Improving Digital Assessment Practice: A Case Study of a Cross-Institutional Initiative

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Abstract

Assessment practice is a crucial component of higher education learning and teaching, however many academic teachers lack formal teaching qualifications and often fall back on teaching and assessing the way they themselves were taught. Furthermore, with increasingly diverse student cohorts, larger classes and increasing components of teaching delivered online, it is unsurprising that students rate assessment as one of the poorest features of their learning experiences. For these reasons, understanding the specific contexts of assessment is important now more than ever. This paper will present the findings of a case study of a cross-institutional initiative aimed at exploring how to improve digital assessment practice by focusing on context, and encouraging and facilitating collegial collaboration. The aim of the case study was to progress a digital assessment project at an Australian higher education provider. Teams of staff from two higher education providers collaborated to develop and implement eight prototype assessments to reform digital assessment practices. The assessments were selected from online undergraduate academic subjects across a range of disciplines. Findings reveal that both staff and students felt that there were benefits to the cross-institutional collaboration. The resulting assessment was perceived as improving student motivation and engagement and more tailored for the online environment than the existing assessment.

Keywords

Introduction

This paper examines a case study of a cross-institutional initiative between two higher-education providers, Swinburne Online (SOL) and Swinburne University of Technology (SUT), in developing and implementing eight prototype assessments. The assessments were created for fully online academic units offered by SOL in undergraduate degrees across a range of disciplines. The units ranged in size from approximately 50 to 500 students. The experience of working together – specifically, the cooperation and collaboration between staff in the organisations – is examined. The students' feedback, levels of engagement and perceptions of the assessments are explored.

Assessment practice is currently a focus in higher education (Deneen & Boud 2014; Carless 2015; Bearman et al. 2016; Boud et al. 2016). It is central to teaching and learning, as it determines when and if learners are ready to progress and has a major influence on teacher workload (Joint Information Systems Committee (JISC) 2010a). Assessment both grades students and assists with learning, and is therefore fundamental to the student experience (Boud 2000). Assessment is critical to achieving learning outcomes and overall student satisfaction (Gill 2015). In student evaluations of teaching, appropriate assessment is one of the main factors that predict student satisfaction (Ginns et al. 2007). Until recently, however, research into how innovative assessment affects the student experience in higher education has been limited (Bevitt 2015). Some exceptions have included research completed as part of the JISC Institutional Innovation program (JISC 2010b).

Misalignments are often found between teachers' knowledge and their practice. A study (Eley 2006) of university teachers' knowledge of educational theory and how they acted upon their knowledge in educational decision-making revealed a gap between what teachers knew and what they did in their practice. Others have likewise found a lack of evidence that teaching knowledge and practice correlate (Kane et al. 2002; Hativa et al. 2001; Norton et al. 2013). Similarly, research has shown that despite teachers showing an increase in sophisticated thinking about assessment, they do not change their assessment practice (Offerdahl & Tomanek 2011). Collaborating with colleagues may provide one way to bridge this gap between knowledge and practice.

Collaboration in the workplace can be a powerful opportunity for staff to work together on projects to bridge links between organisations and embed good practices. Working closely across organisations, faculties and disciplines can provide insights into decision-making and processes, highlight differences in perceptions and understanding and provide opportunities for research and publication. Collaboration between higher-education institutions has long been recognised as leading to greater efficiency and effectiveness (Kezar 2005). Importantly, there are tangible benefits for student engagement and motivation, and in recent decades, research has found that cross-institutional collaboration can enhance student learning in higher-education institutions (Kanter 1994; Senge 1990) and lead to successful project outcomes (Brown & Littrich 2008). It should be noted, however, that within universities, the rigid structures of the organisation make collaboration between units difficult (Kanter 1994; Senge 1990) and likely to fail (Doz 1996).

The collaborative-scholarship model implemented by Weaver et al. (2013) focused on academic developers and academics working together on projects around curriculum development. These projects targeted a specific problem aimed at achieving successful student learning outcomes. This contextualised model of professional development works through four stages: engagement, innovation or intervention, evaluation and publication. The model highlights the role of effective collaboration in improving teaching practice and student learning, and creating avenues for publication. While Rossi et al.'s (2012) exploration of learning design through cross-institutional

projects highlighted some constraints of cross-sector interactions, the effects on learning design, innovation and collaboration provided new ways of working together and changes in practice. A report of case studies within high schools demonstrated that collaboration can be used in practice to achieve sustained improvement in student outcomes (Bentley & Cazaly 2015). Such studies illustrate the positive benefits of collaboration for institutions, employees and students.

Educational change is generally difficult to implement where there are low levels of trust (Louis 2007; Carless 2015). Fostering a collaborative culture within an organisation can increase trust levels (Tschannen-Moran 2001). Transparency generally breeds trust (e.g. Carless 2009), with increased collaboration being one way of developing trust and transparency among university staff members. Assessment is an area where collaboration and communication may be particularly useful, as assessment practice may be secretive and conservative, possibly due to a lack of trust, and may constrain assessment reform (Carless 2009). Some teachers may experience tension when asked to reform their assessment practice and when they feel that they need to defend themselves from their students, colleagues or institutions (Ecclestone & Swann 1999). Dawson et al. (2013) suggested that assessment decision-making should involve university teachers, occur at multiple levels within the organisation and be influenced by expertise, trust, culture and policy.

Research aims

This paper has two aims:
- To examine the experiences of staff members who collaborated to develop and implement new types of assessment through a systematic cross-institutional project.
- To explore whether student feedback indicated that assessment guidelines – that the assessments be clearly defined, tailored for the online environment and authentic and relevant, and that they increase student engagement – had been realised in the redesigned assessments.

The assessment project

The institutional context
Swinburne University of Technology (SUT) is an internationally ranked Australian public university. Swinburne Online (SOL) is company formed as a joint partnership between seek.com.au and SUT. Seek.com.au is a fully online business that owns employment websites in a number of countries. SOL provides online tertiary qualifications from a university. The courses are all delivered fully online, offering a suitable alternative for students who cannot attend a campus because of work or family commitments, providing the flexibility of online study (Henry et al. 2014). Units are delivered in an interactive learning format, with support available all day, every day. SOL students receive the same qualification as a student who has completed study at SUT.

Units are based on a social-constructivist learning ethos where students are encouraged to work in collaboration with their peers and with access to online tutors. Activities and resources are created specifically for the online environment (Lipson 2013). The units are developed through a learning-design methodology adapted from Salmon's online learning design model (Salmon 2015). The duet-design process, where "duet" refers to design input from both SOL and SUT and entails an SUT academic working with an SOL learning designer to develop or redevelop a unit for delivery online, which is followed up by a mid-cycle review and an end-of-cycle review.

In 2014, a project was initiated with a view to improve student achievement, satisfaction, progress and retention in relation to assessment. The first part of the project involved an internal review of all assessments in 68 units delivered by SOL in the first teaching period. The assessments were reviewed for optimal impact on student learning and success based on the following criteria:

- Do the assessments align with the learning outcomes?
- Are the assessments clear?
- Do the rubrics/marking criteria align with the assessments?
- Are assessments well-paced for timely feedback?
- Are students resourced to complete assessments?

This review informed the need for consistency to improve student achievement and satisfaction, and provided the basis for the second component of the project: to develop a set of guiding principles for assessment design. The university's assessment principles were reviewed against those of national and international universities; this provided a structure for a series of workshops with academics and learning designers to develop a set of core design principles for specifically for online assessments. This was very much a collaborative process with stakeholders across both SOL and SUT, and involved learning designers, academics, online tutors, educational technologists and student advisors all focused on goals of student achievement and satisfaction. The process was based on several guiding principles:

1. Assessments are clearly defined.
   - Do students know what they have to do, how to do it and why? Have students been prepared with skills and resources to do the assessment in this unit?
   - What activities could build or scaffold toward the assessment?
2. Assessments are tailored for online.
   - What is this assessment trying to achieve and how can we achieve this in the online environment?
   - Is there an opportunity or different way to do the essay/report?
   - What is the opportunity to reinvent or do something different?
3. Assessments are authentic and relevant.
   - Is the aim of the assessment an academic outcome, or a professional outcome?
   - Do the outcomes of this assessment relate to the workplace?
4. Assessments engage students in their learning.
   - If a student did this well, would they feel like they have achieved something?
   - Could students reuse or apply this assessment (in real life, in the workplace, in future units)?
   - Will assessment allow students to demonstrate different ways of learning?

The third component of the project included the design of eight prototypes of key assessment types using the guiding principles as a framework, the initial review of assessments and feedback from students and online tutors. This allowed staff to embed a specific problem or challenge into the assessment-design process and, if appropriate, to develop additional support resources. These assessments were implemented in the next delivery phase and evaluated in terms of how well they met the learning outcomes, their authenticity and their equivalence with on-campus assessments. Key success metrics aimed to showcase a process with specific outcomes focusing on student engagement, retention and achievement. The set of assessment principles were further refined and used to inform assessment design.

The development of the assessments

The project team at SOL included learning designers, program directors and other key stakeholders, such as online tutors, an educational technologist and a technical writer. The director of learning facilitated weekly meetings to bring together ideas, share and refine the developing assessments, keep track of the assessment-design process and keep the relevant leadership teams informed of progress. The SUT academic, in most instances the unit convenor, attended when they were onsite working with the learning designers. Each of the eight assessments were developed collaboratively by teams of three staff members: a SUT academic, a SOL program director and a SOL learning designer.

The JISC definition of digital assessments (2007) was emphasised, whereby the use of technology mediated all aspects of the assessment process, including preparing students for the assessments and providing access to resources as well as the assessment itself. Digital assessment includes not only formative and summative assessments themselves, but the use of technology to prepare for and support the assessments. Technology can be used to create resources to assist with assessment and create authentic environments and connections to the real world that will provide opportunities for learning and assessment (McLoughlin & Luca 2006). It can also assist in the provision of feedback (Carless 2015).

The project took a targeted approach, with enthusiastic staff actively seeking solutions to a specific educational problem. Some of the challenges included finding alternative ways to:

- support student progression of concepts and understanding in preparing for major assessments;
- improve student motivation about group assessment tasks;
- explain the relevance and authenticity of group work;
- present oral presentations or visual portfolios;
- improve interactions and dynamics in role-plays;
- increase student enjoyment; and
- help students understand why and how reflection can assist learning.

The project team members worked together in varied ways, with regular communication taking place online and face-to-face. While the learning designer and program director were located in the same building, the academic was at a campus 30 minutes away. Opportunities were arranged for the three to meet face to face. At times only the learning designer and program director would meet with the director of learning, as they were on the same campus.

Weekly meetings to discuss the project had a positive impact on the project participants and assisted in gaining attention across the institutions through regular communications at meetings of the deans associated with SUT and at SOL academic leadership team meetings. Communicating successful outcomes of the project to leadership can ensure recommendations for change at a number of levels within the organisation, with recognition for policy or process changes supporting emerging best practice.

The assessment types

Eight assessment types, specifically for units offered completely online, were developed: adaptive quizzes, group work, presentation of ideas, presentation to panel, portfolio, role-play, authentic case study and reflection. Table 1 shows the types of assessment and the discipline for which they were developed. A range of disciplines were chosen as they had assessments that had been

identified in the initial unit reviews as not clearly meeting the review criteria and most needing better adaptation to a totally online learning experience. Having a mix of disciplines afforded an opportunity for transferability.

Table 1. Digital assessment types

Assessment type	Discipline
Adaptive quizzes	Business (accounting)
Group work	Business (management)
Presentations	Design (presentations that demonstrate the construction and presentation of an idea)
Presentations	Education (presentations that address the graduate attribute to conduct an oral presentation to a client or panel)
Portfolio	Education
Role play	Communication
Authentic case study	Education
Reflection (reflective writing task)	Education

In addition to the assessments themselves using technology, the delivery and support mechanisms were also designed to be used fully online.

Research methods

The data gathered to evaluate this project consisted of interviews with and online anonymous questionnaires from staff, and online anonymous questionnaires from students.

- 10 staff questionnaires
- five staff interviews
- 151 student questionnaires

The staff interviews explored how staff had experienced the process of developing the assessments and how they felt the assessment types had affected the students. The student questionnaires were conducted to evaluate the students' responses to the digital assessments. As teachers' perceptions of their own practice have been found to differ from their actual practice (Eley 2006), we wanted students' perceptions to assist in gauging whether the assessment reform had produced the intended results. A questionnaire for each of the assessment types was created.

Approximately 2,000 students were enrolled across the eight units at census date, and were invited to complete the questionnaires. The total population does not take into account students who withdrew from, deferred or discontinued the unit for any reason. In online courses in general, it is estimated that the first year drop-out rate could be as high as 28% (Ben-Naim 2015); some

universities have even reported a drop-out rate of 42& (Hare 2016). The TEQSA report (2017) noted that while attrition rates vary across registered Australian higher-education institutions, some have attrition rates in excess of 25% (Tertiary Education Quality and Standards Agency 2017). In contrast to the United Kingdom, at 16%, and the United States, at 22%, Australia's overall attrition rate is approximately 30% per cent (Tertiary Education Quality and Standards Agency 2017).

Of the 2,000 students enrolled, 1,659 attempted at least one assessment. The 151 respondents resulted in a response rate of approximately 9%. This is, however, an approximation, as the questionnaires were administered in the last week of the unit, and the number of students still participating at this time is unknown to the researchers. While the response rate of 9% provides a nonresponse bias of 91%, the total population was surveyed rather than a sample population. The demographic data gathered indicates that the response population was representative of the total population of students enrolled in courses at SOL. It is recognised that responses being representative of the population is more important than the response rate (Cook et al. 2000). In acknowledging that the response rate is low, the focus has been on exploring and comparing both student and staff perceptions of the assessment reform in line with the research questions.

This research used mixed methods (Bazeley 2012) and case-study methodology (Yin 2014). The analysis is based on the integration of three sources of data (Bazeley 2012): case-study interviews with staff and online anonymous questionnaires from student and staff. Case-study methodology was chosen to allow for a contextual analysis of the staff and student perspectives on the implementation of the digital-assessment reform. The use of a mixed-methods research approach integrating quantitative and qualitative data reduced the limitations of a single approach and enabled a better understanding of the implementation and reception of the reform. The findings were thematically analysed according to the research questions through a repeated process of data analysis and checking by all three authors. This process produced high levels of inter-reliability through comparisons, moderation and discussions of the data between the authors.

This research received ethics approval from the SUT University Human Research Ethics Committee.

Results and discussion

Staff experiences

The staff felt that the collaborative project had led to better assessment and a more rewarding experience for the staff members involved. The development of these assessments provided an opportunity for the SOL program directors and learning designers and the SUT academics to discuss what is involved in creating assessments for the online environment and nurture innovation and good practice in digital assessment. Revisiting assessments was an opportunity to review teaching and learning strategies and reconnect with the assessment process. As such, this may be viewed as an opportunity for staff to gain the perspectives from colleagues that can let them link their knowledge of educational theories with their actual practice, a gap identified in the literature (e.g. Eley 2006; Offerdahl & Tomanek; 2011; Norton et al. 2013). Our study found no conflicts in terms of staff embracing the renewal of assessment practice, in contrast with a recent study that found institutional resistance to enacting changes in student assessment (Deneen & Boud 2014).

Staff felt positively about the collaboration, with questionnaire responses indicating that four out of the five respondents found that working collaboratively was a valuable process. The teamwork

was beneficial in enabling staff to focus on the problems they faced in their units: "Having a bit of that teamwork and synchronisation to maybe solve common issues – that can be good". One participant described working together as "providing a forum for that conversation to happen and then to be followed through". The use of the assessment guidelines focused the development process and provided structure and direction for staff: "I think it's been helpful in terms of having that conversation, having a framework to progress something with all the interested parties". Indeed, the process created a sense of community among the staff members, which has likewise been found in studies of collaborative projects in universities (Pharo et al. 2012).

Staff members were conscious that it was not just the physical location that affected their opportunities to meet up. One participant noted that "schedules are difficult…. Once a week, we would have [...] a five- to 15-minute stand up with the SOL program directors, the SOL learning designers and the SOL director of learning". A stand-up meeting reflects the nature of the regular but brief meetings held in advancing the design process. The reality emerged that the design process took place online and face-to-face. One participant described the reality of the interactions: "Because we can always flick the messages and I was [on-campus] quite a few times anyway so I just pop into the offices there." Getting staff members in the same space is recognised in the literature as being difficult due to time constraints and competing priorities, and an overemphasis on face-to-face meetings can be a hindrance to successful collaboration (Kezar 2005; Pharo et al., 2012). A solution is to develop collaborative contexts. To achieve this, weekly meetings were organised and staff members met online.

Group members recognised that each staff member brought different skills to the collaboration, and that the contextual knowledge provided by the different members added value to the process. One learning designer noted, "The learning designer tends to be the most grounded, and is working in a much more practical space, is my experience in terms of making things happen.". Staff also commented, however, that some were more involved in the collaboration than others: "I would like to see the [other team members] more involved." Where this happened, the lack of input was seen as a wasted opportunity.

The questionnaires revealed that staff generally found the experience positive, with 90% reporting that the process of developing a new assessment had been rewarding. Almost two-thirds had learnt from the process, and slightly over two-thirds agreed that developing the assessments had helped them to focus on learning. Again, almost two-thirds agreed that developing the assessments had helped them to focus on the learning outcomes, and they felt the assessment they created had effectively assessed the learning outcomes.

The process of developing the assessments had not been without effort, and one staff member commented, "It's a significant amount of effort invested, and that's good." When asked what future directions staff saw as a result of this project, questionnaire responses revealed that staff would like to use the assessment again in the units, to revise the assessment before it is used again, to see the assessment used in another unit and, encouragingly, to develop further assessments that use technology.

Staff felt that the assessments resulting from the collaboration had positively affected their perspective on and engagement with the student experience. The process had encouraged them to empathise with the student mindset and consider how students might engage with the assessment. Overall, the project had guided staff to reflect on good pedagogy and contemplate what might work and why. One staff member reflected on the importance of considering student engagement:

"To shift that perspective was one of the big benefits." This, in turn, had had a positive effect on students' experiences, from the staff perspective. Over two-thirds of staff agreed the assessments had made the students more interested in their work, and 90% agreed that the assessments had offered new ways for students to present their work.

We argue that these positive findings are a result of a focus on understanding the contexts of the assessments, the students and the staff members involved in the development and delivery of the assessment, in line with recent assessment studies (Bearman et al. 2016; Boud et al. 2016). Furthermore, these findings align with research that cross-institutional collaboration can enhance student learning in higher-education institutions (Kanter 1994; Senge 1990), and that collaboration within an institution involving academics and academic developers can enhance teaching practice and student outcomes (Weaver et al. 2013).

Misalignment of staff perspectives
The staff interviews revealed a degree of misalignment in different staff members' views on how the assessments should be defined. One such example of a difference of perspective between a convenor and an online tutor centred on whether a three- to four-minute video assessment piece was too long for the teaching staff to assess. The unit convenor who was on campus with the students commented: "But three to four minutes of this, that's just too much for the staff member to cope with and to look at and to download and to watch." In contrast, the online tutor, who only communicated with the students online, replied, "Well, I actually really liked them because I saw the students in their own environments and that's something that you just don't see when you're online."

This initial difference of perspectives of the convenor and the online tutor is due to the reality that the convenor is on campus is with the students all day, while the online tutor is not. Thus the personal video provided an excellent opportunity for the online tutor to gain some further insight into the students. However, the collaboration between the different teaching roles that led to this difference of perspective was also what allowed it to be resolved. After discussing this assessment issue, the convenor and online tutor decided to go ahead with the three- to four-minute videos.

Another gap found between different academic perspectives related to how certain assessment types may or may not suit certain disciplines. When asked whether there are certain disciplines that lend themselves better to different types of assessments, one staff member replied:

> *Undoubtedly, I don't know that there's value for a [port]folio type assessment in accounting. Although maybe there could be, you know. If you think about it laterally. There's all sorts of ways you could take different approaches and use them in other ways, but it's also about what the university is accrediting so we can't get too lateral.*

This comment highlights the conflict that can exist between learning designers and academics if they work in isolation. However, working in teams lets the learning designer provide design support while the academic provides curriculum knowledge. In situations where a learning designer, who may have little or no discipline expertise, works with the subject-matter expert, the separation that can exist between those who design the unit and those who deliver it is closed (Moller et al. 2008).

Student perspectives

Clearly defined

Student evaluations of the assessments were generally positive, as indicated by the aggregate

results for the eight units shown in
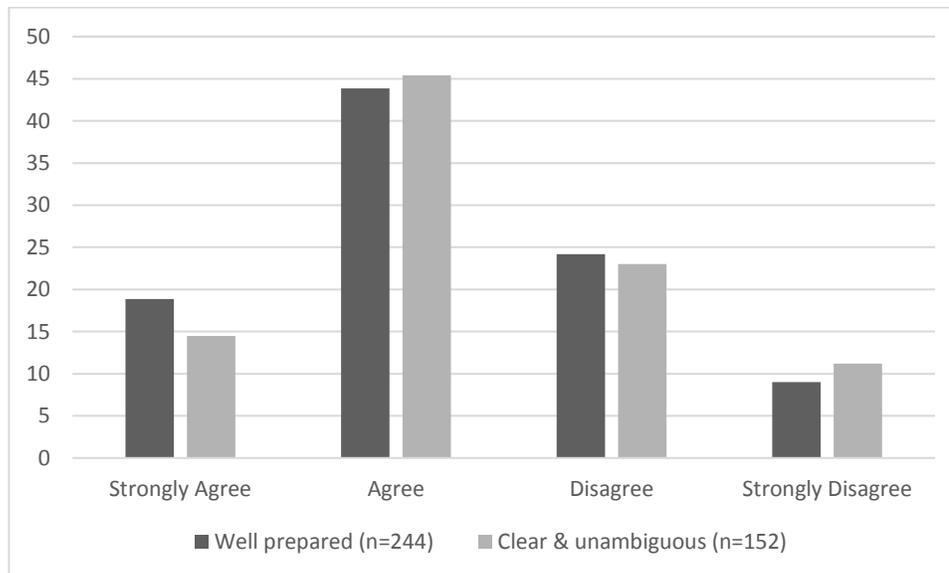
Figure 1. Percentage response rates when students were asked if they felt the assessment guidelines were clear and unambiguous and if they felt well prepared for the assessment in their unit
. A key finding from the student questionnaires are that the assessments were clearly defined. Fifty-nine percent agreed that the instructions were clear and unambiguous. Almost two-thirds (63%) of the students felt well prepared for the assessment in their unit. While there was generally a positive response rate, with 59% either agreeing or strongly agreeing that the instructions were clear and unambiguous, a substantial number of students (34%) did not find the instructions explicit enough. This finding will inform future iterations of the assessment types, which will be further developed to increase their clarity.

One of the questions developed to probe the issue of assessment clarity, with a focus on how prepared students were, was: *Have students been prepared with skills and resources to do this assessment in this unit?* Results reveal that almost two-thirds felt well prepared for the assessment.
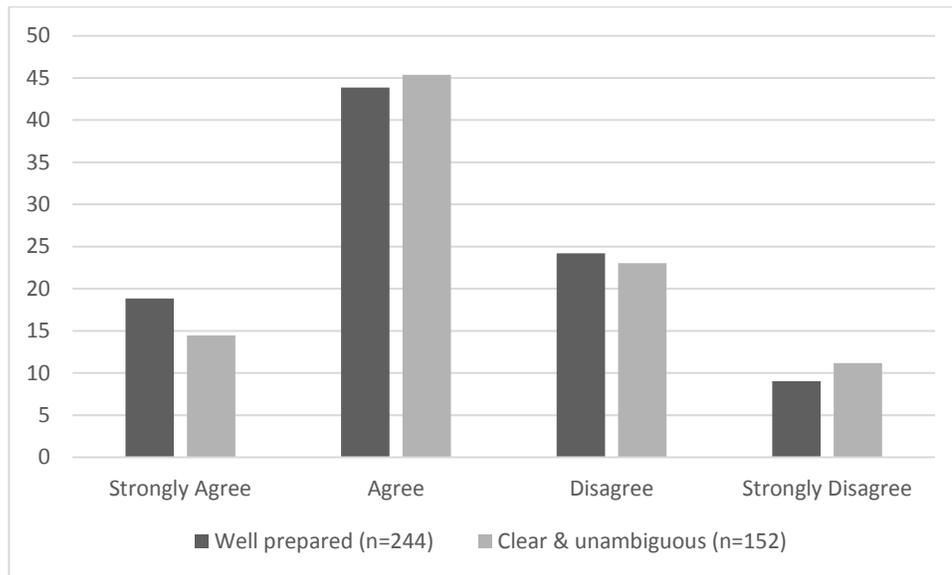
Figure 1. Percentage response rates when students were asked if they felt the assessment guidelines were clear and unambiguous and if they felt well prepared for the assessment in their unit

Students were asked what had encouraged them to participate in the discussion board, and what

had motivated them to complete the assessment. The results (

) reveal that the resources developed for the assessments were what most encouraged discussion-board participation and motivated students to complete their assessment.
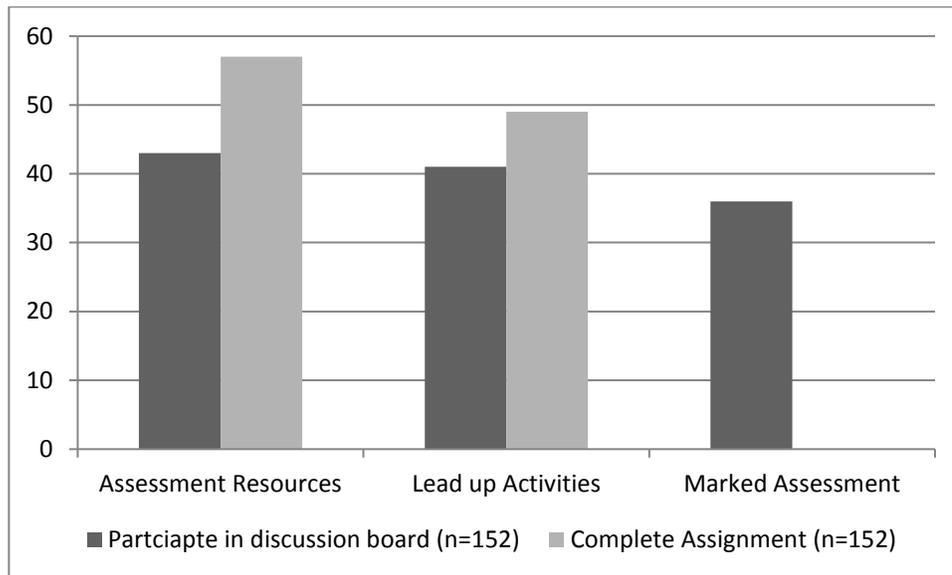
Figure 2. Percentage response rates when students were asked what had encouraged them to participate in the discussion board and what had motivated them to complete the assessment

Authentic, relevant and tailored for online
A key aim of the project was to create authentic and relevant digital assessment. To determine whether students found the assessment relevant, they were asked if they found the assessment helpful for their learning, and if they felt the assessment was a useful experience. Aggregated results for these two questions are provided in Figure 3. The majority of students (75%) either agreed or strongly agreed that they found the assessment helpful for their learning. Similarly, 73% either agreed or strongly agreed that the assessment was a useful experience.
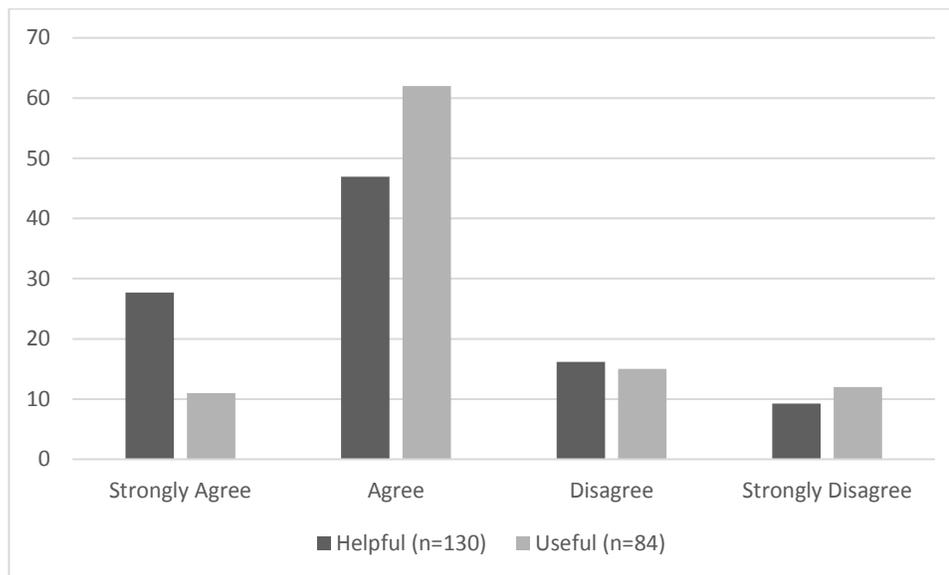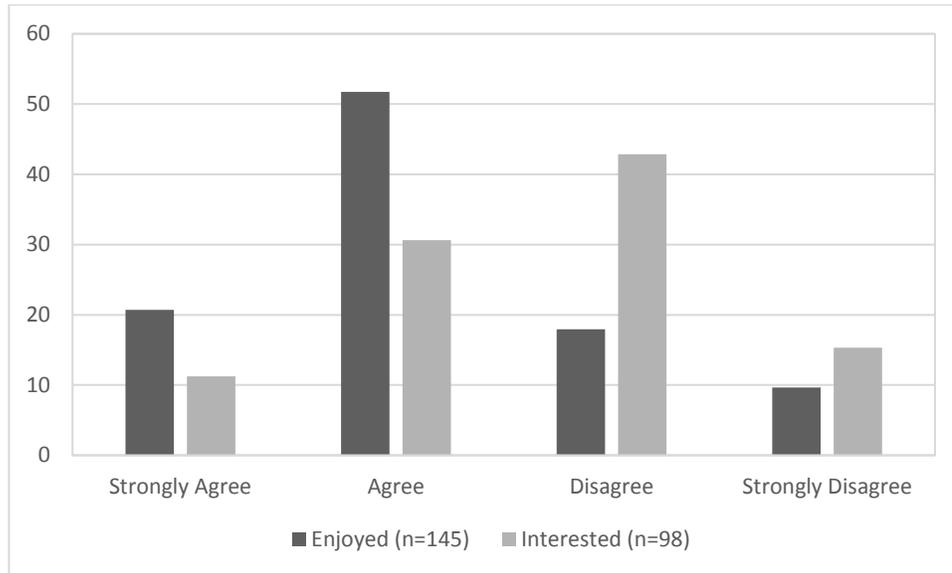
Figure 3. Percentage response rates when students were asked if they found the assessment helpful for their learning and if they had found the assessment a useful learning experience

To determine whether the assessments were relevant to students, they were asked if they had gained new skills from completing the assessment. A majority of students (76%) agreed that they had. Students also generally felt that the assessments were tailored for online learning. The main criticism students cited was the time required to complete the assessment: almost three-quarters (72%) found the assessments too time-consuming. Overwhelmingly, however, 83% indicated they would like to experience the assessment again. This aspect was further explored in students' responses to questions around engagement.

Engagement
To determine whether the assessments had engaged students in their learning, students were asked if they had enjoyed the assessment (in line with O'Brien & Toms 2008), and if the assessment had made them more interested in their study (**Error! Reference source not found.**). While 73% of students responded that they had enjoyed the assessment, just 42% responded that the assessment had made them more interested in their study.

Figure 4. Percentage response rates when students were asked if the assessment had made them more interested in their study and if they had enjoyed the assessment in the unit

To assess students' self-perceptions of their learning, they were asked if they had gained new skills and abilities from participating in the assessment. Students were also asked whether they felt that preparing for the assessments had helped them to see connections between different topics within the unit, as well as connections with information they had learned in other contexts. Figure 5 gives the aggregate results. The majority of students (76%) agreed that they had gained new skills from completing the assessment. This focus area relates to the guiding question: *If a student did this well, would they feel like they have achieved something?*

A majority of students (61%) agreed that preparing the assessments had helped them to connect different topics in the unit. Likewise, students generally agreed (63%) that preparing for their assessments had helped them to make connections between things they had learned in other contexts. This relates to the guiding question: *Could students reuse or apply this assessment (in real life, in the workplace, in future units)?*
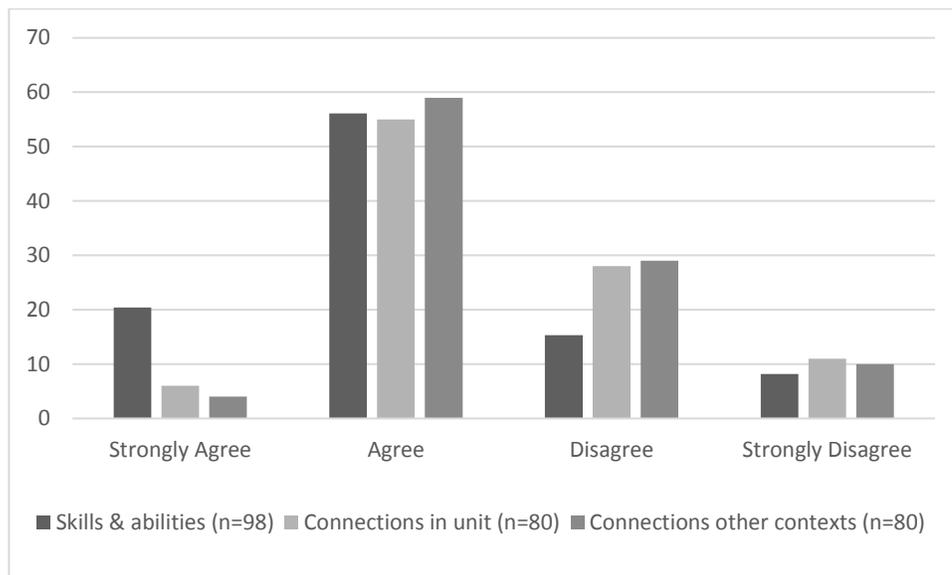
Figure 5. Percentage response rates when students were asked if they had gained new skills and abilities from participating in the assessment, and if the assessment had helped them to make connections between information both within and outside of the unit

The majority of students (60%) agreed that the assessments had helped them to be more creative with their work. This opportunity to be more creative gives rise to different ways of learning, linking with the guiding question: *Will assessment allow students to demonstrate different ways of learning?*

These generally positive student perspectives suggest that the project was successful in maximising the benefits of staff collaboration to deliver innovative, clearly defined, engaging assessments tailored for online that allowed students to make connections between information presented throughout their degrees. Such findings are supported in the literature, which shows that collaboration between different roles and across institutions can lead to better learning outcomes and higher levels of student engagement and satisfaction (Weaver et al. 2013; Kanter 1994; Senge 1990; Brown & Littrich 2008).

Conclusion

This project aimed to improve both the design and delivery of assessments for the online environment and enhance the student experience of the assessments. The collaborative model of teams of people with different areas of expertise (discipline, learning design, pedagogy, technological expertise) for a common goal to improve student motivation and engagement proved very successful. The responses from staff reported that the collaborative model was generally perceived as positive. The collaboration provided staff with opportunities to engage with each other's ideas and align their perspectives with the goal of developing assessments to fulfil the assessment guidelines in the specific contexts, taking into account student and staff perspectives. Students equally found the collaboration successful, reporting that the assessments were clearly defined, tailored for the online environment, authentic, relevant and engaging.

Overall, then, this case study suggests that the digital-assessment project achieved its main objectives of delivering clearly defined, authentic assessments tailored for online learning in each individual context. The focused approach to redesigning assessments for the online environment, informed by a guiding set of principles and within a collaborative framework, increased the assessment quality.

Future work

We hope that the findings of this collaborative project will contribute to knowledge in the field of assessment practice using educational technology. More specifically, we hope that this research leads to more high-level collaboration, possibly including leaders of academic innovation and teaching and policy-makers, to enable more avenues for implementing change across institutions.

This first iteration of the assessment project has initiated a collaborative working relationship, with trust and transparency established between those involved. In a current iteration of the project, assessment specialists have been employed to further develop best-practice online-assessment principles, guidelines and supporting documents for all units. Workshops have been conducted where teams approach an assessment task from the student's perspective to identify gaps, strengths and weaknesses and recommendations for future assessment enhancements. We have further continued to focus on assessment designed to optimise student retention, engagement and academic achievement. To do this, we have implemented a focused retention strategy aimed at high-risk units where feedback about assessments has been poor or where the assessment has had high fail rates. A key aim of this project is to identify which aspects of the assessment designs made a particular impact on student engagement; this will be examined in further detail in future research.

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