAANZ. (Other accrediting bodies were noted by between 1-9 respondents.)
- **No significant relationship found** between professional accreditation and assessment type.
- 17 respondents were Unit and/or Program coordinators who were unsure of the accreditation status of their units.

What are the most important design considerations? Open-ended

Figure 1. Frequency of criteria mentioned in open-ended responses when asked to list the criteria important when choosing an online assessment



Rate design considerations from ‘not important at all’ (1) to ‘very important’ (5)



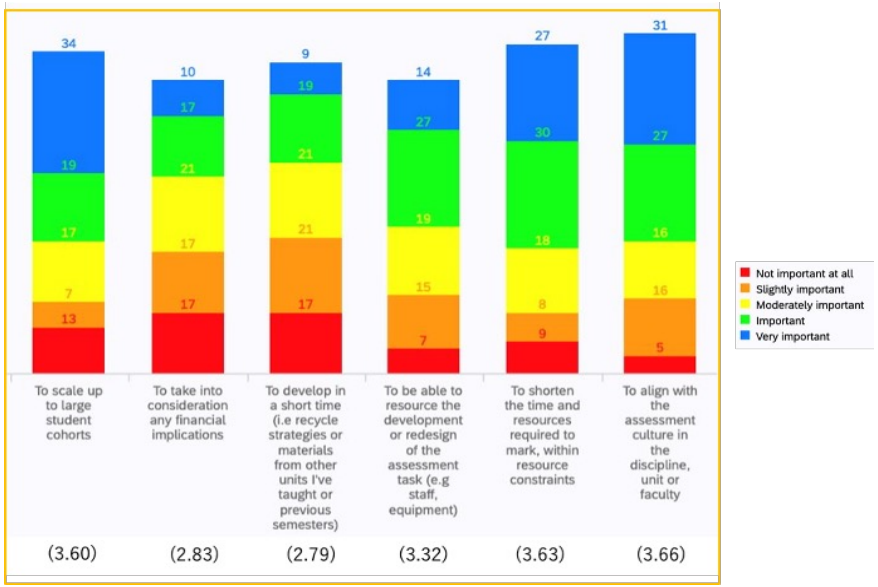


Figure 2a. Percent ratings of criteria used when deciding which online assessment(s) to adopt (ratings ≥ 4.0)

Figure 2b. Percent ratings of criteria used when deciding which online assessment(s) to adopt (ratings < 4.0)

Tradeoffs

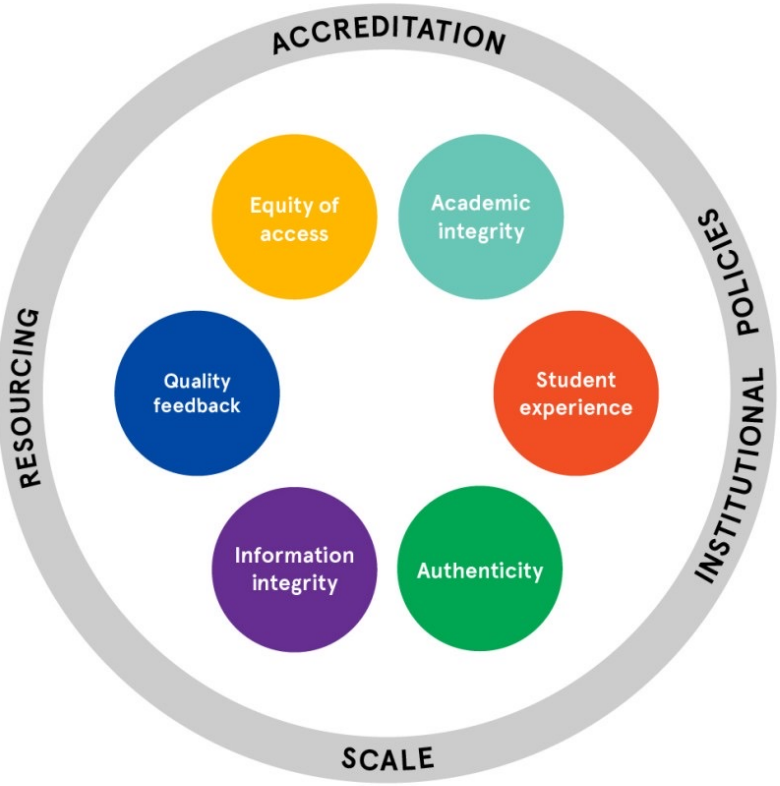
Criteria	Findings
Academic Integrity	• Difficult in the online environment without some form of invigilation and identity verification • Without invigilation, alternative solutions (e.g., unique cases, authentic assessments) are implemented but they impact on scalability • Challenges for equity and provision of feedback, as those undertaking assessments earlier and later have differential access to feedback
Student Experience	• Short timeframes around assessments can lead to cheating (academic integrity) • Inconsistent assessment experiences can be perceived as unfair and may impact on academics' 'reputation' and career • Living conditions impact on privacy • Cost and scalability impact on assessment decisions
Quality Feedback	• Systematic approach (rubrics) to mitigate scalability and resource availability; innovation requires time and resources • Oral/audio/video feedback may provide efficiencies but requires staff training for consistency/appropriate tone etc. privacy • Peer feedback can be useful but raises issues of equity of access / student experience • Giving good quality and honest feedback affects students' perceptions of it and academic career progress

Tradeoffs

Criteria	Findings
Equity of Access	• Impact on student experience One solution is to provide options/choice in assessments but impacts the scalability
Privacy	• Must be addressed/assured at an institutional level • Certain assessment types (reflection) create specific problems (e.g., safety concerns raised by reflections)
Authenticity	• Involving industry is important (authenticity, networking) but industry partners must be trained, including key policy frameworks
Scalability and Cost	• Online marking is much more efficient, reducing time in accessing exams for marking (logistics). • The relative resourcing of large classes is smaller -> introducing anything new/ innovative is less likely if resources are scarce.
Academics' individual Concerns	• Riskier to innovate in large classes due to impact of academic performance • Emotional labour involved in online teaching is not appropriately recognised • Unrealistic student expectations (e.g., response time) • More student than staff support during pandemic

Using the framework

- To evaluate existing assessments
- To document assessment practices and trade-offs between design considerations
- To design new online assessments or redesign existing ones.
- To identify and share innovative assessment solutions (Review/submit your innovative assessment)



Thank you

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Next session

See the L &T Forum website for next session:

- 5 minutes break and walk to Lecture Theatre 1130, Level 1, Abercrombie Building H70
- **2:35pm – 3:20pm**

  Panel discussion: Where to From Here for Higher Education in the Next Few Years?

Scan me

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