



THE UNIVERSITY OF
SYDNEY

ABDC AUSTRALIAN
BUSINESS DEANS
COUNCIL

Towards a Framework for
evaluating online
assessment in business
education: Promoting
innovation

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Overview

Background and Context

This Study

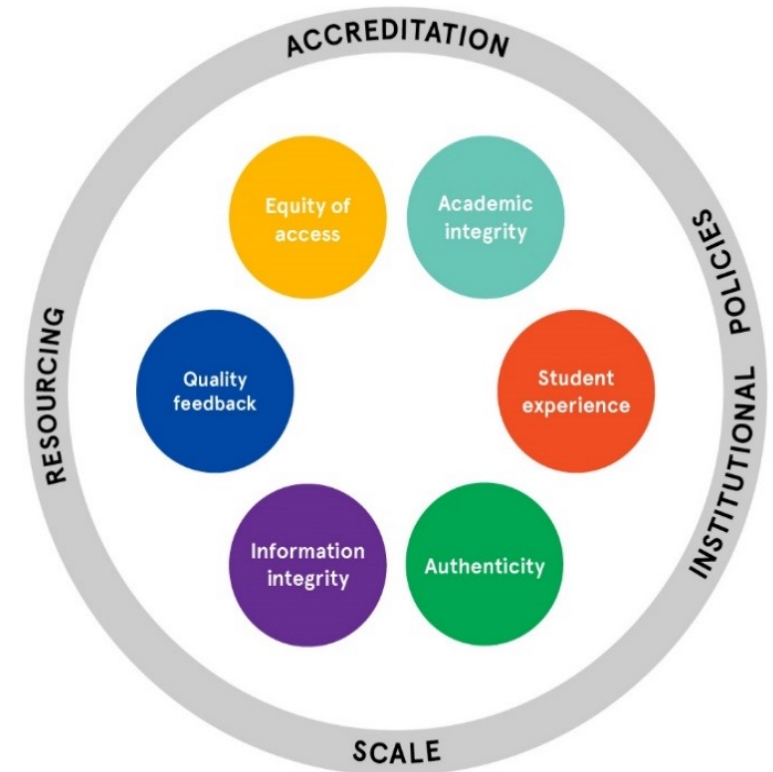
Methods and Key Findings

- Systematic Literature Review
- Online survey
- Focus Groups

Framework for Evaluating Online Assessment in Business Education

Online Portal: Putting the Framework to Work

Discussion and Way Forward



Background and Context

Rapid transition to online assessment in business higher education since 2020

Before 2020

- visa conditions for onshore international students restricted online delivery (1/3)
- expectations of professional accrediting bodies regarding invigilated assessment
- concerns about academic integrity with online assessment delivery

Particularly important in business disciplines

- international students: large proportion of enrolments
- many disciplines have professional accreditation requirements (e.g. accounting).

This Study

Literature review and annotated bibliography (available through the portal)

Looking for innovation: What's in use in Australian business education?

Framework of key design considerations when developing / evaluating online assessments

- Scalable? Cost effective?
- (1) assure academic integrity; (2) provide quality feedback; (3) enhance student experience; (4) maintain student information integrity; and (5) support equitable student access (and (6) authentic)

Methods and Key Findings: Literature Review

- 67 articles published 2011 to 2021 with a focus on online assessment design in relation to the key factors

Academic Integrity	Quality Feedback	Student Experience	Equity of Access	Privacy / Student Information Integrity	Authentic
Weighting Surveillance Cognitive Load Authenticity Assessment Design	Immediate Encourages student-educator dialogue; Feed-forward Peer-to-peer Multiple formats, including automated	Regulate cognitive load, stress and anxiety Enhance motivation and concentration Convenience / ease of use Depth of learning Self-regulated	Disability Regional, rural and remote Socioeconomic First-in-family International (time zones and access)	Collection / breaches of personal information Sharing of student generated content	Work readiness Academic Integrity
Contextual Factors					
Scalability			Resourcing		

Methods and Findings: Online survey

- 97 respondents from 15 business disciplines
 - most commonly accounting, and
 - management, finance, human resources, marketing and economics
- 66 teaching courses accredited by professional membership body
 - More than half CPA (n=38) or CA ANZ (n=37) [accounting]
 - Small numbers in areas of finance, human resources, computing, law, property, marketing, actuarial science, public relations and engineering
- Respondents in multiple roles:
 - 85 unit coordinators
 - 69 lecturers
 - 36 program coordinators
 - 32 tutors
 - 15 education designers
 - 2 deans

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

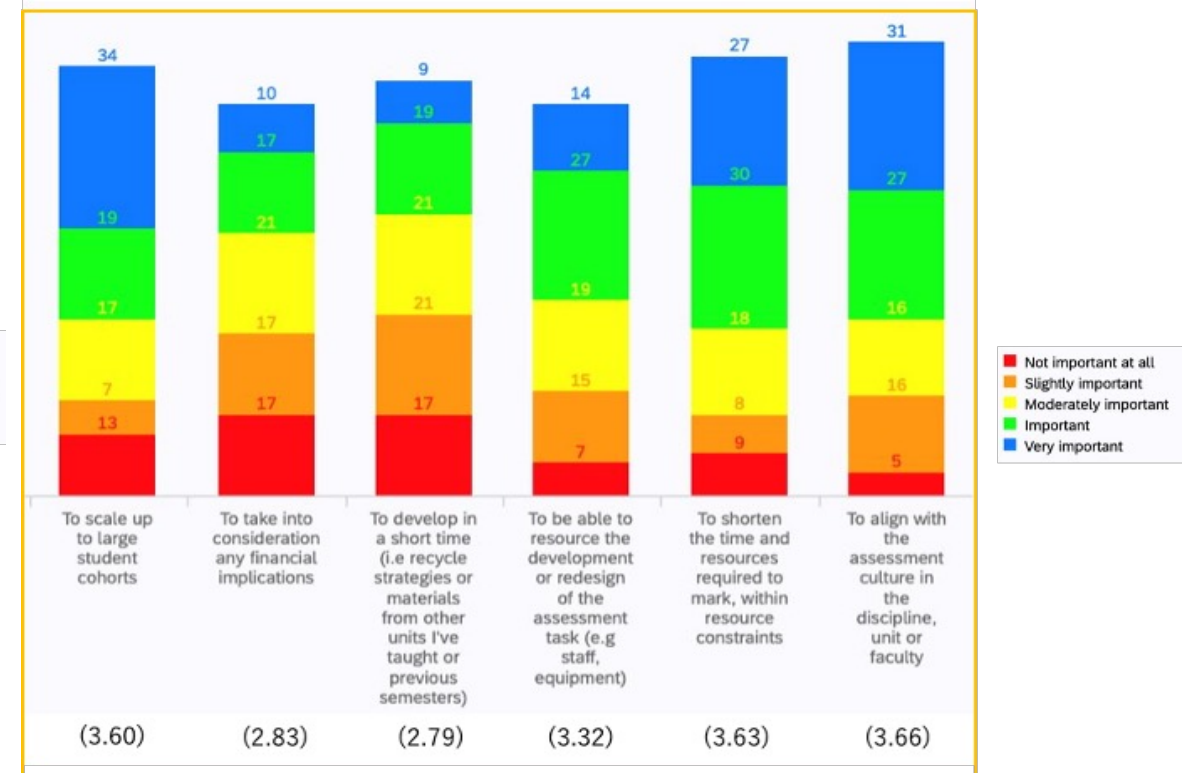
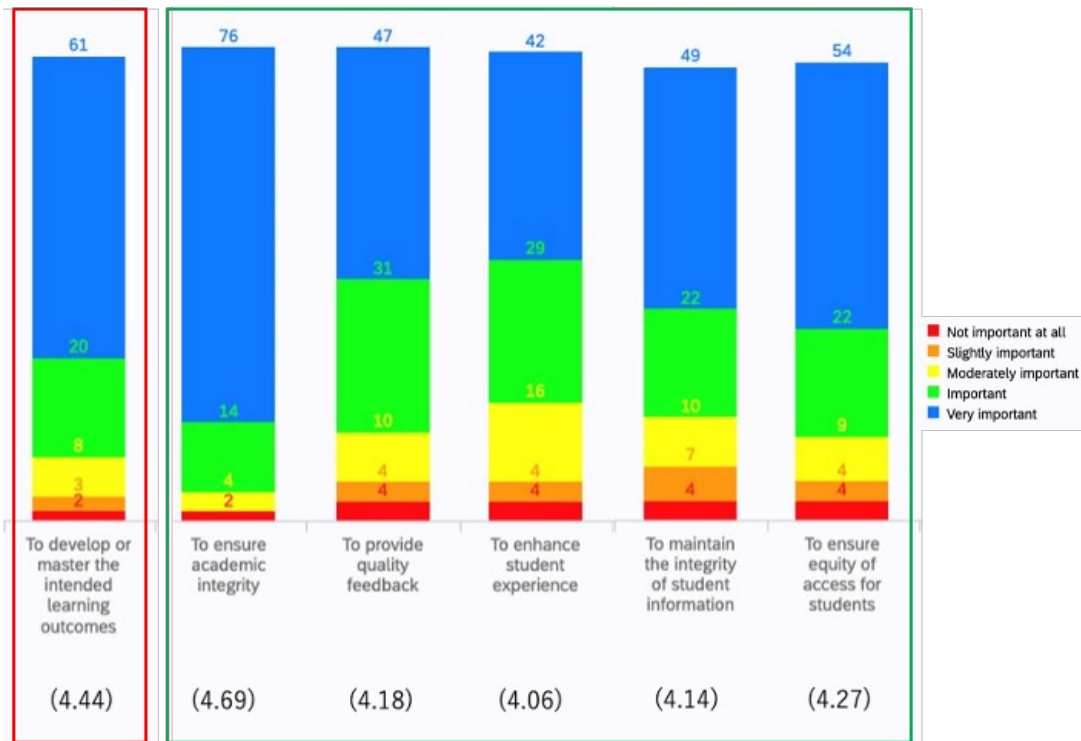


Figure 2a. Percent ratings of criteria used when deciding which online assessment(s) to adopt (ratings ≥ 4.0)

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

What forms of online assessments have you used?

Figure 3. Forms of online assessment reported by survey participants



What factors might affect use of innovative assessment types?

Statement	Exam (n=36)	Written (n=31)	'Other' (n=30)	p-value	Effect size
Accreditation				0.281 ^{ns}	0.177
Assessment is required for accreditation	18 (47.2%)	9 (29%)	10 (33.3%)		
Assessment not required for accreditation	14 (38.9%)	16 (51.6%)	14 (46.7%)		
Weighting				<0.001	0.455
Assessment is weighted \geq 31% (major)	24 (66.7%)	20 (66.7%)	5 (17.2%)		
Assessment is weighted \leq 30% (minor)	12 (33.3%)	10 (33.3%)	24 (82.8%)		
Course level				0.052 ^{ns}	0.245
Undergraduate	29 (78.4%)	20 (64.5%)	15 (50%)		
Postgraduate	8 (21.6%)	11 (35.5%)	15 (50%)		
Cohort size				0.003 ^{**}	0.319
Small (1-29)	4 (10.8%)	7 (22.6%)	4 (13.3%)		
Medium (30-99)	13 (35.1%)	5 (16.1%)	19 (63.3%)		
Large (100-249)	7 (18.9%)	12 (38.7%)	3 (10%)		
Very large (250+)	13 (35.1%)	7 (22.6%)	4 (13.3%)		

* p<.05; **p<.005; ns: non-significant

How are the assessment types rated on the key dimensions?

'Not at all' (1), 'Very little' (2), 'Somewhat' (3) to 'To a great extent' (4)

Statement	Exam (n=36)	Written (n=31)	Other (n=30)	p-value	Effect size
Academic integrity					
Ensures academic security	3.19	2.97	3.60 ^{Rnk}	0.002**	0.379
Authenticity					
Aligns with tasks commonly done in a discipline, profession or workplace	3.36	3.71	3.47 ^{Rnk}	0.017*	0.283
Is performed in similar conditions to the tasks conducted in a discipline, profession or workplace	2.78	3.45	3.07	0.008*	0.329
Involves a degree of complexity that requires an inquiry-based approach	2.94	3.29	3.57	0.014*	0.256
Involves application beyond the educational setting	2.81	3.39	3.67	0.002**	0.384
Involves scaffolded self-assessment	2.44	3.71	2.77	0.614 ^{ns}	0.106
Student experience					
Enhances convenience and comfort for students	3.56	3.14	3.41	0.158 ^{ns}	0.215
Enables students to reduce cognitive load	3.29	2.66	2.74	0.017*	0.302
Enhances student motivation and concentration	3.41	3.52	3.70	0.184 ^{ns}	0.175
Reduces student stress and anxiety during the assessment	3.20	2.75	3.00	0.143 ^{ns}	0.211
Reduces likelihood of technical complications	2.85	3.34	3.04	0.152 ^{ns}	0.214
Student information integrity					
Reduces the likelihood of collection or breaches of personal student details, such as demographic and biometric data	3.39	3.15	3.43	0.480 ^{ns}	0.140
Reduces or avoids the sharing of student generated content	3.14	3.03	3.50	0.113 ^{ns}	0.203

^{Rnk} Ranked ANOVA; * p<.05; **p<.005; ns: non-significant

How are the assessment types rated on the key dimensions?

‘Not at all’ (1), ‘Very little’ (2), ‘Somewhat’ (3) to ‘To a great extent’ (4)

Statement	Exam (n=36)	Written (n=31)	Other (n=30)	p-value	Effect size
Equity of access					
Enables different assessment conditions to meet individual student needs	3.61	3.38	3.21	0.099 ^{ns}	0.228
Offers live technical support	3.09	2.50	2.62	0.061 ^{ns}	0.264
Enables flexible access to assessment (e.g., geographically dispersed students)	3.83	3.74	3.79	0.777 ^{ns}	0.072
Feedback					
Enables the provision of immediate feedback	2.88	2.73	2.83	0.899 ^{ns}	0.049
Enables the provision of feedback through multiple formats	2.34	2.82	2.86	0.194 ^{ns}	0.208
Encourages student-educator dialogue	2.59	2.93	3.41	0.001 ^{**}	0.396
Facilitates formative feedback toward later assessments	3.04	3.19	3.54 ^{Rnk}	0.092 ^{ns}	0.249
Enables academic peer feedback on the assessment	2.34	2.72	2.86	0.276 ^{ns}	0.185
Responds to student perceptions of the assessment	2.84	3.00	3.27	0.188 ^{ns}	0.192
Scalability					
Provides mechanisms for feedback at scale	3.24	2.56	2.40	0.003 ^{**}	0.353
Enables the collection of education data to inform further assessments	3.44	2.66	2.79	0.003 ^{**}	0.340
Expedites managing assessment	3.61	2.43	2.45	<0.0001	0.690
Expedites grading	3.60	2.17	2.60	<0.0001	0.638
Resourcing					
Increases financial cost	3.18	2.89	3.10	0.579 ^{ns}	0.120
Increases time and resources to develop the assessment	2.08	2.20	2.64	0.089 ^{ns}	0.237
Increases time and resources required to implement and administer the assessment	2.56	2.33	2.54	0.701 ^{ns}	0.091
Increases the marking time and resources	2.92	2.31	2.70	0.101 ^{ns}	0.238
Influential factors					
Aligns with institutional policy	3.23	3.06	2.62	0.078 ^{ns}	0.244
Is required for accreditation	2.71	2.26	1.92	0.040 [*]	0.274

^{Rnk} Ranked ANOVA; * p<.05; **p<.005; ns: non-significant

Methods and Key Findings: Focus Groups

	Focus Group 1	Focus Group 2	Focus Group 3	Focus Group 4
Date	13/12/2021	25/01/2022	01/02/2022	03/02/2022
Focus: application of the criteria to	Online assessment in general	Individual reflective journals	Group debate and peer feedback	Industry workshop and live oral assessment
Number of participants	4	6	5	4
Women:Men	1:3	3:3	4:1	2:2
Type of institutions represented*	Go8: 3 ATN: 1	Go8: 3 RUN: 1 Other: 2	Go8: 4 ATN: 1	Go8: 3 ATN: 1
State/Territory	ACT: 1 NSW: 1 Vic: 2	NSW: 5 Vic: 1	ACT: 1 NSW: 3 SA: 1	NSW: 2 SA: 1 Vic: 1

* ATN: Australian Technology Network; Go8: Group of Eight; RUN: Regional Universities Network; Other: Not affiliated with Go8, RUN or ATN

Methods and Findings: Focus Group

The focus groups sought input about the application of the criteria to online assessment types

- General (FG1)
- Individual reflective journals (FG2)
- Group debate and peer feedback (FG3)
- Industry workshop and live oral assessment (FG4)

academics 'tradeoff' the criteria in designing assessments

design decisions constrained by

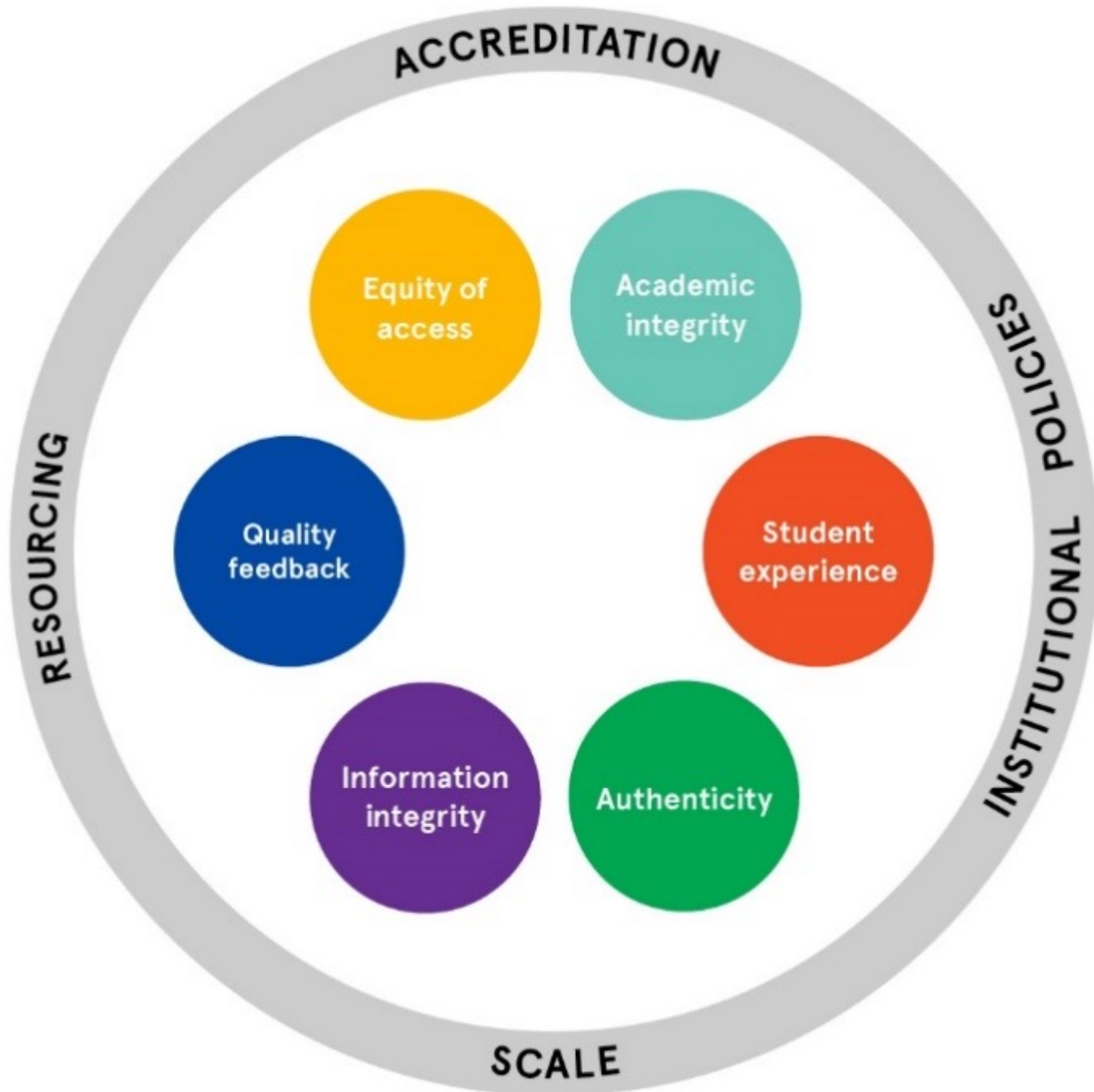
- broader context of scale and resource availability
- assessment weighting
- institutional assessment policies.

Tradeoffs

Criteria	Findings
Academic Integrity	<ul style="list-style-type: none">• In the online environment requires invigilation and identity verification -> trade-off with student experience and equity depends on personal living arrangements• Alternative solutions (without invigilation) include unique, individualized cases that impact on scalability• Performance-based assessments (live assessment/invigilation): challenges for equity and provision of feedback, as those undertaking assessments earlier and later have differential access to feedback• Short timeframes around assessments designed to ↑ AI paradoxically lead to cheating
Student Experience	<ul style="list-style-type: none">• Inconsistent assessment experiences perceived as unfair• Cost and scalability impact assessment decisions
Quality Feedback	<ul style="list-style-type: none">• Systematic approach (rubrics) to mitigate scalability and resource availability• Oral/audio/video feedback may provide efficiencies but requires staff training for consistency/appropriate tone• Peer feedback cost effective but raises issues of equity of access / student experience (question of whether peer FB honest and purpose of using it)

Tradeoffs

Criteria	Findings
Equity of Access	<ul style="list-style-type: none">• Impact on student experience. One solution is to provide options/choice in assessments but impacts scalability
Privacy	<ul style="list-style-type: none">• Must be addressed/assured at an institutional level• Certain assessment types (reflection) create specific problems (e.g., safety concerns raised by reflections)
Authenticity	<ul style="list-style-type: none">• Involving industry is important (authenticity, networking) but industry partners must be trained, including key policy frameworks
Scalability and Cost	<ul style="list-style-type: none">• Online marking efficient, reducing time in accessing exams for marking (logistics).• Relative resourcing of large UG classes is smaller -> introducing anything new/innovative is less likely if resources are scarce.
Academics' individual Concerns	<ul style="list-style-type: none">• Riskier to innovate in large classes due to impact on academic performance• Emotional labour involved in online teaching is not recognised• Unrealistic student expectations (e.g., response time)• More student than staff support during pandemic



Framework for Evaluating Online Assessment in Business Education

Online Portal and Good practice Exemplars: Putting the Framework to Work

- The purpose of this project was to assist academics to design effective assessments
- To provide an evidence-base for decisions by accrediting bodies about quality online assessment
- Engagement with stakeholders a feature of this project, including with dissemination and evaluation of the findings

Business Online Assessment
An ABCD-funded project to evaluate online assessment and invigilation

Home Assessment Exemplars About the project

Case study presentation

Context: Postgraduate, Marketing, Large class (100-249), weighting 30%, rubric provided. Groups are required to present their live-case recommendations to a

[Continue reading](#)

■ Academic integrity, Authenticity, Case study, Equity of access, Group assessment, Invigilated, Presentation, Privacy, Quality feedback, Scalable, Student experience

Discussion forum post

Context: Postgraduate, Management, Large class (100-249), weighting 30%, rubric provided. Within small groups, each week students respond to their choice of

[Continue reading](#)

■ Academic integrity, Discussion forum activity, Equity of access, Not invigilated, Privacy, Quality feedback, Scalable, Student experience

Of a current issue

Context: Undergraduate, Medium size (30-99), weighting 30%, rubric provided. Debate of current events, involving some culture or socio-political significance.

[Continue reading](#)

■ Academic integrity, Debate, Invigilated, Privacy, Quality feedback

Live oral assessment - presenting a tutorial question

Context: Undergraduate, Finance, very large class (250+), weight 10%, written and audio feedback. Students are provided with a question that

[Continue reading](#)

■ Academic integrity, Equity of access, Individual assessment, Invigilated, Presentation, Privacy, Provide feedback, Quality feedback, Scalable, Student experience

Categories

- Academic integrity
- Authenticity
- Case study
- Debate
- Discussion forum activity
- Equity of access
- Group assessment
- Individual assessment
- Invigilated
- Not invigilated
- Presentation
- Privacy
- Provide feedback
- Quality feedback
- Scalable
- Student experience

Browse through the exemplar library

Or narrow down on a category

Live oral assessment - presenting a tutorial question

Context: Undergraduate, Finance, very large class (250+), weight 10%, written and audio feedback.

Students are provided with a question that they must present to the tutorial class in the following week. Students are required to use slides and provide a detailed explanation. The question is relevant to the tutorial in which they have been allocated.

Students complete this assessment once during the semester.

Students must also, in different week, provide feedback on another student's presentation. Students are made aware that they must act as a reviewer one week prior to class. The student must write up their comments and send these with a suggested assessment mark for the presenting student to their tutors via email.

Rated highly for	Rated moderately for	Did not rate strongly for
* academic integrity * student experience * privacy * providing quality feedback	* equity of access * scalability	* cost to implement

■ Academic integrity, Equity of access, Individual assessment, Invigilated, Presentation, Privacy, Provide feedback, Quality feedback, Student experience

Descriptions of exemplars

Ratings of exemplars against our framework

Descriptions of exemplars

Ratings of exemplars against our framework



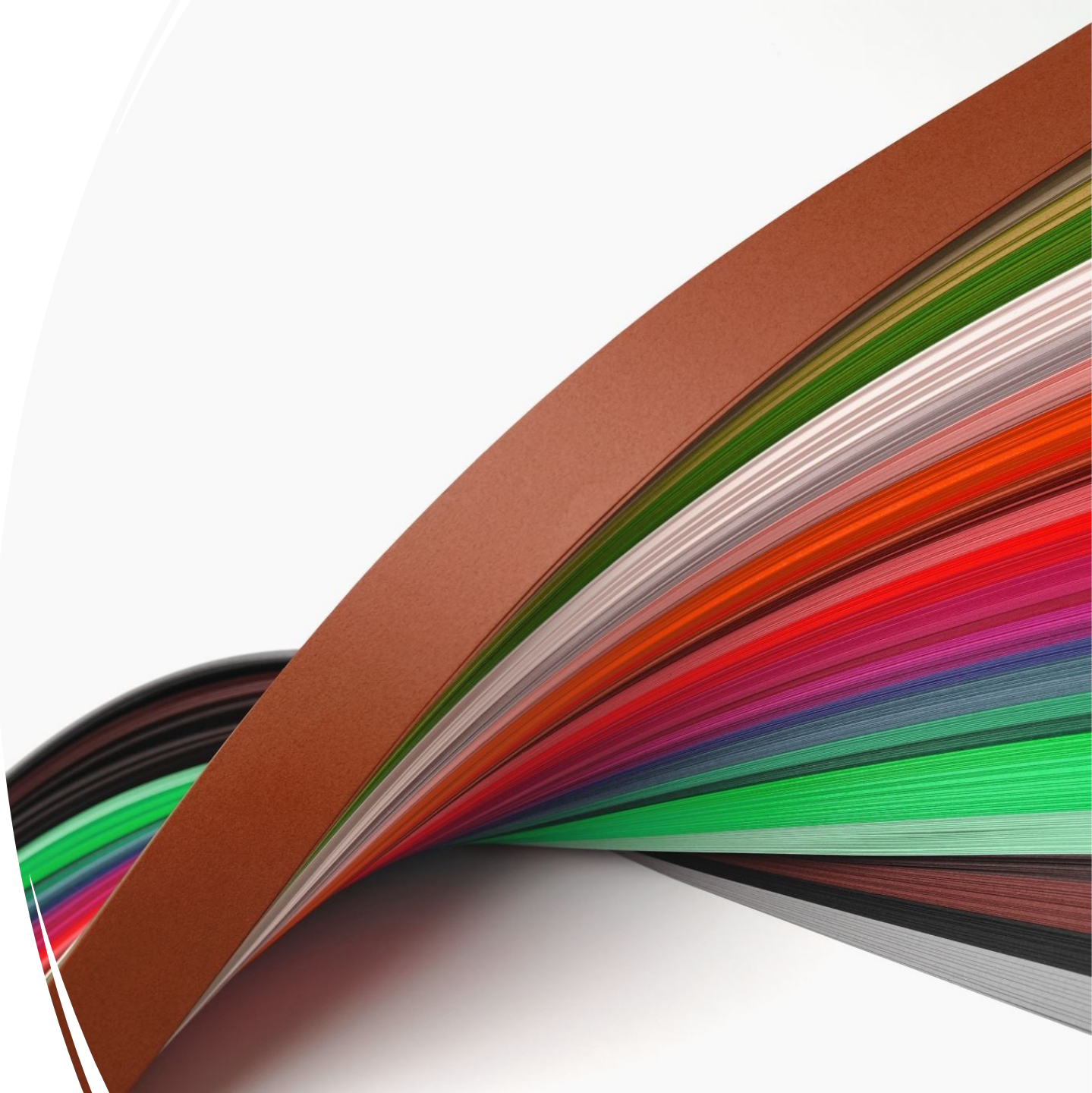
There is Always More to Do

- Only an academic perspective – the student perspective could be explored in future studies for a more holistic view of the framework
- Only a business perspective – need to extend to other professional disciplines
- Evaluating the use and usefulness of the framework, the portal and the good practice exemplars

Other Outputs

[Final Report](#)

[Annotated Bibliography](#)



Discussion and Way Forward

- What we did:
 - Collated evidence about online assessment in use in UG and PG business courses in Australian ABDC member institutions
 - Examined the key design considerations applied by educators when selecting assessment types for online delivery
 - Refined a framework to guide decision-making about online assessments.
- Barriers to innovation in online assessment in business
 - Assessment innovation viewed as a high stakes / high risk undertaking impacting job security, workload and career progression
 - Many decisions taken to manage scale and resource limitations
 - Performance-based, authentic assessments regarded as challenging in the online environment
- Many participants not aware of courses accreditation and unclear about accreditation requirements
- Small differences in institutional policies and practices have major impacts on assessment -> leadership and collaboration

Questions?



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