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2011

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This conference paper was originally published as:
Kearney, S. P., & Perkins, T. (2011). Developing Students' Capacity for Innovation, Creativity and Critical Thinking through Contemporary Forms of Assessment. *9th Annual Hawaii International Conference on Education*.

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Developing Students' Capacity for Innovation, Creativity and Critical Thinking through Contemporary forms of Assessment.

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Abstract

In continuing with the forms and methods of assessment that for decades have pervaded higher education, are we devaluing the education we provide and disengaging students in the process?

Why do we assess? What is our purpose and for whose benefit do we assess? Are these benefits achieved through current practices? These are the questions that need to be addressed.

The demands on educators to provide valuable, student-centred assessment and feedback have never been greater. Feedback is one of the most powerful influences on learning and achievement (Hattie, 2007), and how we construct and evaluate these tasks to provide feedback determines the potency of such feedback.

The focus of tertiary education needs to be on developing students' capacity for innovation, creativity and critical thinking. The perpetuation of the dichotomy in universities between traditional approaches and the ideals of critical and lateral thinking, autonomy, and thoughtfulness in education, make current traditional practices impractical and unacceptable.

The arbitrary nature of creating, marking and providing feedback for tasks without consideration for the learning that should result from the task seems illogical and counter-productive to the purpose of assessment. Peer assessment, self-assessment and the democratization of assessment for learning all need to become part of the repertoire of the university tutor, lecturer and professor if we want students to be engaged with and value their learning.

Key Words

Higher education, Assessment, Innovation, Self -Assessment, Peer-Assessment

Introduction

Current trends for reform in the tertiary sector are focused on meeting the needs of 21st century learners (Australian Government, 2009) through new, innovative forms of assessment (Boud & Associates, 2009). In addressing the shift from traditional forms of assessment to new, innovative assessment practices that are both summative (assessment of learning) and formative (assessment for learning) it is important to recognise the need for pedagogical approaches that can facilitate and ease the change.

This paper illustrates some of the key ideas surrounding assessment in higher education in Australia; gives an overview of the Australian context with regards to reform in the tertiary sector; and, presents a new, innovative model of assessment that addresses the key features of reform in higher education assessment in Australia. The model presented has multiple components that form the assessment process: Authentic Assessment for Sustainable Learning (AASL) is the assessment model; and, Authentic Self & Peer Assessment for Learning (ASPAL) is the delivery method for the implementation of AASL.

In the development of the AASL and ASPAL models we drew inspiration from the Australian Teaching and Learning Council and the paper: Assessment 2020 Seven propositions for assessment reform in higher education, in which, Boud & Associates contend:

Universities face substantial change in a rapidly evolving global context. The challenges of meeting new expectations about academic standards in the next decade and beyond mean that assessment will need to be rethought and renewed (2009, Preamble).

Research has shown strong links between the implementation of authentic assessment and high quality learning (Darling-Hammond & Snyder, 2000; Ridley & Stern 1998; Brown, Collins & Duguid, 1989). The use and implementation of authentic assessment has two significant features; It has the ability to re-engage student in the development of content-based knowledge through strengthened links with the outside world; and, it has the capacity to enhance student learning and through the provision of skills such as critical thinking and creativity.

The idea of sustainable assessment has been described by Boud (2000) as “the knowledge, skills and predispositions that underpin lifelong learning activities” (p.151). Lifelong learning is at the heart of what the Australian government’s goals for higher education: ‘self-fulfilment, personal development and the pursuit of knowledge as an end in itself;’ this reflects the ideals sustainable learning is based upon. Through the implementation of sustainable assessment what we endeavour to achieve is assessment that, “meets the needs of the present without compromising the ability of students to meet their own future learning needs” (Boud, 2000).

Although the model presented has undergone trials at the University of Notre Dame, Australia this past semester, this paper concerns the conceptual and theoretical development of the model and its justification. Through a review of relevant literature we were able to address our key questions that formed the basis of the research:

- Why do we assess?
- What is our purpose and for whose benefit do we assess?
- Are these achieved through current practices?

This paper seeks to open a discourse about the level of engagement we currently face in our lecture halls and tutorials and to provide colleagues with ideas about innovative assessment practices that can be incorporated into their own teaching and learning to enhance the learning experience and increase engagement among their students.

Key Features from Recent Research

Recognition of the importance of assessment for learning and assessment of learning has been central in research concerning recommendations for reform in higher education in recent years (Boud & Associates, 2009; Lamprianou & Athanasou, 2009; Elwood & Klenowski, 2002 James, McInnis & Devlin, 2002).

The literature makes clear that assessment is a driving force of learning (Lamprianou & Athanasou; 2009; Boud, 1990); there is simply nothing else in the learning continuum that garners as much student attention than what the student will be assessed on (Lamprianou & Athanasou, 2009). Lamprianou and Athanasou (2009) make the assertion that according to student diaries, less than 10% of students' time is spent on non-assessable activities; if assessment has the ability to drive learning it seems logical that curriculum should be designed around assessment that encourages the skills necessary for success, both within their course and in life. The idea of authentic, sustainable assessment is one that not only can meet the needs and skills required for success in the 21st century, but also has the ability to engage interest and enhance student learning (Boud 2000; Vu & Dall'Alba, 2008).

Learning, and indeed assessment, have changed focus in recent years. Traditional education assessment was seen as a way to evaluate learning; now assessment is considered to be an integral part of the teaching and learning cycle (Elwood & Klenowski, 2002). As far back as 1999, the research was promoting the development of professional skills such as problem-solving, critical thinking, creativity, autonomy in learning, and authenticity in learning through innovative forms of assessment (Dochy, Segers & Sluijsmans, 1999). If this 'new era' in assessment started over a decade ago, we should be well and truly entrenched in the practice of authentic learning and sustainable assessment, but sadly this is not the case. Instead we have, "overall dissatisfaction with educational attainment" (Klenowski 2006 cited in Chen & Klenowski 2008) and the desire to raise the quality of education to be competitive in the global context (Murphy 2007).

The suggestion of enhancing the quality of education through assessment has been building and evolving over the past two decades. Torrance noted in 1996 that, "real change will not take place in schooling until a significant change happens to assessment" (p.i).

The Australian Context

The Australian government's position with regards to higher education is in-line with the current international trends which are focusing on authentic and sustainable assessment that has relevance beyond the classroom (Boud & Falchikov, 2005; Segers, Dochy & Cascallar, 2003).

Self-fulfilment, personal development and the pursuit of knowledge as an end in itself; the provision of skills of critical analysis and independent thought to support full participation in a civil society; the preparation of leaders for diverse, global environments; and support for a highly productive and professional labour force should be key features of Australian higher education (Australian Government 2009, 7).

The government's contention about the key features of Australian higher education are dichotomous in nature: On the one hand, they emphasize the importance of knowledge for the sake of knowledge, critical thinking, and independent thought; however, on the other hand they believe that universities should instil the skills necessary for students to become members of a highly productive and professional labour force. While the two ideals are not mutually exclusive, it does present a challenge to the higher education sector. That challenge can be met through authentic learning and authentic assessment of learning.

There are currently 37 public universities, 2 private universities and 150 or so other providers of higher education in Australia. In their reform of higher education the Australian government is seeking to increase the number of 25-34-year-olds holding a bachelor-level qualification to 40% by 2020; this is an 11% increase over current attainment levels (Bradley et al. 2008). If this intended increase transpires, the higher education sector in Australia will see an additional 217,000 graduates by 2025; this will place an enormous amount of pressure on institutions that already struggle with retention rates in the present environment.

Currently the student attrition rate in the tertiary sector in Australia is approximately 28%. To keep Australia competitive in the modern global market and meet government targets universities and other

higher education institutions will need to address this high proportion of students dropping out of courses. The government recognizes this challenge and makes comments with regards to student engagement in higher education:

Although student satisfaction levels remain high, Australia has fallen behind its major competitor countries on key teaching and student experience indicators and drop-out rates remain high at 28 per cent in 2005. Similarly, the dramatic rise in student-to-staff ratios—from about 15:1 in 1996 to over 20:1 in 2006—is probably a significant contributor to the relatively low levels of student engagement (Australian Government 2009, 14).

Student engagement is the key to reform in the education sector, not only to ameliorate attrition rates, but also to reinvigorate critical skills necessary for students to prosper in a technology driven, global world that is changing at an exponential rate. It is our contention that students need to develop skills such as: creativity, innovation, critical and lateral thinking, and autonomy to flourish in an unpredictable global market. The government realises that there needs to be an increased emphasis on improving the student learning experience in order for the higher education sector to increase retention rates and meet targets (Australian Government 2009).

The disappointing level of engagement of students in higher education is a problem that must be overcome if government targets can be met. The literature with regards to engaging students is prolific and varied; however, students need to be engaged through a means in which they have an investment, one that they understand and respect; assessment has that capacity (Lamprianou & Athanasou, 2009).

While the government argues that a “highly productive and professional labour force should be key features of Australian higher education,” (Australian Government 2009, 7), we believe that such a labour force is a by-product of a high quality education that fosters the growth of the individual learner by teaching those skills that are crucial to the development of sustainable learning.

Student Perceptions of Assessment in Higher Education

The research on student engagement in higher education is prolific; however, one feature that the research continually finds, is that assessment rates very high in importance according to students (Boud, 2000, Lamprianou & Athanasou, 2009, Elwood & Klenowski, 2002; James et al., 2002). According to Lamprianou and Athanasou (2009):

As far as students are concerned, there is nothing more central to the learning experience than assessment. Some learning researchers call this the backwash effect. The type of assessment students know will be coming determines when they “tune in” to a lecture and when they “tune out.” Evidence from student diaries indicates that students spend less than 10 percent of their time on non-assessed academic work (15).

For most students, assessment is the most important aspect of their coursework (Lamprianou & Athanasou, 2009; James et.al, 2002); therefore, we as educators need to use this element of student perception to maximise the learning potential it harbours. If we can engage students through what they value in our courses and ensure that the assessments we assign are authentic and inspire the development of innovation, creativity, and the skills of critical and lateral thinking, we can ensure our students’, and subsequently Australia’s success in the future.

Boud (1990) asserts that students focus on what is assessed; therefore, assessment has the power to drive student learning. This same contention was echoed by James et al (2002):

For most students, assessment requirement literally define the curriculum. Assessment is a potent strategic tool for educators with which to spell out the learning that will be rewarded and to guide students into effective approaches to study (James et al., 2002, 7).

Taylor (2008) has found that courses with the highest retention rates are those that employ formative assessment that also count towards a student’s final mark. The AASL and ASPAL models incorporate

the best aspects of both formative and summative assessment by informing student learning throughout the process and counting towards their final mark. Taylor also concedes that formative assessment, while very good in both practice and principle, cannot by itself engage students: “students will not necessarily value and thence undertake [assessment] unless it is worth something more concrete in their eyes” (2008, 22).

Gibbs (2003) points out that the issues associated with measuring student achievement and meeting standards are addressed at the expense of engaging student learning. If assessment drives student learning, yet it is also responsible for disengaging students, then current methods of assessment need to change. If it can be agreed that students value assessment, albeit possibly for the wrong reasons, we can utilize the value they accord it to positively impact their learning experience. By ignoring this ‘driving force’ we perpetuate the inauthenticity in learning and continue to actively disengage our students by ignoring what they value.

Through the implementation of innovative forms of assessment, such as AASL and ASPAL, educators hold the key to enhanced learning (Elwood & Klenowski, 2002).

Are current assessment practices achieving the goals of the assessment process?

Why we assess is one of the most important questions surrounding issues pertaining to effective teaching and learning and engaging student interest in their coursework. As Donald and Denison (2001) explain, views as to the purpose of assessment vary depending on whom you ask; however, the objectives of assessment need to align with the goals of the institution and the degree program.

The Commonwealth government (2009, 7) states that, “self-fulfilment, personal development and the pursuit of knowledge,” is an end in itself, so why do we assess? In basic terms the education sector assesses students for accountability purposes; to ensure that the degree they tender at the end of a course has meaning. James, McInnis and Devlin contend that:

Assessment is often treated merely as the endpoint of the teaching and learning process. There remains a strong culture of ‘testing’ and an enduring emphasis on the final examination, leaving the focus predominantly on the judgmental role of assessment rather than its potential to shape student development (1).

Assessment at the tertiary level should not only assist the lecturer to evaluate students against a set of criteria required to pass a course, rather it should also provide an opportunity for students to monitor and evaluate their own learning (Boud & Falchikov 2005). The forms of self and peer assessment that are employed in the ASPAL model aim to create a ‘learning community’ in which assessment is no longer something that happens to students, but instead draws the entire class into a cohesive group that learns together. By incorporating aspects of both self and peer assessment the aim is to engage students in assessment, through assessment. What is essential is that students are part of the assessment discourse and that they are given the opportunity as well as the responsibility to learn the language and skills of assessment, which forms a fundamental basis of their tertiary studies. In the particular case of pre-service teachers, these skills are even more relevant; as they form part of the professional skill-set students will require when they enter the profession.

Assessment offers us, as educators, the capacity to reengage students in their learning and help to foster those critical skills our students will need in the workplace. What is proposed through the implementation of these models is that all assessment, whether diagnostic, formative or summative, focuses on student learning more explicitly than student evaluations suggest it currently does. What we hope to foster through the implementation of this model is the encouragement of 21st century skills: innovation, critical thinking, reflection and autonomous learning.

The AASL & ASPAL Models

The development of the models of assessment presented was based on the seven propositions for assessment reform in higher education made in the Assessment 2020 paper by Boud & Associates (2009).

Through an intensive literature review on assessment, with specific emphasis on the implementation of self and peer assessment at the tertiary level; informal interviews with ungraduated education students; and, our own perceptions of the disparate levels of engagement in our units, we sought to develop a model of assessment that could have the potential to shift the ways in which students regarded assessment and transform the manner in which assessment occurs.

The key questions that the researchers sought to answer in the development of an innovative assessment model were:

- Why do we assess?
- What is our purpose and for whose benefit do we assess?
- Are these achieved through current practices?

The answers to these questions were not difficult to determine, and in answering the questions the path towards a new model of assessment was made apparent. The short answers to these questions are:

We assess firstly to inform student learning, and secondly to evaluate that learning against a set of standards or outcomes. In ensuring that student learning is paramount and evaluation secondary, we change the traditional focal point of assessment from assessment of learning to assessment for learning.

Our purpose of assessment, in differentiating this question from the first, is our contention that assessment, and indeed all aspects of the teaching and learning continuum, should be to engage students in the professional discourse of the unit or course they are undertaking. Therefore, we assess for the benefit of the student and ourselves, not in an evaluative way, although this is one component of assessment, but rather to engage students in the authentic manifestation of their course with regards to the world outside of the classroom; and for ourselves, assessment should guide and direct our teaching.

Whether or not these outcomes are being achieved by current practice is an ambiguous question. It is impossible to know what is occurring in classrooms outside of our purview; however, what is clear, both in our experience and in the literature, is that while innovative forms of assessment have been gaining traction in recent years, there is still a sector of the tertiary community that has not relinquished its hold on traditional assessment practices that have the potential to disengage students and have a negative impact on their learning (James et al. 2002).

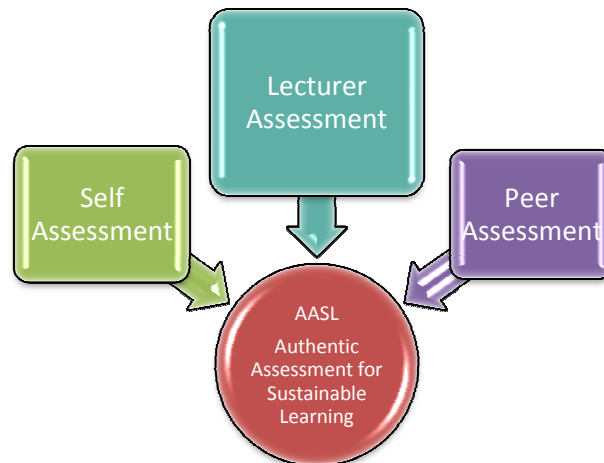
In creating these models we relied heavily on the ideas of communities of practice, situated learning and legitimate peripheral participation (e.g. Lave & Wenger 1991; Wenger 1998) and sought to develop learning communities within our courses. The introduction of learning communities is an essential aspect of the successful implementation of the models as we are seeking to share knowledge and experience with our students as an in their induction into the teaching profession which they will enter at the conclusion of their course. By democratising the assessment process and allowing our students to be integral in the development of assessment, the marking of the assessment and providing feedback on the assessment, we are not only reengaging them in their course content, but also providing them with the professional skills they need when they enter the workforce. Additionally, we are seeking in inculcate the students with innovative ideas and demonstrate how the successful implementation of those ideas can change the educative process so that they can be creative in their own pedagogical approach to teaching when they enter the profession.

AASL – Authentic Assessment for Sustainable Learning

In the AASL model, self assessment, peer assessment and lecturer assessment are combined to produce a summative grade for the student. In this model:

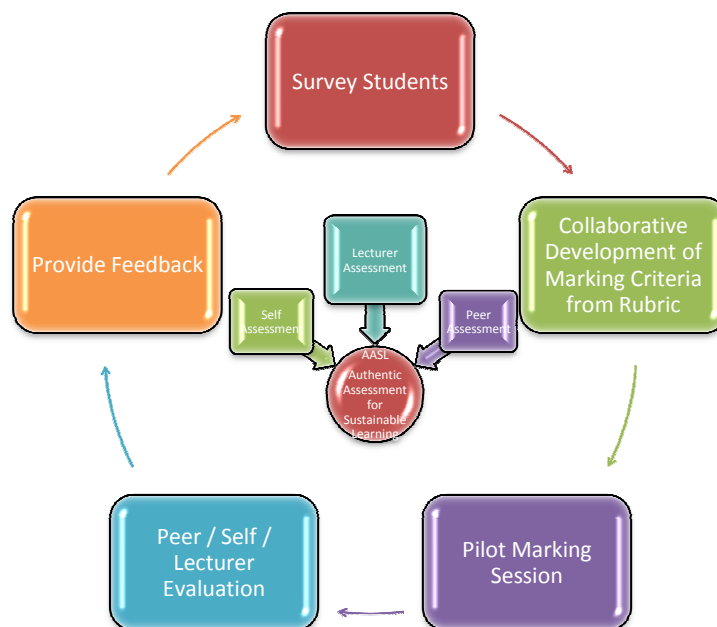
- Lecturer assessment accounts for 40% of the overall mark, allowing it to act as a moderator for the self and peer assessment.

- Two peers will collaboratively mark another student’s anonymous task. While the peers must collaborate on the mark they do not have to agree on the mark given, each peers’ mark will account for 15%; total peer assessment accounts for 30% of the overall mark.
- Lastly, the student will mark their own task against the set criteria. The self assessment will account for 30% of the overall mark, thus empowering the student to critically reflect on their work in relation to their peers.



ASPAL – Authentic Self & Peer Assessment for Learning¹

While the AASL model is our model for assessment, ASPAL constitutes the delivery method for the AASL model. In our research at UNDA, we have also detailed this process into various stages and have differentiated the process for individual assessment tasks and group assessment tasks, but the premise of the model is as follows:



¹ While extensive research has been conducted with regards to self and peer assessment and the implementation of those assessments, this paper concerns the development and theoretical justification for the development of these models and does not seek to justify their validity at this time. These models have been implemented in undergraduate education units in both the primary and secondary courses at the University of Notre Dame, Australia and the results of those trials will be published separately.

In the delivery of AASL, we begin with surveying the students to ascertain their attitudes and perceptions of engagement at the tertiary level; their level of satisfaction with the current assessment practices at the institution; and, their preliminary thoughts with regards to the AASL and ASPAL model of assessment they will undergo. The next stage in the process is collaboratively developing marking criteria for their task. In an ideal environment, the task itself would also be collaboratively developed, but current institutional requirements restrict this. The next stage is one of the most important in the process, the pilot marking session. This provides the students the opportunity to mark assignments similar to the one they have been asked to produce and serves multiple purposes: it builds confidence in the students with regards to their ability to mark their peers' work; it allows them the opportunity to see what constitutes a 'good' and 'bad' mark on a task similar to the one they will hand in; it helps to develop a mutual understanding of the marking criteria and how it is applied to the task; and finally, it helps the student to develop the skills of judgement with regards to their work and the work of their peers. The next stage of the process is the marking itself; while detailed plans have been created to deal with this part of the process these will not be discussed at this time. Accurate and timely feedback is a crucial component to assessment (Hattie, 2003), and this process facilitates this adequately. Students will receive feedback; both quantitative marks and qualitative comments from each of the peers who marked their paper and from the lecture. Those three forms of feedback, along with their own reflections from their self assessment improve the feedback they receive and form the basis for enhanced performance in the future. The students are then surveyed at the end of the semester to note any changes in their perceptions.

Implications

The propositions put forth in this document are in-line with what the current research suggests from around the world: traditional assessment practices in the tertiary sector are not meeting the needs of 21st century learners (Lamprianou & Athanasou; 2009; James et al., 2002; Falchikov & Thomas, 2008).

Shepard (2000) suggests that traditional forms of assessment perspectives emphasise a theoretical framework of 'scientific measurement' and were aligned with the traditional ideas and beliefs about learning. The problem with this type of conceptual framework is that it seems to be the prominent ideology in many courses in higher education today, and it does not align with current ideas with regards to constructivist learning that is focused on critical thinking, creativity, and autonomous learning. Specifically with regards to pre-service teacher education it is imperative that we cultivate the educational and pedagogical domains that our students are accustomed to and will be working within in the teaching profession.

The conceptual development of these two models occurred over the length of a semester and we are currently trialling these models with approximately 300 undergraduate education students. There are considerable implications in the implementation of these models that could make it unsuitable for many university courses. The size of courses and the absence of tutorials in certain courses may not suit this model of assessment. We believe that this model of assessment is suitable to all courses of study; however, we do recognise our bias towards education students and the development of professional skills that are required for the teaching profession. That said, we consider that the skills encouraged throughout this assessment process: critical thinking, judgement, autonomous learning are skills that will be required by all students entering the 21st century workplace and should be promoted in all courses of study.

The development, evaluation and implementation of pedagogical practice that engages students is a never-ending process that must be revisited in order to ensure that we are providing a useful, authentic and sustainable education to our students that will have value throughout their lives. Our focus in the development of this model has been with regards to engagement and our fundamental belief that education is about building relationships with students. Through the development of learning communities in higher education we invite students into the world in which we operate, and in which they will operate upon completion of their degree. As educators we nurture them through the

professional skills and attributes they will require in their careers; this to us is a major facet of tertiary education.

In pursuing the objectives of authentic and sustainable assessment, it is paramount that the focus be on enhancing the students' capacity for learning and engagement with the curriculum. Through a shared understanding of the assessment process and the criteria for success, we open up the educative realm to the students and invite them to be a part of the process rather than an observer on the periphery. If we can encourage students to become part of the assessment process we are encouraging them to become autonomous in their learning and then educative transformation can occur.

References