

**The role of authentic assessment to preserve academic integrity
and promote skill development and employability**

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Abstract

Promoting authenticity and academic integrity in assessment continues to present a priority for educational institutions. Besides providing the foundation for high academic standards and best practice, authentic assessments and academic integrity enrich students with skills that advance their employability. Given the multilayered significance of, and need for promoting academic integrity, this study used a suite of scaffolded authentic assessments that culminated with interactive oral examinations. A survey evaluated the effectiveness of interactive oral exams in offering authentic assessments that would prevent students from engaging in academic misconduct and help them improve their skill and employability prospects. The results show that scaffolded assessment tasks that include interactive orals help prevent academic misconduct. The more relevant the assessment to real world scenarios, the less likely students are to engage in misconduct. Additionally, interactive oral exams enabled students to develop their professional identity and awareness, and communications skills, and help promote employability.

Keywords: authentic assessment, skill development, academic integrity, graduate employability, sport management, international management, formal learning environment

Introduction

This study examines the role of interactive oral examinations (orals) as a form of authentic assessment that addresses a number of pressing needs in higher education through its authenticity, particularly in business disciplines, specifically: the need for authentic assessment to promote skill development and employability (Cranmer, 2006); and the need to design assessment to improve academic integrity (Cai and Preiss, 2012).

The study used both face-to-face (phase 1 of the study) and online (phase 2 of the study) teaching environments to address these gaps. The objective of the research was to examine the role of authentic assessment in encouraging academic integrity and promoting skill development and employability in the context of the business discipline. This analysis is based on student perceptions on the assessment tasks they took during their course(s). The examination of authenticity from a students' perspective represents an important lens to this phenomenon because such perceptions influence what and how students learn (Gulikers et al., 2006; Struyven, Dochy, and Janssens, 2003). In doing so, this research also considers the pedagogical and policy issues that impact the relative success of designing and incorporating interactive orals as assessments in business courses. An interactive oral (previously known as a viva voce exam) is an opportunity for genuine and unscripted interaction between a student and other students or a student and an examiner. Specifically, students can demonstrate knowledge verbally in an authentic setting representative of what would be encountered in the workplace (Beccaria, 2013).

The two research questions driving this study were: "Can authentic assessment(s) offered through formal learning/in-class environments help preserve academic integrity and promote skill development and employability in business degrees?" and "How can faculty design authentic assessments to enhance academic integrity, skill development and employability?" This study proposes a framework for authentic assessment design and this

paper contributes to the emerging education literature discussions in relation to authentic assessment and academic integrity, and business education in particular. The practical implications for academics and business schools are outlined in the concluding section of this paper.

Graduate employability, skill development and authentic assessment

Learning through authentic assessments has risen as complimentary practice to work placements and in response to worldwide pressures to improve graduate employability (James and Casidy, 2016). Specifically, graduate employability is a primary concern in higher education across many countries (Cranmer, 2006). A significant and rising percentage of students with a university degree do not have employment in their area of study within 12 months of graduation (Global University Employability Survey, 2016). Graduate Careers Australia (GCA) began measuring graduate employability in 1982, and in 2015 found that only 74% of university graduates had secured full-time employment within four months of graduation. This figure is down notably from 82% in 2009, 80% in 2010, and 76% in 2012 (GCA, 2016).

Harvey (2001) claimed that the term employability can be understood as the “possession of basic ‘core-skills’, or an extended set of generic attributes, or attributes that a type of employer (discipline-linked, sector-related, company-type) specifies” (p. 96). As the definition suggests, employability hinges largely on skill development and employers are increasingly expecting graduates to be job ready (Oliver, 2016). In a highly competitive labour market (Greenbank, 2014), graduates are required to be equipped with necessary skills and qualities to gain and retain employment. In particular, communication skills represent an important basis for employability across many different professions (Chan, 2011), and employers consistently rank oral and written communication abilities highly (Gray, Emerson, and MacKay, 2005). In 2013, the Harris-Chegg Foundation (2003) conducted a poll of 2001

college students in the United States who were entering the job market and 1000 hiring managers on their perceptions of job readiness. The study found that there was a marked gap between students' perceptions of their ability to communicate with clients and authority figures to that of their employers. Specifically, 70% of students scored themselves as effective communicators in this area as opposed to 44% of their employers.

Furthermore, the successful formation of pre-professional identity (including graduate knowledge of the relevant profession, the ability to interact with the profession and seek a career) is also considered to influence graduate work-readiness and job attainment (Jackson, 2016). However, a major problem in tertiary education is a frequently reported gap between teaching in formal environments, face-to-face or online, and the real-world experiences (Helyer, 2011), as well as the tasks students engage in for their assessments as opposed to what occurs in the world of work (Achieve, 2017). The problem is that tertiary education standards do not align with the expectations of the world of work (Jackson, 2015; Messick, 1994; Sotiriadou, 2011). Bridging the gap between learning and working is an ongoing salient issue (Baartman and Gulikers, 2017).

To address the gap between learning and working and developing work-ready graduates, tertiary education programs incorporate career development learning activities as part of a work integrated learning (WIL) offering (Sotiriadou, 2011). The benefits of WIL to skill development through student exposure to less formal environments and real organisational settings have received a considerable research focus (De Schepper and Sotiriadou, 2017; Edwards, 2014). However, due to the gap between what employers want and what graduates offer, tertiary education continues to struggle to provide students with the necessary skills (Mathner and Martin, 2012).

University educators have responded by placing a bigger focus on authentic learning activities and authentic assessment, so that students develop the skills and practices that they

will need in their future careers (James and Casidy, 2016; Gulikers, Kester and Kirschner, 2008; Tout, Pancini and McCormack, 2014). Offering authentic assessments in the formal learning environment has emerged as an alternative or complementary strategy to WIL. Authentic assessment helps equip students with workplace skills and competencies and prepares them for their employment. However, the links between offering authentic assessment and the development of skills and employability are less known (Falchikov, 2005). Authentic assessment focuses on learners using and applying knowledge and skills in real-life settings. For example, business students may assume a real-world workplace-specific role to participate in scenario-based assessment such as a boardroom debate or an incident-triggered quick turn-around report. This contrasts more traditional forms of assessment, such as essays and examinations, which have no specific application in most real-world settings.

Authenticity is a fundamental characteristic of good assessment practice and students usually value it highly (James and Casidy, 2017). *Well-designed* authentic assessments help learners contextualise their learning and see how real-life situations, in all their unpredictability, ambiguity and complexity, complement their theoretical knowledge (Darling-Hammond, Aness, and Falk, 1995). The need to contextualise assessment in interesting, real-life and authentic tasks has long been considered a key educational element (Birenbaum and Dochy, 1996). Baartman and Gulikers (2017) suggested that authenticity of the assessment tasks addresses the competencies of the discipline. Furthermore, authentic assessment design should ensure transfer of knowledge beyond the confines of real-life experiences to other subsequent assessment tasks.

Some research suggests that this type of learning is preferable toward the end of a degree when students are comfortable collaborating and working on ill-defined problems, and have skills in reflection (Herrington and Herrington, 2006). However, when the tasks or assessments are scaffolded, the learner slowly develops competencies that allow them to take

on challenging tasks without feeling overwhelmed (Sotiriadou and Hill, 2015). *Scaffolding* is an educational technique useful in engaging students at deeper levels of learning allowing them to complete tasks in a proficient way and improve skills (Clark and Graves, 2005). It allows students to engage in smaller parts of the whole task. Alternatively, the whole task is broken down into separate yet interrelated assessments/components.

The literature reports extensively the various benefits of authentic assessment (Ashford-Rowe, Herrington and Brown, 2014), specifically, addressing ‘ill-structured’, unpredictable challenges, and, helping students to rehearse for complex working and professional life ambiguities and visualise themselves as professionals. It is also well accepted that authentic assessment enhances graduate employability by developing students’ ‘work-readiness’ capabilities (Ashford-Rowe et al., 2014).

Academic Integrity

Authentic assessment requires students to construct unique responses rather than selecting from pre-existing options. Subsequently, students favour authentic assessment as a learning tool as it motivates them to engage with the task. As students are required to personally engage in the collection of evidence and information in support of their assessment, authenticity of assessment may hold the key to reducing academic misconduct and, in particular, outsourcing assignments to third parties.

Evidence suggests that along with graduate employability, academic integrity is another increasing concern globally. An Australian nation-wide survey (Bretag et al., 2017) found that 27% of the 14,000 participating students had provided a complete assignment to another student for use/viewing and 6% (814 students) admitted to blatant cheating. This figure included 310 students who obtained an assignment from another student and 70 students who admitted to having taken an exam from another student.

The underlying causes of academic misconduct are numerous. Similarly, forms of academic misconduct have evolved to reflect technological and electronic advancements (Baker, 2016). These advances have led to a relatively new form of academic misconduct, 'contract cheating' in which students purchase assignments online, or in person, and submit them as their own work. This 'underground' market in academic essays is flourishing on the internet and these services are well known among students (Cai and Preiss, 2012). Assessment-writing businesses operate in a grey area and do not appear to be breaking a law (Cai and Preiss, 2012). Therefore, the responsibility to address this issue appears to reside with tertiary institutions and their policies, as well as academics and the way they design assessment tasks in order to deter students from misconduct and further promote ethical decision-making and behaviour in academic work. Alarming, Nonis and Swift (2001) argued that individuals who engage in academic misconduct are more likely to engage in misconduct when they work for companies.

The role of authentic assessment in this sense, can serve as a promising learning strategy. Indeed, Thomas (2015) suggested that managing this newest form of academic deceit requires hard work from academia and a renewed commitment to integrity from university communities. She indicated that many tertiary education providers are making a concerted effort to design quality assessments that not only better assess the learning outcomes that students achieve but also minimise the opportunity for fraudulent activity and academic misconduct. Assessment redesign has also been driven by the requirement to comply with the Australian Qualifications Framework (AQF, 2013), which in turn, recommends using a variety of assessment tasks that are scaffolded throughout the course/subject as a good practice.

Research Design

The interactive oral assessments used in the present study were conducted in two courses in a business degree in a large Australian university. Phase 1 of the study used a second-

year compulsory undergraduate course in the *Sport Management* major that is delivered face-to-face only. Phase 2 used the second course was a purely online offering of a second-year elective course in the *International Management* major. These courses were chosen to progressively and rigorously test the viability of the assessment design across different delivery modes and in the context of tight constraints on faculty time in marking student work¹. Both courses employed an innovative blended learning design that ensured the conditions of participation for both face-to-face and online students were in keeping with the university's 'Charges for Learning Resources for Students' policy. According to the Higher Education Support Act 2003 (Commonwealth of Australia, 2018), government-supported students and domestic fee-paying students must be able to complete the requirements of their program without the imposition of expenses that are additional to student contribution amounts or tuition fees. To adhere to this legislation, numerous *synchronous* and *asynchronous* alternatives were designed for both the participation in scaffolding activities and participation in the final interactive assessment. These alternatives included (a) audio-only responses, (b) written responses to an adaptive release set of short answer questions in VoiceThread, and (c) video and/or audio responses recorded on a device, saved on a DVD or USB and emailed to convenor.

Phase 1: Sport Management Course

The sport management course, which was used during phase 1 of the study, is offered face-to-face on two campuses. The assessments for this course included:

- (1) *An Environmental Analysis Report (A1)*;
- (2) *A Problem-Based Case Study (A2)*; and,
- (3) *An Interactive Oral Exam (A3)*

¹ Academic staff are expected to spend a maximum of 45 minutes marking all assessment items for a given student across the whole semester

Each student had to choose a local sport organisation as his or her case study for all three individual pieces of assessment. During A1, students had to conduct a broad environmental analysis for the organisation to enable them to familiarise with the organisation's purpose and goals, services/programs, successes and challenges (e.g., commercialisation, competition for success, pay as you play trends, aging population), and the ways the operating environment impacts the chosen sport organisation and its managers. An important requirement for A1 was the collection and use of organisational 'evidence'. This evidence included materials and information such as an interview or communications with staff, organisational documents, and photos. These materials were required as a strategy to further enable authenticity and discourage academic misconduct.

For the second assessment task (A2), students built on the knowledge acquired during A1 and continued their investigation on their sport organisation. Students were required to analyse (a) organisational structures, (b) governance/decision making, and (c) strategic management by conducting a SWOT analysis. These components had to be illustrated in the essay using real examples and then discussed in light of the relevant literature that was presented during the course. This process enabled students to connect and draw links between theory and practice.

The final piece of assessment (A3), the interactive oral examination, required students to attend a mock job interview. The student was presented with a scenario in which they had been shortlisted for a sport management position in the organisation that they used as a case study. To scaffold A2 and A3, there were three key components in the essay (A2) that the course examiner used as information to draw questions for A3, the interactive oral. Specifically, (a) the discussion on the organisational structure offered students an opportunity to familiarise themselves with different *jobs/roles* in the sport management industry; (b) the role of governance in decision making in sport organisations was used in order to enable

students to identify the *legal ramifications* of various situations and outline the process of *ethical decision making*; and (c) the role of strategic management in sport and the SWOT analysis informed *strategies* that they would initiate or implement if they were the successful candidate as the organisation's manager.

All interactive oral examinations in phase 1 were conducted face-to-face. An online booking system was setup to enable students to book a time for their interactive oral. The interactive oral was 10 minutes long and was comprised of two parts. Part A included questions assessing the students' *professional identity and awareness* (e.g., career pathways and planning, skill-set strengths and weakness). These skills were developed during interactive weekly activities at the workshops throughout the term. Part B of the interactive oral was comprised of questions that related directly to the context of each individual's chosen sport organisation (hence, these questions were different for each student and were drawn from the information in A1 and A2). These questions assessed students' capacity for problem solving and identifying viable organisational solutions, which had to reflect course materials. *Communication skills* during the interview (body language, eye contact, voice) were also assessed. A marking rubric was used to ensure consistent standards across assessors.

In addition to assessment instructions, rubrics and guidelines, the research team recorded videos on assessment instructions and provided an example mock interview to students to enable their preparation. During the semester, skill assessment tests and a guest lecture from a sport management career advisor were also used.

International Management Course

The international management course focuses on management practice in an international context. It is offered completely online. The assessments for this course included:

- (1) *A Regional Overview Resource* (B1);
- (2) *An International Management Analysis* (B2); and,

(3) A Client Interview (B3)

In B1 students worked in small groups acting as management consultants for an Australian organisation which wished to expand business to specific countries within another region in the world. The students developed a video resource in which they analysed the suitability and viability of these countries for future business. The second assessment (B2) required students to work individually to prepare a report for the Australian client on how the business operations should be established and managed. The focus for this report was on two countries, one from their own B1 and one the resource developed by another group in the class. The final assessment item (B3) was the interactive oral assessment, which comprised an interview with the client for whom the B2 report was written. Students were required to answer questions relating to their management analysis and organisational recommendations. The interactive oral assessments were conducted via a virtual classroom.

Student learning within the course was scaffolded in two ways: (a) each assessment task formed the basis for a subsequent task, and (b) the weekly learning and teaching activities developed the skills and knowledge for students to engage in the final interactive oral assessment. As with the sport management course, students were provided with marking rubrics, written and video-recordings of assessment instructions, and an exemplar client interview to students to enable their preparation.

As this course is offered purely online, suitable technologies were sourced and trialed to cover all aspects of the assessment including scaffolding, a booking system for the interactive oral times, and the actual interactive oral itself. Various technology options were considered and embedded into the assessment delivery to ensure accessibility and equity for students in accordance with the Australian Higher Education Support Act (2003). These options included offering alternative assessments, such as permitting extended time, permitting audio only responses to live questions, and, video and/or audio responses to questions pre-recorded/loaded

in a VoiceThread² presentation and answered in an extended time. In addition, students were provided with a range of scaffolding tools in-class and online, which could be used with Screen Readers³, if required.

Overall, the assessment tasks in both courses were developed to promote authenticity in order to encourage academic integrity and enable skill development (e.g., communication skills) for enhancing student employability. The aims of the interactive oral assessments were to offer authentic experiences by way of experiential learning and, to enable skill development learning through scaffolding assessments that would ultimately (i) improve employability outcomes for graduates through the development of their oral communication skills; (ii) encourage academic integrity; (iii) heighten student engagement, and (iv) improve course evaluations through overall student satisfaction.

To ensure academic integrity, students had to provide photographic identification in examinations. This required the passing of new university policy because typically, students enrolled in online programs do not receive university-issued photographic identification. As such, a new policy relating to student identification had to be incorporated into the assessment policy of the university that authorised this study:

For online courses, proctors, examiners and course convenors are to take reasonable steps to satisfy themselves that the identity of the person completing the assessment task is the student enrolled in the course. Students enrolled in online courses may at the request of a proctor, examiner or course convenor be required to comply with one or more of the following: Provide certified or government issued photo identification (e.g., driver's license, or proof of age card).

² VoiceThread is an online tool available in the course site that would allow students to practice their interactive oral skills or if necessary, deliver their interactive oral assessments asynchronously, if required.

³ Screen Readers read aloud the content on computer screens using a digitised voice. They are helpful for users who have limited vision or for whom reading on-screen content, causes fatigue.

Method

Using a mixed-methods approach, the present study explored the academic integrity and authentic assessment of interactive oral examinations. Both quantitative and qualitative data were gathered across the two phases of the study.

Table 1: Student demographic data for the two phases

	Phase 1 (N=85)	Phase 2 (N=21)
Gender		
Male	73% (N=62)	48% (N=10)
Female	27% (N=23)	52% (N=11)
Nationality		
Domestic	72% (N=61)	95% (N=20)
International	28% (N=24)	5% (N=1)
Enrolment status		
Full-time	96% (N=82)	43% (N=9)
Part-time	4% (N=3)	57% (N=12)

Participants

In the first phase, the participants were the 93 students who were enrolled in a sport management course. This course was offered face-to-face simultaneously at two campuses during the first half of 2017. Eighty-five valid responses were obtained. In phase two, the participants were the 22 students who were enrolled in an international management course during the second half of 2017. Twenty-one valid responses were obtained. Overall, the sample is representative of the student cohort in each undergraduate degree program. Details of participants in both phases are outlined in Table 1.

Within the sport management course, respondents had completed almost two years at university. Students in the international management course were in the equivalent of the second year of their undergraduate program.

Questionnaire

Students in both phases completed a questionnaire that comprised sections examining perceptions of academic integrity and authentic assessments as well as questions designed to gather demographic data. All the questions were directly aligned to the specific assessment tasks in each course. The students took the questionnaire directly after completing the interactive oral assessment. A member of the teaching team directed students to the online questionnaire, provided on iPads, which they completed before leaving the exam room. Consequently, a 100% response rate was achieved.

The first section of the questionnaire examined student perception regarding the extent to which each of the assessments in the course were authentic and improved employability. Students were provided with the following definition of authentic assessment as ‘a form of assessment asking students to perform real-world tasks to demonstrate meaningful application of necessary knowledge and skills’. Students answered the same questions for each of the three assessment tasks. Examples of questions included ‘The assessment had real world relevance’; ‘The assessment focused on performing a task’; and, ‘The assessment made me more likely to gain employment in a management role’. Respondents used a seven -point Likert scale ranging from 1 = Strongly disagree to 7 = Strongly agree. In addition, students were asked to indicate the assessment that was most helpful in terms of developing management professional skills and, to outline the specific skills gained in that assessment task.

The next section of the questionnaire focused on academic integrity. Once again, students were provided with a definition of academic integrity as ‘acting with the same values of honesty, trust, fairness and responsibility in learning. This includes values such as avoidance of cheating, fraud or plagiarism. Students rated their feelings about academic integrity on dimensions of bad/good, dislikeable/likeable and disagreeable/agreeable using a seven-point Likert scale. Students also indicated their own likelihood of purchasing assessments using a seven-point Likert scale (1 = Not likely to 7 = Very likely), before explaining in response to an

open-ended question, why they provided that rating. Using a seven-point Likert scale ranging from 1 = Very easy to 7 = Very hard, students were asked specifically about the level of difficulty for purchasing each of the three assessments. Using an open-ended question, students were asked to explain the reasons for this perceived level.

Data Analysis

XL stats was used to analyse the quantitative data, a z-test was used to examine differences in answers of various items, and thematic analysis was used to analyse the data obtained from the open-ended questions. Initially, these data were reviewed using an inductive approach, as recommended by Braun and Clarke (2006), which allowed for content analysis using an open coding method. During this process, the researchers actively searched for common themes, without referring to any theoretical framework or model, in order to allow for themes within the data to emerge. The responses were open coded a second time to ensure the correct context was applied to the scenarios and statements provided by the participants. The two sets of codes were compared for each interview to identify the most appropriate themes, which informed the final set of themes. Next, two independent coders analysed the interview responses for comments aligned with the defined themes, with 100% inter-coder reliability achieved.

Results

This section presents the results in relation to the assessment tasks in both phases of the study with a particular emphasis on the impact of authentic assessment tasks and the links to employability and authenticity outcomes.

Skill Development and Employability

In both phases of the study, all assessments rated highly in their relevance and capacity to develop graduate employability skills. However, as seen in Table 2, the interactive orals (i.e., A3 and B3) rated the highest in all scores. Particularly, in terms of enabling students to (a) gain

professional skills relating to sport management, thereby enhancing their employability; (b) make them more likely to gain employment in sport industry; and (c) help students understand what is needed for effective career building at this point of their studies.

Table 2: Student perceptions relating to authenticity and employability of interactive orals

(1 Strong disagree – 7 Strongly agree)

	Phase 1 (N=85)			Phase 2 (N=21)		
	A1	A2	A3	B1	B2	B3
Employability						
The assessment had real-world relevance			6.5	6.3	6.1	6.7
Able to gain professional skills			6.2	6.0	5.8	6.4
More likely to gain employment in specific industry			6.2	6.2	6.2	6.3
Understood how to be successful in a sport/international management position			6.0	6.0	5.9	6.2
Understood what is needed for effective career building			6.1	6.0	6.0	6.3
The assessment developed communication skills*			6.1	-	-	6.3

* This question was only asked in relation to A3 and B3

Analysis was also conducted on the questions that related to the second and third assessments in both courses, such as ‘The assessment had real world relevance’ and ‘The assessment enabled me to gain professional skills...thereby enhancing my employability’. A z-test for the difference between the proportion of students who ‘strongly agreed’ (Likert score of 7) with the employability skill development provided through the assessment item was conducted. For the sport management course, the ‘real world relevance’ of the job interview was significantly higher than for the written report (p -value of 0.000); and significantly higher in enabling ‘me to gain professional skills...’ (p -value of 0.05). The statistical results for the international management course provide corroborating evidence, albeit not quite as strong, that the interactive oral assessment provided better employability skill development than the written report (p -values of 0.042 and 0.080). Table 3 reports these data and statistical results for both courses.

Table 3: Employability skill development

		Phase 1			
		Written report (A2)		Job interview (A3)	
Likert scale		Proportion of responses			
		Q7.1	Q7.13	Q9.1	Q9.13
Strongly disagree	1	0.0220	0.0220	0.0330	0.0330
	2	0.0000	0.0110	0.0000	0.0110
	3	0.0110	0.0110	0.0000	0.0000
	4	0.0110	0.0220	0.0110	0.0110
	5	0.0659	0.1538	0.0110	0.0989
	6	0.4615	0.4725	0.2308	0.3956
Strongly agree	7	0.4286	0.3077	0.7143	0.4505
Test for difference between the two assessments					
Comparing Q7.1 (A2) with Q9.1 (A3)					
The assessment item had real world relevance					
		7 (very strongly agree)		<i>p</i> -value	0.000
Comparing Q7.13 (A2) with Q9.13 (A3)					
The assessment item enabled me to gain professional skills					
		7 (very strongly agree)		<i>p</i> -value	0.050
		Phase 2			
		Written report (B2)		Client interview (B3)	
Likert scale		Proportion of responses			
		Q7.1	Q7.13	Q9.1	Q9.13
Strongly disagree	1	0.0455	0.0455	0.0455	0.0455
	2	0.0000	0.0000	0.0000	0.0000
	3	0.0000	0.0455	0.0000	0.0000
	4	0.0000	0.0455	0.0000	0.0455
	5	0.1818	0.1364	0.0000	0.0455
	6	0.5455	0.4545	0.3182	0.3182
Strongly agree	7	0.2273	0.2727	0.6364	0.5455
	total	1.0000	1.0000	1.0000	1.0000

Test for difference between the two assessments			
Comparing Q8.1 (B2) with Q9.1 (B3)			
The assessment item had real world relevance			
7 (very strongly agree)		<i>p</i> -value	0.042
Comparing Q8.13 (B2) with Q9.13 (B3)			
The assessment item enabled me to gain professional skills			
7 (very strongly agree)		<i>p</i> -value	0.080

Academic Integrity

When asked to rate the difficulty of purchasing A1 and A2 from someone else or from a website, 45% of the students rated that as extremely difficult. For B1 and B2, 33% of international management students perceived that it would be extremely difficult to purchase their assignments from someone else or a website.

Using a 7-point Likert scale (1- easy, 7- hard), the mean difficulty rating for B1 was 4.6, 3.9 for B2. When students provided their reasoning for this evaluation, it is interesting to note that eight students (36%) stated that they did not know how to access assessments from other sources. This may have resulted in a more neutral rating than expected. Table 4 outlines the perceived mean difficulty for all assessment items in both courses.

Table 4: Student perceptions relating to academic integrity of assessment tasks (1: Very easy- 7: Very hard)

	Phase 1 (N=85)	Phase 2 (N=21)
Academic Integrity		
Difficulty for purchasing Assessment 1	5.59	4.86
Difficulty for purchasing Assessment 2	5.69	4.38
Difficulty for purchasing Assessment 3	6.37	6.24

In relation to A3 and B3, when asked to rate the difficulty of purchasing A3 from someone else, or from a website, 73% of the sport management students rated that as extremely

difficult. Similarly, three-quarters of the international management students (N=16) indicated that it would be extremely difficult to purchase the B3. The majority of students in both courses mentioned that this was the case because (a) they had adequate resources to prepare for it: “There is an example teaching me how to do well in the job interview” and importantly, most students claimed that: “Because it is a live assessment done individually face-to-face”... “you can’t copy anyone else” and “I don’t have a twin”. Besides, students admitted that “[the examiner] personalised the questions to your club” which meant “all answers would be different”. Overseas students admitted that: “I am an international student, so it was difficult to prepare but very useful”, and overall the consensus across the student cohort was that: “I liked it [the interactive oral] a lot it was very fun and interactive”.

Perceptions of the difficulty of engaging in contract cheating, defined here as paying someone else to complete the written assessment or paying someone to complete the interviews were assessed through questions 15 and 17 respectively. A z-test for the difference between the proportion of students who would find it ‘very hard’ to conduct contract cheating (Likert score of 7) and the proportion who would find it hard but somewhat less so (Likert value greater than 4) was conducted. The results are reported in Table 5. For the sport management course, where the interactive oral assessment was a job interview, the *p*-values for the Likert values of 7 and >4 respectively were 0.0001 and 0.007. This is very strong evidence of a statistically significant difference in the students’ perceptions of the difficulty of engaging in contract cheating under the two types of assessment, in particular, that students find it more difficult to engage in contract cheating in a job interview. For the international management course, where the interactive oral assessment was a client interview, the *p*-value was similarly very low for the Likert value of 7, but somewhat higher (0.071) for Likert value of >4. Therefore, the same conclusion is supported for the interactive oral assessment as for the sport management course.

Table 5: Subjective degree of difficulty of contract cheating

		Phase 1			
		Written report		Job interview	
likert scale		Number	Proportion	Number	Proportion
very easy	1	3	0.0333	1	0.0111
	2	1	0.0111	2	0.0222
	3	5	0.0556	0	0.0000
	4	16	0.1778	7	0.0778
	5	12	0.1333	6	0.0667
	6	12	0.1333	8	0.0889
very hard	7	41	0.4556	66	0.7333
	total	90	1	90	1
Test for difference between two proportions					
		7 (very hard)	<i>p</i> - value	0.0001	
		> 4	<i>p</i> - value	0.007	
		Phase 2			
		Written report		Client interview	
likert scale		Number	Proportion	Number	Proportion
very easy	1	2	0.09524	0	0
	2	0	0.00000	0	0
	3	3	0.14286	1	0.0476
	4	6	0.28571	4	0.1905
	5	6	0.28571	0	0
	6	1	0.04762	0	0
very hard	7	3	0.14286	16	0.7619
	total				
Test for difference between two proportions					

Authentic Assessment Design

Analysis on the two sets of data from the open-ended questions on the features of *authentic assessment design* revealed five common themes. These themes were *authenticity*, *specificity*, *scaffolding*, *engaging*, and *uniqueness*. These themes along with representative quotations as examples of student responses are outlined in Table 6.

Table 6: Results on student perceptions on academic integrity

Theme	Representative Quotation(s)	Representative Quotation(s)
	Phase 1	Phase 2
Authenticity	“because it is based around a 'real life' organisation and the information needed to complete this assessment is not easily fabricated”	“the level of interactiveness (sic) and intimate communication cannot be purchased”
Specificity	<p>“The assignment is very specific in its requirements”</p> <p>“In this assessment we were required to provide evidence and proof, that we had performed the research ourselves, and it was even required we take photos and show sufficient images to prove we individually gathered this information. Therefore if a person was to attempt to purchase this assignment elsewhere or from another student, it would either be too obvious it is plagiarised or the information would not be relevant or specific to the topic”</p> <p>“The specific information I needed was not available to be purchased so I had to research on my own”</p>	<p>“I would not like to purchase the assessment because I know a lot more about the countries I worked on. If I didn't do the job myself I wouldn't know this much”</p> <p>“would be quite hard in trying to purchase a project that requires other members of a team to input”</p>
Scaffolding	“Once you choose a team or venue to do your assignment on you'll have to learn the assignment to do the last two assessment pieces”	<p>“these assignments would all be very hard to purchase as the countries have been assigned individually and the content would need to be relevant to the nominated country”</p> <p>“With this assessment purchasing the information will only be able to take you so far as it would be difficult to have someone else complete the interview for you”</p>
Engaging	<p>“in order to do well requires evidence not attainable unless you actually engage and do the work”</p> <p>“The research and task were easier to do since it incorporated my interests as I am a fan of soccer”</p>	<p>“these assignments would all be very hard to purchase as the countries have been assigned individually and the content would need to be relevant to the nominated country”</p> <p>“With this assessment purchasing the information will only be able to take you so far as it would be difficult to</p>

		have someone else complete the interview for you”
Uniqueness	<p>“Because it is an assessment based on different organisations from everyone else”</p> <p>“Because it is a unique project”</p>	<p>“It is very customised. Hard to duplicate”</p> <p>“the countries have been assigned individually and the content would be to be relevant to the nominated country”</p>

These findings offer further explanation and support to the quantitative data on the role of authentic assessment to employability skill development and academic integrity. Student justification for their ratings reflect the identified themes. In particular, students noted the uniqueness, specificity (or else personalization) of the assessment tasks. This is summed up clearly by one student who stated: “These assignments would all be very hard to purchase as the countries have been assigned individually and the content would have to be relevant to the nominated country”. Another student noted, “the level of interactiveness (sic) and intimate communication cannot be purchased”. Moreover, students commented about the impossibility of faking identity in the interactive oral and acknowledged that the combined assessment tasks required them to engage in all stages to know the content.

In relation to scaffolding and other resources offered during the courses to help students prepare for the assessment tasks, most students found the provided resources to be very helpful (e.g., international management course; mean 5.8). In particular, students acknowledged the usefulness of the assessment instructions; the recorded videos detailing how to complete the assessment tasks; the examples and marking criteria; the activities within the online workshops; and the scaffolding across the three assessment activities. When students were asked to identify how they prepared for the interactive oral, the vast majority of comments related to the use of the resources offered (workshop activities, videos, mock interview, rubrics, assessment instructions, lecture materials), and the importance of revising the content of their scaffolded assessments. For instance, students claimed: “I reviewed my basic skills test and watched the

example video”. Another student said: “I listened to the sample recording many times”. In other instances, students: “watched the exemplar and tried to pull out potential issues from my assignment and practised answering the exemplar” and “read over my past assessment pieces... to refresh my memory on certain items”... and “revised the results on my strengths and weaknesses on the tests we did in class’ and “reading lecture materials”. Last, one student explained:

I studied the marking rubric in line with what we had learned during the trimester. I found out what was required and made sure I was prepared for possible questions that may be asked in relation to the requirements of the Assessment. I then practiced by answering these questions and also worked on skills such as clear speaking, eye contact and confidence.

Authentic Assessment Settings

When analysing the data for preference as to whether students felt interactive orals were best delivered in online or face-to-face mode, three themes emerged. These themes reflected students’ *personal learning preferences* and *perceived benefits*, and stressed the role of *technologies*. Specifically, when students were asked whether they would consider sitting the interactive oral online (if the option was given) instead of face-to-face, the findings showed that in most cases students preferred the face-to-face option. The data analysis showed that most students had a *personal learning preference* for face-to-face: “I personally prefer sitting in class, face to face in a lecture and workshop” and “I prefer learning face to face, I do not work as well when it is online”. Furthermore, students claimed: “face to face interview is tangible for me”, “I prefer to do talking in person”, and “it is more interactive and real world”. The second theme related to the *perceived benefits* associated with a face-to-face interactive oral. Students claimed that “I work best and learn more effectively when learning from a person not a computer”, and “Doing face-to-face can let me know more about my problems”. Also,

students argued that “The face to face interview was very enjoyable” and “the real-life elements of this course were most beneficial”. A last point that was raised related to *technology* and particularly concerns about potential “Connection problems”, “the Internet would cut out” and a reluctance to take the interactive oral online “Due to the unpredictability of the Internet and its services”. On the other hand, students in support of the online option commented on the convenience of offering the interactive oral online and that they would prefer it because: “I wouldn't have to drive to uni” (sic) and “It's less of a hassle to come down to school and just do it online instead”. Other students commented on their perceived ease of taking the interactive oral online instead of face to face as follows: “less daunting talking to a computer” and “I won't be nervous”. The last theme that emerged related to student commitments, such as travel and work.

Discussion and Implications

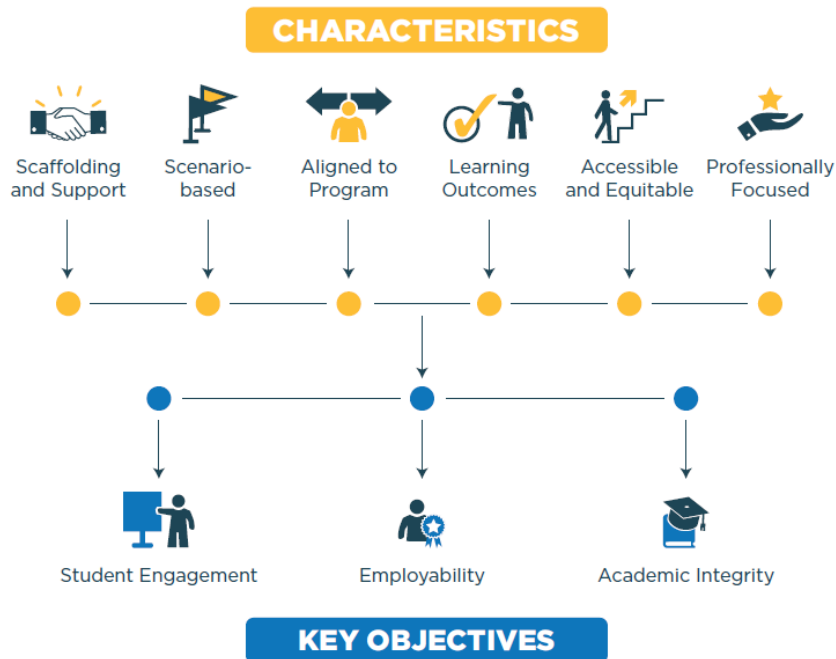
This research has shown that an interactive oral as a form of authentic assessment can be used in both online and face-to-face settings in management courses to effectively assess the graduate attributes sought by employers. Furthermore, the findings suggest students perceive that interactive orals are highly authentic and relevant to their employability, and promote academic integrity. With increasing concern at universities across the globe regarding academic integrity (Sprajc et al., 2017), an interactive oral assessment contributes to institutional approaches to reduce the prevalence of academic dishonesty. This finding is particularly relevant to online delivered courses where academic misconduct in the form of purchasing assignments online, has prevailed in recent times.

As a result of this multi-phased study, we propose six (6) characteristics as essential features for successful design of authentic assessment that would enable the achievement of three (3) key objectives: student engagement, better prospects for graduate employability and greater levels of academic integrity. These characteristics and their links to enabling these three

objectives are framed in Figure 1. Specifically, based on the key findings of the study, we propose that authentic assessment is inclusive of scaffolded assessments across the course building to a final interactive oral exam. Other support along the way, including mock interviews, practice alongside the rubric and assessment criteria and showcasing how the assessments works hand in hand toward the final interactive oral, are essential tools for students to see the scope of the assessment, have clarity and engage in the process during their study. This also leads to another key design characteristic that we propose, that being that the scaffolded assessments are set in *scenario-based contexts*. Scenarios not only contextualise the assessment but enable students to see the relevance to real work situations and reflect/link the theoretical aspects of their course to industry practice and then articulate these links in their assessment tasks. Further to this, the assessment tasks should align to the program and program learning outcomes. Importantly, special consideration should be given to potential accessibility and equity requirements to ensure assessment design does not disadvantage students or conflict with institutional policies. Assessments need to be universally designed to be flexible, thereby ensuring that they meet the requirements of *accessible and equitable* delivery. Last, but not least, we propose that authentic assessments are designed in ways that offer *tasks* reflective of the workplace roles that naturally extend from the discipline area, therefore that they are highly professionally focused.

Figure 1. Proposed Framework for Authentic Assessment Design: Interactive Oral Assessment as Authentic Assessment Design.

Key Objectives and Characteristics for the effective design of Interactive Oral Assessments



This paper contributes to the growing literature on authentic assessment in three ways. First, although authentic assessment has been examined in various disciplines including law (e.g., Martens, Bastiaens and Kirschner, 2007), nursing (e.g., Gulikers, Bastiaens and Kirschner, 2004), social work (e.g., Gulikers, Bastiaens and Kirschner, 2006), and education (e.g., Kearney, 2013), little empirical evidence has been reported in business disciplines (James and Casidy, 2016). Second, prior research has focused on the design of authentic assessment in the context of WIL and work placements (e.g., Jackson, 2015) leaving a knowledge gap in the ways assessment tasks in a formal learning environment can be designed to enable real world experiences for business students. This study explored this gap in both face-to-face and online settings. Third, while existing studies have focused on views of industry or academics (Maxwell, 2012), student views of authentic assessment have received limited attention in the literature (Gulikers et al., 2006; James and Casidy, 2016). Specifically, there is a lack of

empirical evidence supporting the relationship between authentic assessments and students' perceptions on skill development and employability in business undergraduate programs (Jackson, 2013), and the impact of authentic assessments on moderating academic misconduct. Moreover, with increasing participation in online learning, Howell and Schroeder (2016) identified the need for greater collaboration between learning and teaching advisors (e.g., learning and teaching consultants, educational designers, instructional designers and/or curriculum consultants supporting curriculum, assessment and delivery considerations) and academic staff in order to develop authentic assessment in a blended-learning environment.

The findings in the study lead to several practical considerations too. There is a need to consider how the aforementioned skill development can be captured to demonstrate competence when students are seeking work. This presents further opportunities for collaboration between academic and specialised staff, such as the Learning and Teaching Consultant (Design) in this study, and other learning and teaching advisors. As Howell and Schroeder (2016) put forward, the development and implementation of interactive oral assessments, in both on-campus and online contexts, requires collaboration between the learning and teaching advisors and academic staff. The teaching team should be supported and provided with necessary training to ensure the skill development of students is scaffolded throughout the course in accordance with the principles of constructive alignment (Biggs and Tang, 2011). Moreover, staff may need training to analyse effectively student competencies of 'soft skills' such as communication.

From a student perspective, a range of resources to support student preparation and manage anxiety in relation to novel assessments (Knight, Dipper and Cruice, 2013) should be provided. For example, in the current study, the Learning and teaching Consultant (Design) and faculty members for both courses in the study developed recordings of exemplar/mock interviews. This study has also shown that the academic policies, processes and facilities must

be aligned to support this type of assessment. For example, in a course where authentic assessments are scaffolded throughout the academic study period, the interactive oral should be completed within the formal examination period. This would permit the same rules regarding missed assessments and deferred examinations to be applied.

Conclusion

There is a vast amount of literature on authentic tasks and the descriptions of key traits of these authentic tasks all point toward offering assessments that are designed to determine the student's ability to apply standard-driven knowledge and skills, to real-world challenges. What is less understood is how to best design such assessments. This study offers empirical evidence on several key characteristics that have proven to be key drivers of successful authentic assessment design. These characteristics in turn offer solutions to, and mitigate some of, the most significant educational design challenges of our time, including employability, student engagement and academic integrity. We conclude that the identified characteristics for authentic assessment design are effective when applied to interactive orals in both face-to-face and online modes of course delivery. We accept that authentic assessment design varies from a brief brainstorming activity to an extended critical reflective journal, among other things. Hence, we argue that the results of the study cannot directly be transferred across to other authentic assessment type. However, the results do offer a useful framework to inform further testing in different discipline contexts and across varied design applications for other types of authentic assessment. Furthermore, this study reports on the experiences of utilising interactive orals in undergraduate courses, and it is worth noting that one course was almost four times as large as the other. This makes comparison of them difficult and limited. It is also difficult to generalise the findings from sport and international business to other business disciplines. Future research should explore the use of interactive orals in postgraduate business courses where the assessment design may be further extended in complexity to include group or cross-

disciplinary scenarios; and compare with other business disciplines to validate the design characteristics in the framework that this study proposes.

References

- Achieve. "Closing the expectations gap. An annual progress report on the alignment of high school policies with the demands of college and work." Accessed 12 September, 2017. <http://www.achieve.org>
- Australian Qualifications Framework. "Australian Qualifications Framework: Second Edition." Accessed May 15, 2017. <https://www.aqf.edu.au/sites/aqf/files/aqf-2nd-edition-january-2013.pdf>
- Ashford-Rowe, Kevin, Janice Herrington, and Christine Brown. 2014. "Establishing the critical elements that determine authentic assessment." *Assessment & Evaluation in Higher Education* 39 (2): 205-222.
- Baartman, Liesbeth, and Judith Gulikers. 2017. "Assessment in Dutch vocational education: Overview and tensions of the past 15 years." In *Enhancing Teaching and Learning in the Dutch Vocational Education System*, edited by Elly Brujin, Stephen Billet and Jeroen Onstenk, 245-266. Springer: Cham.
- Baker, Ron. 2017. Preliminary findings from a survey of students and staff in Australian higher education. "Special Issue: Academic Misconduct in Accounting Education." *The Accounting Educators' Journal* 26.
- Birenbaum, Menucha, and Filip Dochy. 1996. *Alternatives in assessment of achievements, learning processes and prior knowledge*. Boston: Kluwer Academic Publishers.
- Bretag, Tracey, Rowena Harper, Cath Ellis, Phil Newton, Pearl Rozenberg, Sonia Saddiqui, Karen van Haeringen. 2017. "Preliminary findings from a survey of students

and staff in Australian higher education." In *Contract cheating and assessment design OLT project*. <http://www.cheatingandassessment.edu.au/resources/>

Cai, Peter, and Benjamin Preiss. "Uni cheats buy work in cyberspace." *The Sydney Morning Herald*, October 3, 2012. Accessed May 14, 2017. <http://www.smh.com.au/technology/technology-news/uni-cheats-buy-work-in-cyberspace-20121002-26xhj.html>

Chan, Vincent. 2011. "Teaching Oral Communication in Undergraduate Science: Are We Doing Enough and Doing it Right?." *Journal of learning design* 4 (3): 71-79.

Clark, Kathleen, and Michael F. Graves. 2005. "Scaffolding students' comprehension of text." *The Reading Teacher* 58 (6): 570-580.

Commonwealth of Australia. 2018. Higher Education Support Act 2003, No. 149. Canberra: Author.

Cranmer, Sue. 2006. "Enhancing graduate employability: best intentions and mixed outcomes." *Studies in Higher Education* 31 (2): 169-184.

Darling-Hammond, Linda, Jacqueline Ancess, and Beverly Falk. 1995. *Authentic assessment in action: Studies of schools and students at work*. New York: Teachers College Press.

de Schepper, Jos, and Popi Sotiriadou. 2018. "A framework for critical reflection in sport management education and graduate employability." *Annals of Leisure Research* 21(2): 227-245.

Edwards, Matt. 2014. "The impact of placements on students' self-efficacy." *Higher Education, Skills and Work-based Learning* 4 (3): 228-241.

- Falchikov, Nancy. 2005. *Improving assessment through student involvement: Practical solutions for aiding learning in higher and further education*. United Kingdom: Routledge.
- Freeman, Edward, and Eileen Lynd-Balta. 2010. "Developing information literacy skills early in an undergraduate curriculum." *College Teaching* 58 (3): 109-115.
- Graduate Careers Australia. "Graduate Destinations 2015." Accessed December 12, 2016. <http://www.graduatecareers.com.au/wp-content/uploads/2016/07/Graduate-Destinations-Report-2015-FINAL1.pdf>
- Gray, Elizabeth, Lisa Emerson, and Bruce MacKay. 2005. "Meeting the demands of the workplace: science students and written skills." *Journal of science education and technology* 14 (4): 425-435.
- Greenbank, Paul. 2014. "Competing in the graduate labour market: Student perspectives on (not) participating in extra-curricular activities." *Journal of Teaching and Learning for Graduate Employability* 5 (1): 63-79.
- Gulikers, Judith, Theo Bastiaens, and Paul Kirschner. 2004. "A five-dimensional framework for authentic assessment." *Educational technology research and development* 52 (3): 67.
- Gulikers, Judith, Theo Bastiaens, and Paul Kirschner. 2006. "Authentic assessment, student and teacher perceptions: the practical value of the five-dimensional framework." *Journal of Vocational Education and Training* 58 (3): 337-357.
- Gulikers, Judith, Liesbeth Kester, Paul Kirschner, and Theo Bastiaens. 2008. "The effect of practical experience on perceptions of assessment authenticity, study approach, and learning outcomes." *Learning and Instruction* 18 (2): 172-186.

- Harris-Chegg Foundation. 2013. "Bridge that gap: Analyzing the student skill index."
http://www.insidehighered.com/sites/default/server_files/files/Bridge%20That%20Gap-v8.pdf
- Harvey, Lee. 2001. "Defining and measuring employability." *Quality in higher education* 7 (2): 97-109.
- Helyer, Ruth. 2011. "Aligning higher education with the world of work." *Higher Education, Skills and Work-Based Learning* 1 (2): 95-105.
- Herrington, Anthony, and Jan Herrington. 2006. "What is an authentic learning environment?." In *Authentic learning environments in higher education*, edited by Anthony Herrington and Jan Herrington, 1-14. Hershey: IGI Global.
- Jackson, Denise. 2013. "Student perceptions of the importance of employability skill provision in business undergraduate programs." *Journal of Education for Business* 88 (5): 271-279.
- Jackson, Denise. 2015. "Employability skill development in work-integrated learning: Barriers and best practice." *Studies in Higher Education* 40 (2): 350-367.
- Jackson, Denise. 2016. "Skill mastery and the formation of graduate identity in Bachelor graduates: evidence from Australia." *Studies in Higher Education* 41 (7): 1313-1332.
- James, Lincoln Then, and Riza Casidy. 2018. "Authentic assessment in business education: its effects on student satisfaction and promoting behaviour." *Studies in higher education* 43 (3): 401-415.

- Kearney, Sean. 2013. "Improving engagement: the use of 'Authentic self-and peer-assessment for learning'to enhance the student learning experience." *Assessment & Evaluation in Higher Education* 38 (7): 875-891.
- Mathner, Robert, and Christina Martin. 2012. "Sport management graduate and undergraduate students' perceptions of career expectations in sport management." *Sport Management Education Journal* 6 (1): 21-31.
- Martens, Rob, Theo Bastiaens, and Paul A. Kirschner. 2007. "New learning design in distance education: The impact on student perception and motivation." *Distance education* 28 (1): 81-93.
- Maxwell, Tom. 2012. "Assessment in higher education in the professions: Action research as an authentic assessment task." *Teaching in Higher Education* 17 (6): 686-696.
- Messick, Samuel. 1994. "The interplay of evidence and consequences in the validation of performance assessments." *Educational researcher* 23 (2): 13-23.
- Nonis, Sarath, and Cathy Owens Swift. 2001. "An examination of the relationship between academic dishonesty and workplace dishonesty: A multicampus investigation." *Journal of Education for business* 77 (2): 69-77.
- Oliver, Beverley. 2015. "Redefining graduate employability and work-integrated learning: Proposals for effective higher education in disrupted economies." *Journal of Teaching and Learning for Graduate Employability* 6 (1): 56.
- Sotiriadou, Popi. 2011. "Improving the practicum experience in sport management: A case study." *European Sport Management Quarterly* 11 (5): 525-546.

- Sotiriadou, Popi, and Brad Hill. 2015. "Using scaffolding to promote sport management graduates' critical thinking." *Annals of Leisure Research* 18 (1): 105-122.
- Struyven, Katrien, Filip Dochy, and Steven Janssens. 2003. "Students' perceptions about new modes of assessment in higher education: A review." In *Optimising new modes of assessment: In search of qualities and standards*, edited by Katrien Struyven, Filip Dochy, and Steven Janssens, 171-223. United States: Springer Publisher.
- Teaching at UNSW. 2017. "Assessing Authentically". Accessed February 18, 2017. <https://teaching.unsw.edu.au/printpdf/518>
- Tertiary Education Quality and Standards Agency. 2015. "Report on student academic integrity and allegations of contract cheating by university students". Accessed March 27, 2018. <http://www.teqsa.gov.au/sites/default/files/publication-documents/ReportOnAllegationsOfStudentMisconduct.pdf>
- Thomas, Adele. 2015. "Forget plagiarism: there's a new and bigger threat to academic integrity". Accessed May 14, 2017. <https://theconversation.com/forget-plagiarism-theres-a-new-and-bigger-threat-to-academic-integrity-46210>
- Tout, Dan, Geri Pancini, and Rob McCormack. 2014. "Using mobile peer mentors for student engagement: Student Rovers in the Learning Commons." *Higher Education Research & Development* 33 (3): 595-609.
- Torrance, Harry, and Julie Coultas. 2004. "Do summative assessment and testing have a positive or negative effect on post-16 learners' motivation for learning in the learning and skills sector? A review of the research literature on assessment in post-compulsory education in the UK". Accessed May 14, 2017. <http://www.ttrb3.org.uk/wp-content/uploads/2012/08/SummAssess.pdf/>