Assessment is a Many Splendoured Thing: Fostering Online Community and Lifelong Learning

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Abstract

This paper presents the design and application of a major individual assessment task created in part to develop students' capacity for lifelong assessment, a key element of lifelong learning. Additionally the task contributes to fostering a sense of community in asynchronous online learning environments. The task is a supra disciplinary report, recently trialled and now adopted for two postgraduate environmental studies courses offered online. The task design's theoretical underpinnings are reviewed with reference to (i) lifelong assessment, (ii) the value of lifelong assessment from the perspective of environmental studies, and (iii) the importance of fostering community to support learning in online contexts. The paper describes the task's disaggregation into three discrete stages, and the opportunities this provides for fostering community and for supporting students to engage in critical assessment of the quality of their own and their peers' written work, through a transparent, structured process of giving and receiving peer feedback.

Keywords: Lifelong assessment, classroom community, complexity, environmental studies, learning outcomes, peer engagement.

> *Assessment frames learning, creates learning activity and orients all aspects of learning behaviour. In many courses it has more impact on learning than does teaching (Gibbs, 2006, p.23).*

Introduction

This paper presents a case study of an assessment task designed to support two diverse pedagogical aims. Firstly, beyond summative (certifying) and formative (aiding learning) aims, the task supports the development of students' capacity for lifelong assessment (Boud, 2000; Boud and Falchikov, 2006). Boud (2000) describes lifelong assessment as 'an indispensable accompaniment' (p.151) to lifelong learning (Edwards, 1997), i.e. learning beyond formal tertiary study programs. Secondly the task is consistent with fostering a sense of classroom community (Rovai, 2002) in online learning environments. The argument that a sense of community supports students' learning outcomes and satisfaction of learning experiences is common in the literature (e.g. Dawson, 2006; Black et al., 2008; Ni and Aust, 2008; Lear et al., 2010; Vlachopoulos and Cowan, 2010).

The assessment task is a supra disciplinary report, trialled in 2007 as part of a major review of two courses. The task is now adopted and adapted as a key element of the assessment framework of two postgraduate environmental studies courses offered online through the University of Newcastle. The task has been used in a blended learning setting at undergraduate level also. Section two introduces the notion of lifelong assessment, also referred to as sustainable assessment (Boud, 2000) in an age of complexity. Section two also presents a discipline-specific perspective, from environmental studies, on complexity and the need for graduates and citizens with the capacity for lifelong learning and assessment. Section three discusses the benefits of fostering a sense of community (Rovai, 2000; Levine Laufgraben and Shapiro, 2004; Lear et al., 2010) amongst student cohorts, particularly in asynchronous online learning contexts. Section four introduces and describes the task design and structure, and iterative amendments to the task design and deployment in the period since 2007. Section five discusses the task's consistency with fostering (i) capacity for lifelong assessment in students, as well as (ii) a sense of community in asynchronous online learning environments. Section five also includes some comments on the task with regard to learning outcomes and lecturer workloads, and suggests directions for further research. Section six concludes the paper.

The role of assessment in lifelong learning

Assessment is a key component of the learning process (Clegg and Bryan, 2006). Literature exploring the

role of assessment in higher education argues the need for assessment to be aligned with other major components of the learning and teaching process (i.e. curriculum and teaching) to facilitate effective learning (e.g. Biggs, 1999). Boud and Falchikov (2006) focus on the opportunity assessment provides to support learning in the immediate context of a formal education activity and also well into the future, long after students have graduated from their current study programs.

Boud (2007b) expands the discussion of lifelong assessment further, as important for (i) '[d]eveloping students' judgements of their proficiency within the program of study', as well as (ii) '[s]ustaining students' ability to assess for themselves beyond the program of study' (2007b, p.2). While both goals are consistent with formative aspects of assessment, the second of these represents an explicit reach to learning beyond the content of any individual course of study or degree program. Both are consistent with the 'three 'R's [of the learner's toolkit]: resilience, resourcefulness and reflection' (Clegg and Bryan, 2006, p.217; referring to Claxton, e.g., 2001).

Boud (2000) also uses the term 'sustainable assessment' to refer to lifelong assessment 'because of its resonance with [the concept of] sustainable development' (p.151). The term is used with specific reference to one (popularised but problematic) definition of sustainable development as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (World Commission on Environment and Development, 1987).

Boud (2000) argues that assessment should 'move from the exclusive domain of assessors and into the hands of learners' (p.151). Further,

> *in order for students to become effective lifelong learners, they need... to be prepared to undertake assessment of the learning tasks they face throughout their lives. They should be able to do this in ways which identify whether they have met whatever standards are appropriate for the task in hand and seek forms of feedback from their environment (from peers, other practitioners, from written and other sources) to enable them to undertake related learning more effectively. They should be equipped to do this in a wide range of settings and in a variety of circumstances. A corollary of this is that they will not be dependent on teachers or other formal sources of advice for this, but they will be able to work with others and deploy the available expertise in a reciprocal fashion. This is not a state they will achieve at a particular point in time, but one which will need to be continually reworked throughout their lives as new and unanticipated challenges present themselves (Boud, 2000, p.152).*

As a core element of lifelong learning, lifelong assessment supports learning, but represents an extension far beyond traditional formative goals for assessment.

Boud (2000) argues in favour of equipping students for life in a 'learning society' (p.152) on the basis that 'learners today will continue to be learners throughout their lives more than ever before: in work, in families and in communities' (p.154). The basis for the claim is increasing societal complexity and an increasingly unknowable future (Boud 2000, p.154). In making this argument, Boud (2000) draws on Beck's (1992) notion of risk society and Barnett's (1999) discussion of complexity.

I interpret Boud's (2000) use of complexity as essentially a reference to globalisation (Klein, 2002; Stiglitz, 2002), and the profound changes a globalised world has wrought for previously-held notions of global socio-economic order, with particular attention to the implications of uncertainty for tertiary-educated individuals and their work lives. However, as profound a process as globalisation is, this represents a very limited conceptualisation of complexity, much more limited than as it is interpreted elsewhere across diverse scholarly literatures. Complexity has become a focus across physical sciences, social sciences, and humanities (Hartvigsen et al., 1998; Milne, 1998; Thrift, 1999; Anderson et al., 2005; Urry, 2006). Yet even so (or perhaps as a result), 'there is still no generally accepted definition of complexity' (Chu et al., 2003, p.19).

Complexity and uncertainty are themes that have received increasing attention in the environmental studies and environmental governance (Biermann, 2007) areas in recent years (Bradbury, 2006; Folke, 2006; Galaz et al., 2006; TERI and IISD, 2006; Urry, 2006). The environmental studies perspective on complexity extends beyond social systems, to consider complexity and uncertainty in the context of social-ecological systems, i.e. complex adaptive systems (Waldrop, 1994; Bradbury, 2002; Finnigan, 2006) comprising interacting human-social and ecological elements (Berkes and Folke, 1998). In the following section I explore this further.

Lifelong assessment in the context of complexity: The view from environmental studies

Environmental studies is an area where core areas for investigation are constantly in flux (Taplin, 2003). Environmental studies is a supra disciplinary field of inquiry:

> *concerned with the historical, theoretical, and policy implications of the human*

construction and transformation of the environment. There is a focus on contemporary environmental concerns, including how and why these concerns have risen to the forefront of current policy agendas, how social, economic and technological systems mediate our interaction with the environment, how these systems vary across the world and evolve with time and the ways in which environmental decisions are made and controversies resolved (UNSW, 2010).

Complexity has become a theme in the environmental governance area in recent years, coalescing around concepts such as resilience, vulnerability and adaptability (Adger, 2006; Folke, 2006; Gallopín, 2006; Smit and Wandel, 2006).

For my purpose in this paper, the aspect of complexity that is most interesting in relation to lifelong learning is the notion of emergence. Complexity research acknowledges and seeks to understand emergence, *i.e.* unexpected and different behaviour evolving from relatively simple interactions between elements in a complex system. In short, complex systems such as the Earth System or the global economy have the potential to change and evolve over time. Some change processes in complex systems are relatively predictable, others less so.

Anthropogenic climate change (IPCC, 2007) is a contemporary societal challenge that exemplifies social-ecological system complexity, emergence and uncertainty. In brief, anthropogenic climate change threatens the familiar (to humans and our societies) stability of the Earth System (Phelan et al., 2011; Phelan et al., 2012, forthcoming). Effective and just mitigative and adaptive responses to anthropogenic climate change will require a continuing capacity to learn about, understand and adapt to changes in the Earth System (Tschakert and Dietrich, 2010).

Climate challenge is a global crisis, but not the only change in the Earth System threatening the basic ecological foundations of human societies (Rockström et al., 2009). The term the 'Anthropocene' (Crutzen and Stoermer, 2000; Crutzen, 2002) has been coined to describe the current age as one in which human beings have become the dominant, driving force of change in the Earth System. In the context of growing awareness of the threatened collapse of ecosystem services on which humanity is wholly dependent (Millenium Ecosystem Assessment, 2005; Lenton et al., 2008), the need for capacity to assess arguments and counter-arguments in the context of the pursuit of sustainability will increasingly be a feature of university graduates' working lives and roles as engaged citizens, irrespective of their particular disciplinary backgrounds.

Complexity, emergence and uncertainty in social-ecological systems provide strong arguments for lifelong capacity for learning: social-ecological systems are continually evolving, i.e. changing over time. Social learning (Keen et al., 2005) and adaptive management (Resilience Alliance, 2009; Gunderson et al., 2010) are examples of environmental governance approaches that incorporate capacity for ongoing learning.

From an environmental studies perspective, Boud's (2000) use of sustainable development as a label for the concept of lifelong assessment is unexpectedly helpful. The particular definition of sustainable development, i.e. that of the World Commission on Environment and Development (WCED, 1987), on which Boud draws is highly contested and strongly critiqued, *e.g.* as a destructive oxymoron (Esteva, 1992; Sachs, 1992). However, Boud's (2000) use of the term unintentionally reinforces his argument for capacity for lifelong assessment. Sustainable development may be discredited as a concept and a mission statement, but achieving ecological sustainability is a societal goal which remains as important as it ever was. Designing assessment frameworks that require students to actively engage in the assessment process supports the development of students' capacity to make judgements and assessments about the quality of their own and others' work long after their graduation. By definition, the Anthropocene describes a state of the Earth System characterised by unprecedented and ongoing social-ecological change. We in tertiary institutions, including – but not limited to – the environmental studies area, have the opportunity to support students' capacity to be lifelong assessors and learners: an essential skill for engaged citizenship, and particularly in times of ecological crisis.

Classroom community in online learning[1]

In this section I briefly introduce the concept of classroom community in online learning contexts, to which assessment frameworks can also contribute. Rovai (2002) argues that '[p]roper attention must be given to community building in distance education programs because it is a "sense of community" that attracts and retains learners' (Rovai, 2002, p.199). Previously, Rovai (2000) drew on McMillan and Chavis' (1986) earlier and broader work on communities to define classroom community specifically as a psychological community characterised by:

a feeling that members have of belonging, a feeling that members matter to one another and to the group, that they have duties and obligations to each other and to the school, and that they possess a shared faith that members' educational needs will be met through their commitment to shared goals (Rovai, 2000, p.287).

Dawson (2006, p.154) notes that learning communities, i.e. individuals who come together for the purpose

of learning, support learning through reducing attrition, promoting critical thinking skills, and facilitating achievement of learning goals. Tu and Corry (2001) argue that '[c]ollaborative learning enhances the active exchange of ideas within small groups and increases interest among the participants, but also promotes critical thinking' (2001, p.258). The argument that a sense of community supports learning outcomes and student satisfaction of learning experiences is common in the literature (e.g. Black et al., 2008; Ni and Aust, 2008; Lear et al., 2010; Vlachopoulos and Cowan, 2010). Classroom community is an aspect of both face-to-face (FTF) and distance learning environments. However, Rovai's (2000; 2002; 2005) discussion is specifically of distance education contexts, such as online learning, also referred to as asynchronous learning networks (ALNs).

Such a perspective is consistent with currently prevalent (Dawson, 2006, p.153) socio-constructivist education practices, which emphasise learning as a social and interactive activity (Levine Laufgraben and Shapiro, 2004). Attention to the social nature of learning substantially predates the advent of online education (Lear et al., 2010, p.72). However, conceptualising learning as a social and interactive activity provides a basis and rationale for fostering of a sense of community in online student cohorts. Tu and Corry (2001) argue that 'the development of an online learning community is an important approach to enhance the learning of online students' (Tu and Corry, 2001, p.245).

Yet the literature on the importance of community for learning online is not comprehensively supportive of this argument. Lapointe and Reisetter (2008) suggest that a majority, but not all, of students who choose to participate in online learning value opportunities to interact and be part of a learning community. A minority of students who participate in online learning value the flexibility and independence it offers, and have little interest in engaging with peers. Lapointe and Reisetter (2008) suggest that the existence of a minority of students not seeking the opportunity to interact with peers raises questions about the manner and extent to which exchanges are usefully required of students in online learning environments.

The online learning context varies from the traditional (i.e. FTF) tertiary education context in important ways (Conrad and Donaldson, 2004; Dillon et al., 2007). My own experience in teaching online since 2004 also attests to this. Resietter et al. (2007) argue that while students in online classes learn content and report satisfaction with their learning similarly to students in FTF settings, students in each context report 'decidedly different learning experiences' (Reisetter et al., 2007, p.55). Yet while there are differences between FTF and online learning contexts, Brookfield (2006) warns against simply accepting the (double) 'caricature' of online education as 'an alienating, disembodied process in contrast to the warmth and fluidity of bodies gathered together in face-to-face classrooms' (Brookfield, 2006, p.210).

Rovai's (2002) Classroom Community Scale (CCS) provides a quantitative measure of sense of community amongst cohorts of students engaged in learning in asynchronous learning networks (ALNs). Asynchronous discussion board interaction remains the most common form of interaction in online education contexts (Sharpe and Pawlyn, 2009). Dawson (2006) further developed Rovai's (2002) CCS to demonstrate 'the existence of a significant relationship between student frequency of communication and sense of community' (2006, p.160). Black et al. (2008) have made similar efforts to link sense of community with students' online activity volume, as logged by online learning management systems (LMSs such as Blackboard).

Lear et al. (2010) find that students' interaction with course content, with peers and with the instructor support students' development of a sense of community; and that this in turn supports learner engagement. Learners' interactions, engagement and their sense of community may even constitute a virtuous spiral, i.e. a self-reinforcing process which supports achievement of learning goals. Morris et al.'s (2005) findings linking student exchanges, student persistence and achievement are consistent with this.

In the next section I describe an assessment task which contributes to fostering a sense of classroom community in online learning contexts. Simultaneously, the task also supports sustainable assessments aims discussed in section two.

The supra disciplinary report: An opportunity to foster lifelong assessment and classroom community

The assessment task considered in this article is a major (2,500 words, 40%) report. The task is conceptualised and presented to students as designed to give students the opportunity to demonstrate their learning (Matters and Curtis, 2008) in the course. The task is supra disciplinary in that it requires students to draw on more than one discipline, but a specific form of supra disciplinarity, i.e. inter-, multi- or transdisciplinarity (Albrecht et al., 1998; Brown et al., 2010) is not specified or required. The supra disciplinary nature of the report is consistent with the design of the two courses in which the assessment task has been deployed, and consistent with environmental studies as a supra disciplinary field of inquiry.

The task is disaggregated into three stages: (i) project proposals (in week eight); (ii) draft reports (in week twelve); and (iii) final reports (shortly after week twelve, the last week of trimester). The task structure has been adapted to contribute to the overall assessment framework for two courses, core units for both the Master of Environmental Management and the Master of Environmental and Business Management. The assessment framework for each course relies on a small number (three) of assessable tasks supported by

associated designated (*i.e.* must be completed but attract no marks) tasks. Setting fewer assessment tasks is consistent with deeper learning (Boud, 2007b). The other graded tasks are an essay (1,500 words, 30%) due early in the trimester, and a tutorial paper (1,000 words, 30%) due in variously, from weeks three through seven, and weeks nine through eleven.

In the course *Sustainability and Ecosystem Health* (Albrecht et al., 2011 [2007]), the assignment asks students to make an assessment of the state of the health of a social-ecological system (*i.e.* a system comprising human-social and ecological elements, such as a watershed or a local government area) of their choice. Students begin by identifying a social-ecological system such as an ecological feature (*e.g.* a river's catchment), a societal or political entity such as a local government area, an economic activity or sector (*e.g.* coal mining) or an individual business (*e.g.* a horse stud), upon which an assessment of ecosystem health (Rapport et al., 1998) can be performed.

In the course *Environmental Management* (Phelan et al., 2011 [2007]), the task calls on students to critique the environmental management plan of an institution or managed area of their choice. Examples include firms, specific production plants, co-managed indigenous areas, national parks and local government areas.

Thus the assessment task's basic structure is variable to at least two contexts in which it has been used repeatedly.[2] In the four years since trialling the task, class sizes have increased substantially. Student numbers in Environmental Management rose from 14 in 2007 to 32 in 2008, 39 in 2009, and to 47 in 2010. Student numbers in Sustainability & Ecosystem Health rose from 15 in 2008 to 34 in 2009, peaked at 42 in 2010 and settled back to 31 in 2011.

The task may be adaptable for other contexts also. This paper focuses on the core elements of the task which are common in both examples of its usage in both courses since 2007. Deploying the task, particularly its peer engagement aspects, relies on use of an online learning management system (LMS), such as Blackboard used at the University of Newcastle. I assume students have no previous experience in providing peer review. The activity is designed in part to introduce students to that experience, and I set it up and facilitate it as though it's the first time they'll have had the opportunity of giving and receiving feedback in a collegial manner. It may be that a very limited number of students have experience of giving peer review, but I have never had a student report that they have provided peer review previously.

Stage 1: Proposals

Mid-term, students are invited to choose a focus for their report. Inviting students to choose the focus for their major assignment is consistent with student centred learning, i.e. relevant to the students, motivating students to co-create the learning process (McCombs and Whistler, 1997). Facilitating student choice also supports a broad diversity of student topics. Topic diversity avoids potential for overlap in students' reports, and so supports academic integrity, *i.e.* this approach minimises opportunity for students to plagiarise peers' assignments.

The task's first stage is the sharing and critiquing of project proposals. In week eight, the rhythm of the course shifts to accommodate this activity: engagement with further course content is set aside in favour of a focus on the major report assessment task. I introduce the feedback task with a posting to a dedicated discussion board in the course Blackboard site. The posting includes a brief description of what constitutes constructive feedback, directing students to identify strengths as well as opportunities for improvement in the proposals they are critiquing. The introductory posting also outlines my expectations for behaviour during the peer review process, *i.e.* that students will give and receive feedback respectfully. Immediately before the beginning of the week students are required to post a *circa* 500 word project proposal. Submitting project proposals well before the final assignment due date allows me to ensure that students are on track to produce a report that has the potential to meet the assessment task's requirements, with regard to purpose and scope. This is important given that the report may be a style of assessment task with which students have no previous experience.

At the proposals stage each student gives peer feedback (*circa* 250 words) to each of two other students on their project proposals, as allocated. Proposal authors and reviewers are presented in a simple table. As proposals are posted to the dedicated Blackboard discussion board, draft titles or topic areas are added to the table. I've also managed this process in a way that accommodates students' preferences for one of the two reports they will critique. I do this by (i) seeking advance indications of students' provisional report topics, (ii) listing authors, provisional topics and an allocated first reviewer on a draft table, and then (iii) asking students to express a preference for their second critique, allocating students who choose not to express a preference within a reasonable period. An advantage of this approach is that I am able to demonstrate (by allocating the first reviewers to each proposal) how the feedback exercise is structured, while also creating the opportunity for students to choose a second proposal to review, based on their interests. This approach requires a little more preparation and organisation.

Having each student give feedback to two peers means each student also receives feedback from two peers. By using Blackboard for this process, *all* students have access to *all* proposals and *all* sets of feedback. Thus the exercise provides students (i) the experiences of giving and receiving feedback, (ii) the opportunity to review others' proposals, and (iii) the opportunity to review the feedback those proposals have received.

Practice shows there are frequently occasions where feedback from one student to another was also of relevance to others. This typically occurs where a peers' proposal is of particular interest, for example where there may be commonalities to other students' proposals in terms of geographic, ecological, societal, theoretical or scalar elements, or where students are struggling with similar generic aspects of the assessment task, *e.g.* report structure or research methodology.

At this stage I also provide feedback on proposals publicly via the dedicated discussion board. Some comments are made with specific reference to individual proposals; some comments are made overall, drawing out themes across proposals and synthesising some peer feedback. Where helpful I can affirm or gently refocus peer comments. In practice I'll be able to find something helpful in virtually all the peer feedback students provide to each other. I refocus peer feedback where I see that feedback is unhelpful, e.g. where a student provides advice to a peer that is wrong or misleading. Such instances do occur, but infrequently. I provide all feedback in a positive, respectful and supportive style, conscious of 'the role of feedback on learners' motivational beliefs and self-esteem' (Nichol and McFarlane-Dick, 2004, p.3). Doing so models constructive critique of others' work, reinforcing my initial posting setting out my expectations for the peer review exercise.

To assist in critiquing peers' proposals, students are encouraged to refer to both the description of the assessment task (included in the course outline) and the draft marking rubric for the task (posted online during the trimester). Additionally students are provided with generic report writing resources. Following the review of project proposals, students then refine their proposals and began researching and writing their reports in earnest. Proposals and feedback remain accessible on the course Blackboard site for the duration of the trimester.

Stage 2: Draft reports

Week twelve again sees a shift in the rhythm of the course to an intensive exercise in student engagement with peers' written work. The structure of the week replicates that in week eight and is by now familiar to students. Immediately preceding the week students are required to post their draft report to a dedicated discussion board. During the week, students are required to provide (*circa* 250 words) feedback to two other students as allocated, on their draft reports. As in week eight, because all students give feedback to two other students, all students also receive feedback from two other students. Again all feedback is given and received publicly: all students have access to all drafts and all feedback, and the opportunity to make use of the received and observed feedback before submitting their final reports. At this stage I do not provide further feedback; by week twelve students have experience of giving and receiving feedback, and my summative assessment of students' reports is imminent. During this week, I have also asked for students to think critically about the draft marking rubric, to ensure that (i) they consider it fairly describes 'unsatisfactory', 'satisfactory' and 'good' forms of each assessment criteria, and that (ii) given the task allows for substantial diversity in report subjects and theoretical emphases, that the rubric will allow for a fair assessment of their specific report.

Stage 3: Final reports

Shortly after the final week of trimester students submit their final reports (via Turnitin[3] and Blackboard) for marking. Marking by this stage is mostly summative, *i.e.* awarding scores with supporting feedback. Students have been required to make a start on this assignment more than four weeks earlier, and have had the benefit of two rounds of giving and receiving feedback from peers, as well as brief comments from the lecturer in the first round. The need for lengthy comments at this stage in support of formative assessment goals is reduced through students already having received substantial feedback through the course of the drafting process.

Student responses and task modifications since 2007

The student response to the assessment task has been positive. After trialling the task in 2007 as part of a major course review and restructure, I invited students to make comment on the restructured course, either anonymously or openly, via the course Blackboard site or via email. From a cohort of 14, nine students (64%) responded; including four students (29%) who referred explicitly to the task, and all did so positively:

1. One of the most invaluable aspects of this subject I found was the opportunity... to share proposed... reports and upload our draft reports for critical review... I've never come across this invaluable tool in other subjects, and found it such a fantastic learning opportunity, particularly from an on-line environs.
2. ...the presentation of draft reports and providing feedback to other students was a great learning process.
3. ...the comments for the major report is (sic) a great concept allowing freedom and exchange of ideas.
4. the task itself... is great and I have been enjoying it

I suggest further that students' appreciation of the peer review aspects of the course are evident in some students' choosing to actively review more than the required minimum two project proposals. For example,

in the most recent use of the assessment task (Environmental Management, in 2011, eight students (of a cohort of 38) reviewed more than the minimum two peer's proposals in week eight. (However, this was not repeated in week 12 for draft reports.) More students again will share comments indicating they have reviewed sets of peer feedback beyond those received for their own report.

Students continue to comment positively on the task. The task sparked the following two unsolicited comments, via email and postings to the course discussion boards:

1. It has also been interesting to undertake a review process for some of the assessments which is more like what happens in the 'real' world.
2. ...you're right I really did enjoy the last task it was lots of fun!

While the task has elicited positive feedback from some students, and no negative feedback from any, not all students have approached this assessment task (or others) with total diligence. As with any class, students present with varying levels of motivation, commitment, opportunity and capability. As noted below, the peer review tasks are compulsory but ungraded. This allows students to focus on giving helpful feedback without worrying about being graded as they do so; it's also consistent with my desire for fewer graded assessment tasks, to support deeper learning.

My approach is to offer the peer feedback exercise as an opportunity, and one that's there for students to make the most of, e.g. by putting as much effort as they can into their proposals and drafts, by putting as much effort into their critiques, and by reviewing other students' proposals, drafts, and the feedback other students' work received. I suspect there may also be an element of constructive peer pressure in play here: my sense is that many students will observe conscientious students providing thoughtful feedback early, and may seek to emulate that standard.[4]

In the period since 2007 I have experimented with the task in the two online settings and one blended learning context and modified it in various ways including:

1. **Allocating both reviewers for each proposal and draft.** I've done this when other work pressures have meant I'd not have time available to facilitate the preliminary process for students to nominate their own report topics and express peer review preferences.
2. **Varying the timing in the week for when proposals (in week eight) and draft reports (in week 12) are due, and when peer reviews are due.** Early (from 2007) student feedback suggested allocating two weeks instead of one for reviewing draft reports, i.e. weeks 11 and 12. That is not realistic given the extent of course content I want students exposed to. Instead, I now have students post their documents for review on the Friday preceding the review weeks (i.e. proposals are due to be posted on Friday of week seven, for review beginning Monday of week 8). This gives students the weekend to shift from their author role to their reviewer role. It also allows some leeway so students can be slightly late with posting their documents for review without undermining the peer review exercise's overall timing.
3. **Framing the peer review activities either as (i) separate from, or (ii) constitutive parts of the report-writing task.** On some occasions I have labelled the elements of the peer review exercise (writing and reviewing) as discrete, 'designated tasks', i.e. compulsory but ungraded. This leads to an overall assessment framework comprising graded and ungraded tasks. More recently I have presented the peer review activities as integral elements of graded tasks. This approach may be simpler to communicate: an overall course assessment framework with three graded tasks, and with one task – the report – disaggregated into four parts: (i) a proposal (due Friday of week seven); (ii) a draft report (due Friday of week 11); (iii) peer feedback to two other students (in weeks eight and 12); and (iv) a final draft (due shortly after week 12).
4. **Inviting students to suggest amendments to the report task's draft marking rubric.** I have always provided students with a draft marking rubric, in order to clearly communicate my expectations for the report. The rubric identifies six assessment criteria (e.g. structure, resource use, etc), and provides descriptions of 'good', 'satisfactory' and 'unsatisfactory' examples of each. In recent years I have invited students to suggest amendments to the draft marking rubric, in order to (i) ensure the rubric will be appropriate for their report, and (ii) encourage students to reflect on the rubric in support of their own efforts to make judgements about the quality of their peers' – and their own – written work. This has sparked at most limited responses from students.

All of the experimentation since 2007 with the design and structure of the assessment task has been minor, and the key, interactive elements of the task remain essentially the same as when first trialled.

Assessment, lifelong learning and classroom community

Task consistency with fostering lifelong assessment

The task, in the context of the course structure and assessment framework, is consistent with fostering lifelong assessment. The task supports lifelong assessment by giving students the opportunity to give and receive constructive criticism of project proposals and draft reports. Additionally, the task invites students to (i) consider the appropriateness of the draft grading matrix developed for summative assessment of the report and (ii) suggest edits to the draft matrix.

The requirement for student engagement with each other's work is consistent with Boud & Falchikov's (2006) key argument that student involvement in assessment supports development of students' capacity to assess, and thus supports lifelong assessment and learning. Boud (2000) argues that being able to learn from peers is part of lifelong learning, that engaging with peers is common in workplaces for example; this assessment task provides an opportunity for such learning.

Boud (2007a) further argues that a degree of separation between marks and feedback allows students the space to engage meaningfully with feedback they receive, instead of mark allocation limiting their attention to the written feedback. As structured, this task provides students with the majority of their feedback before their assignments are submitted, *i.e.* well before a mark is allocated, and in time to inform the final shape of their assignments.

Additionally, giving feedback to peers is a designated task, *i.e.* the task's completion is required to pass, but not graded. Thus students are free to focus on their engagement with their peers' work, and with the processes of sharing feedback in a constructive and affirming manner. They are able to do so without the pressure of being subject to certification as they do so.

Task consistency with fostering classroom community

The task, in the context of the course structure and assessment framework, is consistent with fostering classroom community by virtue of the way in which it supports peer exchanges. Students are required to engage with each other's work in two rounds, focussing early in the process on project proposals as they take shape, and later, on draft reports as they are being finalised for submission.

Additionally, because the process is conducted openly via dedicated discussion boards available to the whole cohort, students have access to all of their peers' exchanges. To the extent that a sense of classroom community supports students' achievement of learning goals, the task therefore also supports curriculum-specific formative assessment goals.

Implications for teaching workloads

The task carries implications for teaching workloads. The task requires a thoughtful approach in order to facilitate the giving and receiving of peer feedback. This includes: designing the overall assessment framework to support peer exchange; provision of resources to assist students in providing feedback including a description of the assessment task and a draft marking rubric; communicating clearly (e.g. in simple tabular form) which students are to provide feedback to whom; monitoring to ensure students are providing feedback as stipulated. An introductory communication outlining expectations for the content and tone of feedback is also necessary.

The task creates a nuanced shift in the emphasis of lecturer engagement in feedback: from specific comments on individual assignments, to supporting students' capacity to give and receive feedback and provision of thematic comments, *i.e.* reflecting on aggregated students' work at the proposals stage. One clear outcome is that students receive substantially more feedback on their assignment than they otherwise would. Further, students have the opportunity to review numerous examples of proposals and draft reports, and the feedback provided.

The impact of this task on lecturer workload in the period in which it has been employed has been difficult to measure. During the same period student cohorts in both courses in which the task has been used repeatedly have expanded significantly, from *circa* 15 students to around triple that number. My sense is that workload volume is comparable to a standard major report assessment task, *i.e.* a report-style assessment task which achieves summative and formative ends but which is not purposely designed to support lifelong assessment outcomes. This is particularly encouraging given the amount of feedback received by students is substantially increased through this task design. Further, the feedback is received by students before submitting their final reports, and thus is available to be drawn on in the course of preparing the assessment task.

The task avoids difficulties centring on fairness and perceptions of fairness associated with summative aspects of group work (Nordberg, 2008; Orr, 2010). The task requires students to submit individual assignments rather than group projects, which can entail difficulties in fairly identifying and then grading individual demonstrations of learning. However, the task supports peer engagement through a formalised, transparent and staged interaction with each other's work. In so doing, the task fosters collegial interaction, and a learning community in which students are encouraged to support each other.

Wider applicability?

This task was devised for an online learning context, and with the twin intentions to support lifelong assessment and contribute to fostering a sense of classroom community. I have also used this assessment task design in an undergraduate face-to-face learning context with access to the Blackboard learning management system (LMS). LMS access is necessary in an on campus context for the public exchange of project proposals, draft reports and feedback.

The task is suitable for written assessment tasks where the subject of the task is highly variable, *i.e.* reports on case studies, and where there is little prospect of students' work overlapping. This task structure is likely not suitable for a standard essay-style assessment task, *i.e.* where there are a limited number of questions provided to respond to, and where students are tasked with writing pieces that address a limited choice of questions.

Further research and anticipated innovations

Design and application of the task structure suggests several potential further areas for research. The paper is limited to description and reflection on the design and use of an assessment task first trailed in 2007, and used since then. Empirical studies exploring the relationship between the task and sustainable assessment outcomes are one area where more research and practice may be fruitful. Studies comparing the assessment task with more traditional assessment tasks, *i.e.* tasks without peer engagement requirements, in terms of course learning outcomes, sustainable assessment outcomes and lecturer workloads would also be helpful. Lastly, consideration of the limits (e.g. relating to discipline) of the applicability of such an assessment task would also be useful.

In the interim, iterative use of the assessment task in two postgraduate courses since 2007 suggests two potential innovations. Firstly and most significantly, the possibility of engaging students more deeply in the creation of the assessment rubric for the major report would be interesting. Increasing student participation in the creation of the rubric could build on the feedback students provide to each other on their project proposals. Secondly, having students include a completed self-assessment with submission of their major reports may also be a useful innovation. This would allow insight into students' understanding of the quality of their own work and would also allow me to focus my feedback in a way that directly complements their assessment of their work. Currently the task only provides for informal demonstrations of students' capacities for critique, through the open peer review processes for project proposals and draft reports.

Conclusion

Assessment is a key part of learning. A thoughtful approach to assessment reveals an opportunity to support learning in multiple ways. Traditionally assessment serves summative goals, and immediately formative goals, i.e. learning goals defined within the confines of the formal study program to which it contributes. The assessment task described in this paper serves such goals.

Yet assessment frameworks can serve grander aspirations too. Capacity for lifelong learning is an important potential attribute of university graduates. Capacity for lifelong assessment may be fostered by assessment tasks that support students to engage in assessment of their own work and that of their peers. The case study presented in this paper is of the design of an assessment task that supports the development of students' capacity for lifelong assessment, and therefore lifelong learning. The report task described in this paper does so in two ways. Firstly, it supports students to engage with and critique each other's written work in the form of two rounds of conversation among students in weeks eight and twelve of trimester. Secondly, students are invited to critique the draft marking rubric developed for the report. The task structure described here has been used repeatedly in two separate online contexts, once in a blended learning context, and may be adaptable to others.

Simultaneously, in an online context at least, assessment frameworks may purposely contribute to the fostering of learning communities. The formalised, supported and transparent peer review process described in this paper is deployed in week eight in relation to project proposals, and in week twelve in relation to draft reports. The process requires students' engagement with each other's work, and therefore exchanges, via dedicated discussion boards, amongst peers. Sense of classroom community is important for achievement of learning goals, and for students' sense of satisfaction of learning processes. Students' sense of community is linked to volume of students' engagement with peers, with course content and with their lecturer. The assessment task described in this paper supports greater levels of peer engagement. Fostering a sense of community in asynchronous online learning contexts is not solely a job for individual assessment tasks, or even a whole assessment framework. Yet by the same token, assessment is a key element of learning, and can surely make an important contribution to broader strategies aimed at fostering a sense of community.

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Acknowledgments

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[1] This section draws strongly on a previously published review of learning community literature (Phelan 2012).

[2] I have also adapted the task for a blended learning context: an undergraduate environmental studies course at the University of New South Wales (ARTS2242 Environmental Controversies in Australia, used once in 2011). In the blended learning context, Blackboard remains the online space in which the proposals, drafts, and peer feedback is posted. In addition, the on campus setting allows for students to also discuss proposals, reports and feedback in person.

[3] Turnitin is an online tool used to support students' academic integrity at University of Newcastle.

[4] But again, seemingly invariably there will be individual students who remain unmoved by peer performance.