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Shared Assessment: a Strategy for Managing Multidisciplinary Projects

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Abstract: Assessment-centered is the new black, apparently, if you believe recent research literature (e.g. Boud & Associates, 2010) – but multi-disciplinary student projects in multimedia are already tough to assess. Naturally the more complex the project the more challenging it is for those administering the assessments, and in multi-unit settings (rather than end-of-course ‘capstone’ units) the complexity can be extreme. The consequential staff overload is insufficiently addressed even if the results are worth it. Shared assessments start with one large situated project and ask multiple staff running multiple units to collaborate whilst designing their assessments, all based around student teams ‘solving’ that project. This on-going research has developed criteria for staff in complex multidisciplinary projects in multimedia. After two years of iterations we want to share the draft criteria, the positives and the challenges through this paper and use feedback to better prepare for future iterations.

Introduction

It seems that Socrates, as a teacher, had it easy – today’s graduates that we talk to seem to remember good lecturers less than they remember great assessments that taught them useful skills. Perhaps that is how it should be. Certainly universities increasingly insist that the tasks students do align better with course and unit aims (eg. Clarkson & Brook, 2007), and phrases like ‘assessment-driven’ (Boud & Associates, 2010) and ‘assessment-centered’ (Bloxham & Boyd, 2007) are becoming more common. We all know assessment is complex, and its history rich. Still, relatively little has been written about the increasing research and administrative demands on lecturers who want to continue designing quality assessments for individual courses or units. Some might argue that if the students find assessments challenging, they should try being lecturers. The implication is that staff work harder than their students, and so solutions are needed. In the authors’ case, being strategic whilst still assessing complex multi-lecturer digital media projects seemed a desirable but elusive aim. Perhaps a strategy to deal with assessments is to treat them like students do? The idea of collaborating on the assessment processes like students do on their assessment products seemed to the authors like ‘an idea with legs’.

Historically, our views about students and their place in assessment have shifted dramatically – consider how traditional ‘scientific measurement’ approaches (Black, Harrison, Lee, Marshall, & Wiliam, 2003) have given way to more constructivist paradigms of learning and their connection with assessment (Elwood & Klenowski, 2002). The shift is predictable and includes cultural, individual and social dimensions. An example of each may suffice to underline the complexity: firstly, teachers in Australia and Singapore illustrate cultural differences in their whole attitudes towards roles of assessment (Harris & Brown, 2009); secondly, it is common knowledge that different students prefer different types of assessments, and Gardner’s Multiple Intelligences (1984) exemplifies the value of catering for individual differences; and thirdly, constructivist approaches justify strategies like collaborative

and discussion-oriented activities (Jonassen, 1994). Finally there is strong support for realistic, situated tasks (Reeves, Herrington, & Oliver, 2002). Increased richness is synonymous with burgeoning complexity, but this does not yet translate to staff strategies. Overall, even though these examples accentuate the intricacies of assessment design, they do not say ‘Do Not Try’, but nor do they immediately show how to be strategic.

Designing assessment, in multimedia or any learning domain, is increasingly sophisticated. However, as Reeves, Herrington, and Oliver. (2002) point out, quality assessments possess discernable patterns. As well, if our efforts are to indeed be assessment-focused, then students must be front-and-centre in the charge (e.g. Bloxham & Boyd, 2007; Shepard, 2000). Students themselves need to develop the capacity to make judgments about both their own work and that of others’ (Boud & Associates, 2010, p. 1), thus stressing peer and self-appraisal, so they can develop as practitioners in their field. Do we tend to design assessments that put students at the center? Apparently not often, according to Unwin and Caraher (2000) who observed that, even though staff may *design* authentic assessments, many still persevere with unchanged or ‘traditional’ *evaluation schemes*. The said, “...much of [assessment]...was autocratic... teachers and professors at all levels took primary responsibility for the events, outcomes, and evaluations in the class” (p. 73).

Our responsibility as lecturers is for outcomes from our students, rather than ourselves. The more materials students provide, the easier they are to judge; the less they provide, the easier they are to mark. The review confirms the old saw that students should take more responsibility for their own assessments. So is the corollary that staff should take less? A better approach accepts that performance and responsibility are not the same – in principle I can be responsible for your work without doing it. Since this paper is asking how staff can be more strategic with their assessments, this suggests the question: how should lecturers arrange their students’ assessments so that the focus is the quality and scope of student performance and not their own?

This paper is not about the projects per se nor the students and their abounding judgments, but our efforts as we derived some guiding principles for a process we called Shared Assessment (Tab. 2). The paper then addresses two projects run using versions of these embryonic principles and makes some concluding remarks.

Shared Assessment principles

As lecturers, the authors sought to strategically leverage off the same assessment strategies used with their students. What began as musings on assessment protocols culminated in this research paper. This is because it was important to provide a direct link between our research and our practice, the research itself is couched in a qualitative developmental framework in the style of design-based research (Reeves, McKenney, & Herrington, 2011). Our experiences and attentive observations are combined with student feedback to support emergent practices and ongoing analysis, ultimately hoping to extend existing models of assessment (e.g. Boud & Associates, 2010).

The authors initially decided that a productive approach was to peruse the literature for principles that were already deemed relevant to our students. Collaboration was already germane hence the descriptor ‘Shared Assessment’. Both sharing between lecturers and sharing between staff and students were relevant, but sharing between staff is the focus of this paper. A sample shared assessment project might be a large ‘design and construct’ interactive digital media commission. Thus students in a Public Relations unit might be monitoring and evaluating reactions of various publics to different preliminary designs; Graphic Design students and Interface Design students proposing finished designs to Multi-media students for construction in teams; and all of them presenting their teams’ semester-end solutions for judgment at a public event.

Even more importantly we simultaneously envisaged individual lecturers collaborating. In fact the model of Shared Assessment is most evident as a staff collaboration. In essence the processes were: Individual lecturers collaborating on ways to assess, building marking and judgment rubrics to simplify marking, even looking to minimize unhelpful overlap so that students were neither assessed twice nor could they submit unchanged work to be marked twice by two staff. Further ideas like encouraging group work and group marks, and leveling the marks with intra-group peer judgments by students—rather than staff—were also considered. Initially we guessed their individual unit’s assessment might allocate say 20% to 100% to a shared assessment project.

We did not plan working hand-in-hand with the students so much as using the same strategic methods for *our design* purposes that we already knew were productive for *their execution* purposes. An important distinction is this is not a capstone unit project at the end of a course, where teaming is easier; and different students meet a few staff in a single unit usually during the same time-slot. Shared Assessment by contrast involves multiple staff, multiple courses and different assessments, perhaps meeting at different times, but all driven by a single situated project. Note that even calling a simple team meeting can be non-trivial. Shared Assessment is a way to allow multiple staff to benefit simultaneously from a process of strategically designing, structuring and reviewing their

assessments. This is not unlike a community of shared practice (Bloxham & Boyd, 2007), but it is more tightly focused. We decided our intent was to parallel the average student approach to their assessments; we should attempt to ensure the assessment's richness for their purposes without compromising simplicity for ours.

The danger of significant collaboration is that staff may see it as inefficient and time-consuming, just as students sometimes do (e.g. Burnell, Priest, & Durrett, 2002). Hence, it must be undertaken in a way that staff feel more helped than hindered. This paper reports on two years of multiple staff working together on two versions of a project called Climblt (see Table 1). It outlines some strategies and some (draft) criteria (Table 2) for designing Shared Assessment projects. The process has been satisfying and frustrating in equal measure; and it is still in development, like all good research.

Project context – Creative output for Interactive Media and Software students

Students on campus often encounter problems locating a free computer, and our students, in the School of Communications and Arts (SCA) at Edith Cowan University, are no different. There are multiple computing laboratories but they are often timetabled for classes during semester.

Project	When:	Description:	Major Skills/Units required
Climblt v1	2009	Lab info designed for a screen	Web design, HCI, Network Comms, Animation, Teaming
Climblt v2	2010	...designed for a tangible space	HCI, 3D, Network Comms, Design & Tech, Teaming
Climblt v3	2011	...designed for an SMS space	Network Comms, Interface & Web design, Teaming

Table 1: Planned tasks using Lab Usage data and conceived as authentic student activities.

We envisaged some way of communicating to such students some 'pseudo-climate' information in real time to represent actual use of those labs. To build such a project required a system that queried relevant servers for Lab Usage data (e.g. how many computers are being used in which labs) and delivered the information appropriately, and Table 1's project ideas resulted.

Version 1: Designing for a screen

For version 1, lecturers were invited from multiple disciplines including Advertising, Public Relations, Programming, and Marketing. The proposal of a large involvement of disciplines was to accommodate the ranges and stages of the project, intending to simulate industry practice. Lecturers from six areas showed enthusiasm and agreed to participate in the project, but three later withdrew. This version of the project assembled teams of students from three courses (Interface Design, Multimedia Authoring and Graphic Design) with the brief of representing the level of computer usage in the various labs with an elegant and creative screen-based solution. In the first version of sharing the assessment processes, the staff involved set some criteria after reviewing the literature on multi-disciplinary and interdisciplinary projects from a range of areas (e.g. Adamczyk & Twidale, 2007):

- *Flexible assessment:* each lecturer was free to set an assessment task of any size (one chose 5%, another 80%) as long as it focused on the shared project, minimized overlap and encouraged teamwork. Student commitment was sought rather than asking 'what will get me a pass'?
- *Student collaboration:* students to meet in their teams regularly and as a single large group at least three times per semester. The final meeting was to be a celebratory affair where their peers, outside and industry people select a winner from the teams' presentations.
- *Staff collaboration:* lecturers planned to keep in touch using mainly email and phone.
- *Independent coordinator:* for fairness we sought an independent project coordinator who could keep both students and staff documenting their journeys and meeting deadlines. A recent graduate was engaged, who was also working part-time in the school as a research and development officer.
- *Regular feedback:* ongoing feedback, surveys, collecting of comments and evaluations were to be undertaken with the help of the project coordinator.
- *Blogging the journey:* a site was organized to assist communications between students (e.g. ask fellow students questions, vent frustration), record their journey and progress in the unit.

The staff involved met regularly beforehand and were in email, phone and personal contact throughout the semester; they met only occasionally as a group during semester. Regular contact, mainly through the coordinator,

helped their own assessment planning and management including meeting deadlines and monitoring project progress. The students interacted using blogs, email, SMS and other solutions and provided feedback via email, blogs and direct comments. This included their frustration in the early stages, as they gradually comprehended the detail and nuances of the project and function of the interdisciplinary collaboration effort (e.g. distributing roles and leveraging each other's knowledge and skills). Overall project v1 worked well after a frustrated start. A student commented:

Up to this point of the project I have been somewhat skeptical (sic) ... For one I have learnt a lot and think my two other group members have as well. Especially in the field of dealing with people that don't necessarily have the body of knowledge you do... I personally feel it has been a very beneficial process despite the [initial] stress and aggravation expressed by more people than myself. (*from students' blog*).

Students were observed making roughly equal numbers of positive and negative comments on the project blog, initially complaining about wanting more guidance, and later very supportive comments about the ability of the project to teach them multiple skills, and reach a good product – thanks to user testing, for example. Consider the leader of Group 4, who wrote on the blog: 'criticism we received from our user testing group was tremendously valuable and I personally learnt a lot'. These comments are extracts from the multiple sources of student feedback.

Overall staff were pleased with the project outcomes. One suggested that part of the elation students expressed verbally afterwards was a direct consequence of the very frustrations they had managed to work through initially. Another told of two students, separately urging him to allocate more marks to some other students in his unit – he felt this was students really 'taking responsibility', especially as neither were taking this unit!

Staff feedback collected by the project coordinator included these quotes:

- *The interdisciplinary group aspects of project challenged interpersonal communication skills in students;*
- *Students enjoyed the process overall and their rewards were commensurate with their effort;*
- *Problems for students during the learning phases required huge commitment; and led to greater sense of achievement at conclusion;*
- *Looking at my own assessment design is a little more interesting when you are sharing the task;*
- *Unit coordinators played different roles – facilitator, counsellor, and mentor due to the self-directed learning nature of the project;*
- *Deliverables of the project demonstrated strong conceptual development and lateral thinking in visual and technical articulation.*

According to all lecturers involved at the post-project review, the outcomes of their courses were met. In the circumstances not all of the Shared Assessment draft principles were implemented perfectly but staff afterwards reported: a willingness to improve the criteria; their satisfaction (Jung & Henderson, 2010); and a determination to move onto Project Climblt v2.

Version 2: Designing for a tangible space

Version 2 was more ambitious in terms of proposed scale and outcomes of the project. A Tangible User Interface (TUI) was proposed which would allow a different set of students and lecturers to develop the same data sources into a more physically interactive product. This project required a wider range of skills including Design & Technology students and software design students who would be able to help with the construction of the more tangible items. The setting chosen was an entrance stairwell that led up to the multiple labs in question. The Design & Technology unit never joined, and later it became obvious that this would undermine the project's completion.

Their TUI brief was to 'communicate live "climate-like" information in an engaging way'. One unit identified: *Considering visceral, behavioural and reflective design; a budget of \$100* (intended to encourage creativity and utilize everyday objects instead of resorting to a digital screen); *easily dismantled; assembly time of 5 days*. This time students had to consider even more complex issues including University Occupational Health and Safety policies and data and power provisions. The Shared Assessment Principles were adapted and simplified, based on experiences and the new setting. In summary they were:

- flexible, project-focused assessments with minimal overlap
- staff and student collaboration
- an independent coordinator
- formative and summative documentation.

The project was unable to find an independent project coordinator, but lecturers involved were encouraged to keep record of their project journey and one of the lecturers whose students were working ‘full-time’ on the project took on this role.

Project v2’s implementation started better than v1, but had challenges as the end approached. The lack of students doing a unit such as *Design Technology*, which involves project construction, undermined most teams’ confidence in their final product – so much so that there was an increasing anxiety on the part of the teams as the judgment week approached, as few of them had the technical skills needed to execute their design. The plan had been to ask them all to: a) choose the winner and then b) spend the final week of the semester helping the winners with the construction process. Instead all teams asked for extensions, and the winner was not finished on time. The ability to call on better construction skills would have made a big difference to the output from project v2.

Positives include less pessimistic feedback from the teams early on, suggesting they had understood the problem better than students from Project v1. Yet there were worrisome early issues about team members unable to make meetings, and later about the small budget. Again students used a variety of communication and collaborative tools; possibly more skills in these may help teams. As the issue of construction loomed, an insightful student commented that providing a winning project was actually a losing one, since they lacked the skills to construct it. Finally student comments about differing mark allocations again led staff to rethink the shared assessment explanation. For example some students commented in class that they did not know how students in other classes were assessed, and this was seen as an important but easily-addressed weakness.

Staff feedback collected by the lecturer acting as project coordinator included these quotes:

- *The project didn’t work to reduce my workload, but it did leverage the advantage of shared units, and I learned a lot from you guys about assessment planning and designing and stuff for next time;*
- *I really enjoyed working with my colleagues and how we worked as an effective group; that made me feel good!*
- *The project seemed to help students break down some of the natural boundaries between their units, so that when they talked their ideas and sharing it worked well. The whole approach seemed to create more comprehensive synergies than I normally see between students;*
- *We were missing some unified space for construction, where the teams could gather. The project was so physical we undermined their efforts by not providing some ‘construction space’;*
- *I’ve realised there are a lot more assessment strategies I could use without lowering the quality;*

Discussion & Conclusions

Interdisciplinary projects in interactive media domains are challenging, by their nature. Nevertheless many of the assessment items and therefore the learning outcomes desired by each lecturer were met; all groups had working prototypes in the end and the data shows many positive comments. However, one last detail, a product which students point to and say ‘we did that’, was unfinished in the second project. Although there were many differences in the two projects most were, on balance, probably inconsequential. Others, like the *Design Technology* students’ dropping out and students missing meetings, were self-evidently significant.

Students today are generally well aware of the value of working collaboratively especially when the projects are credible, useful and practical. Even more importantly, when staff are able to benefit from the same collaborative and peer assessment processes as their students, it can be doubly satisfying. If it is desirable that tertiary units be more assessment-centered, then it is possible to say that this paper documents our attempts at learning by assessment.

It can be satisfying when everything goes well, but there is much to be learned from careful observation whether they do or not. The levels of frustration for both students and staff rose early in task v1’s execution, as the student teams gradually came to terms with the need to take charge of their version of the project rather than attempt to second-guess the purpose of the assignment. This frustration emerged as satisfaction, even elation for some, as the project reached its realization. In project v2 on the other hand, the frustration was near the end, and it was clearly caused by our design issue.

In hindsight, project v2 needed a better solution to losing the *Design Technology* capability than was offered; and was possibly hampered by the lack of a formal project coordinator. This was an important learning opportunity and its significance has not been lost; locating appropriate units with skills that match the needs of a project – or choosing projects to meet the capabilities of available unit requirements – is blazingly obvious... in hindsight.

In the post-project review staff felt there was a need for two levels of assessment – a shared one that all students faced equally e.g. about working in teams, presentations and so on, say 10-25%; and individual ones

meeting outcomes of each of the units involved, which might range from say 90% to as low as 0% if it suited a lecturer for some reason. Furthermore, a desire for assessments that put more obligations on students was increasingly obvious and apparently achievable.

This paper set out to clarify some formal principles for a process named Shared Assessment, which would help lecturers gain – like their students do – from strategic application of multiple assessment processes including collaboration and peer review. Appraising two projects undertaken using budding versions of those principles has reinforced the conviction that the approach is a powerful one and warrants continued use. It has been fine-tuned into the criteria of Table 2 (below) to be used in the next Shared Assessment project. Other researchers are welcome to use, adapt and report their experiences with these criteria, and the authors look forward to feedback and comment.

Criteria	Description
Commitment and Project needs	Identifying 'good' projects; matching a project's needs to available units; and the staff commitment to support that project.
Multiple flexible assessments	Both group assessments and individual unit assessments should be flexible, adaptable as students become involved in their unit. Richness of activity and Simplicity of execution desired.
Staff <i>and</i> student collaboration	Need for whole group collaborations through the semester to understand the sheer scale and complexity of the challenge; to share progress, resolve issues.
Final presentations	Criticality of final assessable presentations especially as peer review.
Documenting and feedback	Need for range of online and offline documenting and feedback tools to record, privilege learning; maximize chances to resolve issues before they become serious; allow for monitoring and evaluation of projects
Project Coordinator	Someone to act as coordinator/gatekeeper was very useful, and associated with a successful project. If the role cannot be filled, the project probably gets harder, but it is not clear yet if the role is essential.
Collaborating tools	Possible that better use of such tools would help student groups focus better.

Table 2: Fledgling criteria for the design of Shared Assessment activities for multimedia projects.

At this stage our observations must be tentative of course, and we acknowledge that some criteria are less critical than others. Even if they are listed roughly in order, the criticality of each one is uncertain and dependent upon its setting. It seems likely that a Shared Assessment project could successfully run without any project coordinator, for example, but based on our experience it might be harder to ensure its success. Nevertheless, because of the satisfactions gained, the authors are keen to receive feedback and continue to build and improve Shared Assessment projects.

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