CReaTe Work Stream CD03: Engaged and eRich Learning

GREEN PAPER: CLOUD AND LOCATED LEARNING

Overview

The key purpose of this workstream is to reimagine the future Deakin learning environment. In reimagining learning, the workstream has had to consider: the changing demands that will be placed on future learners; the contraints that Deakin has around the provision and use of physical learning spaces; the rapid and changing nature of ICT developments and the growth in power, capacity, mobility and bandwidth available to educators and learners; and the increasingly blurred boundaries that exist between our on-campus and off-campus learners.

The workstream has used two key drivers to shape its conversations and deliberations. The workstream, whilst acknowledging that possible solutions were going to rely significantly on the use of technology, considered that eRich was too restrictive. eRich is commonly interpreted as media rich which does not adequately describe the reimagined learning environment that we wanted. Therefore, the workstream has used Engaged and Enriched Learning as its mantra indicating that richness may come from a number of sources. Second, engaged and enriched learning can only be driven through engaged and enriched teaching. This driver has moved the discussion to include both cloud and located teaching in concert with cloud and located learning.

This paper is the first of two green papers that will outline a series of propositions, discussion and recommendations in the area of Engaged and Enriched Learning. In this paper we explore the basis of a reimagined Deakin learning environment that is divided into two complementary parts: Cloud and Located learning. The propositions define the strategies needed to build this learning environment whilst the proposals define the activities that need to occur to deliver the outcomes. In the second green paper, the workstream will consider a reimagined perspective of assessment.

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2 April 2012

Proposition 1

Excellent learning is achieved through a learner centred approach that focuses on building active learning opportunities for students.

Excellent learning in higher education

The aim of teaching is to make excellent and appropriate student learning possible (Ramsden, 2003) to enable employable graduates in a range of careers including research. In this context, employability is defined as the achievement of the skills, understandings and personal attributes that make an individual more likely to secure employment and be successful in their chosen occupations to the benefit of themselves, the workforce, the community and the economy (Yorke, 2006). The literature in teaching and learning in higher education suggests that excellent student learning is most likely to be achieved within courses and learning experiences when:

1. Learning outcomes are clearly articulated and relevant to graduate destinations (Biggs, 2007; Huba & Freed, 2000; Penn, 2011; Ramsden, 2003)

2. Assessment and feedback are carefully designed opportunities to enable students to demonstrate, improve and evidence achievement of graduate learning outcomes (Boud, 2010a; National Institute for Learning Outcomes Assessment, 2010; Nicol & Macfarlane-Dick, 2006; Race & Pickford, 2007; Yorke, 2008, 2010)

3. Educators engage, enthuse and inspire (Chalmers & Fuller, 1996; Race & Pickford, 2007; Ramsden, 2003)

4. Learning experiences are highly interactive and focused on engaging learners in authentic tasks and work-integrated challenges (Holmes, 1999; Magolda, 2009; Mentkowski, 2000).

This excellence in learning stems from environments that are enriched – learning outcomes, assessment and feedback, and interactive learning experiences – and educators who are engaged. Combined, these characteristics define active learning environments. Active learning will only occur in learning settings that are learner-centred (Cannon, 2000) and designed to facilitate the application of knowledge to problem solving, analysis, reflection, critique, and other higher-order thinking. Participation will require learners to interact with the content and demonstrate to themselves and others that they have achieved the learning outcomes (Race & Pickford, 2007; Ramsden, 2003). Communication is required to allow learners to practice their learning and to share and collaborate in the learning experience. The key to engaged, enthused and inspired educators is to shift the learning focus from a teacher-centred approach to one that is learner-centred. It has been shown that educators who adopt a content focus or transmissive model for teaching are more likely to encourage surface learning attitudes within their learners where retention is temporary and life-long learning is minimal. In contrast, a learner-centred approach will foster higher quality learning outcomes and engage learners in cognitively deeper and richer learning experiences (Newble & Cannon, 1995).

Proposals

1. Deakin adopts an approach where course and unit learning outcomes are constructively aligned and model accepted standards in sound higher education curriculum design.

2. All courses embed the seven propositions for assessment reform outlined by Prof. David Boud in his Assessment2020 (Boud, 2010b) document.

3. An extensive professional development cycle is implemented to shift teaching from a transmissive model to one that is learner-centred and active in nature.

4. All courses develop learning experiences that allow learners to acquire academic skills that support independent learning and to demonstrate achievement through authentic tasks, work integrated learning, and capstone experiences.

Proposition 2
Cloud learning will form the primary delivery channel for unit content and will provide high quality, accessible, highly visual, media-rich, interactive learning experiences rebuilt for the screen integrating a broad spectrum of learning resources.

Cloud Learning At Deakin

"The Cloud" is often, yet sometimes incorrectly, used as a metaphor for the Internet. This metaphor describes the Cloud as the fuzzy, nebulous space where data is stored and made available to users. Typically, it refers to the data that is available outside the firewall of an organisation. "Putting it in the cloud" is a recent cliché that not only indicates that data is stored and used outside the organisation's firewall, but exists within a service that determines the security and availability of the data. There is no need for users to know where data files are stored because the service will provide the access methods. Whilst the Cloud is often used as a metaphor for the Internet, it really describes a service that extends the capabilities of an organisation's IT infrastructure using the Internet. The distinguishing characteristic for most users is that the Internet allows users to retrieve data and the Cloud provides the additional capability to store data.

As suggested by Knorr and Gruman (2011), using the Cloud allows an organisation "to increase capacity or add capabilities on the fly without investing in new infrastructure, training new personnel, or licensing new software". For example, to provide a video presentation to learners an educator will need to negotiate with the University to identify a streaming server for the video, know where to store the video file, and the format that best optimises the delivery of the video to learners. Alternatively, the academic can use a typical Cloud service, such as *YouTube*, to do the same thing. In essence, the service provided to the educator is the same whether the video exists within Deakin or in the Cloud, although the University trades infrastructure, resourcing, flexibility and ease of use for some openness of content. However, the empowering nature of the Cloud is that learners can do exactly the same thing. They can store a video in the Cloud that is used by the educator or externals for assessment, feedback or presentation. The Cloud frees the institution from resourcing activities of this kind and provides access to both the creation and use of data files wherever the learners may be.

Online learning or eLearning are often used as the generic terms for electronically supported teaching and learning. Today, the primary method of electronic support is provided via the Internet although other forms such as audio and videotape, CD-ROM and DVD systems can be used. The model used to deliver online learning is predicated on the traditional distance education model. Learners are provided with a set of resources (textbooks or equivalent materials) delivered by the postal service, some direction in how to use the resources, exercises in which to practice skills, and assessment of the learning achieved. In the online learning equivalent, paper-based resources are replaced by PDF documents and the postal-service by the Internet. The assessment is more than likely unchanged although those educators who have shifted distance-based assessment techniques to online-based assessment techniques have substituted a postal submission with an online submission.

The use of the Internet as the underlying platform for online learning enables educators to provide learners with a rich set of resources including text, images, audio, video, and animation, often delivered via the World Wide Web and supported by a Learning Management System (LMS). Whilst many online learning environments are organised to only deliver knowledge to learners, some develop interactivity through discussion boards, quizzes, and game-based activities. Typically, this interaction tends to be self-managed or educator-managed.

As part of its Strategic Agenda, Deakin has used the term 'cloud learning' to signal its intention to make a quantum shift rather than an incremental change in its approach to education. First, it signals a commitment to move beyond the constraints of the traditional delivery of Web 1.0 style passive transmission of text and image information and explore and implement accessible Web 2.0

and emerging interactive cloud technologies—video, telephony, gaming environments—to enable premium learning experiences in the cloud. Typically, Deakin courses with 'cloud learning' will be reimagined suites of carefully designed and integrated short, accessible, highly visual, media-rich, interactive learning experiences rebuilt for the screen. They will integrate learning resources created at Deakin as well as open educational resources made available by the world's best universities and other premium providers. Cloud learning will also require students to be generators of content, collaborators in solving real world problems, and evidencing their achievements in professional and personal digital portfolios. To facilitate the cloud experience, Deakin's learning system must be a seamless single sign-on environment where students can engage with teaching staff, mentors and peers, as well as learning resources, create and curate evidence of their achievements, and collaborate on authentic tasks which prepare them for the professions and for citizenship.

Cloud Teaching

When an educator is delivering a lecture in a physical environment, the role of the learner is to learn by acquiring information that is scarce and hard to find. Information that is authorised is trusted and unquestioned. Engaging in and developing skills in dialogue, reflection and critical analysis is difficult in this environment. The internet has provided a pedagogy of abundance where:

- content is free or easy to find
- content is varied, in a range of formats
- sharing is easy
- connecting is easy and learning is social
- self-organising is easy
- learning is through the learners' own user-generated content.

It is vital our pedagogies harness the affordances these conditions offer. Where once the learner needed to be in class (typically a lecture) to hear and sometimes see content, now the content is available in a range of formats from a range of sources. Learners can find this content quite easily and can choose the content presentation that best suits their learning style. What learners lack is the ability to navigate, bring together and develop meaning for this content. They want to hear what practitioners say about the content and how it is used and applied. Learners seek to understand how the content leads to new research and the development of new knowledge.

We need to adopt new methods to engage students to ensure that their learning is active. The skills our learners require to participate and work in this environment include the capacity for innovation, adaptability to changing contexts, projects and roles, and collaboration across geographical distance, cultures and disciplines. The role of the educator in this environment is no longer to deliver information – this is widely available – but to design authentic and rich experiences, create the conditions for learning, foster collaborative learning groups, and monitor learner progress and achievement. The role of the educator is no longer to be the sole arbiter of the quality of students' work, but instead to teach learners to critically evaluate the quality of their own work and that of others (Nicol and Macfarlane-Dick, 2007; Boud, 2010).

Cloud learning is not a panacea for poor teaching. Good teaching is based on sound principles that embody exemplary communication. The key, therefore, to teaching within the cloud environment must be based on productive communication.

Communication: The Key to Cloud Learning

Cloud learning forms the first arm of Deakin's teaching and learning strategy where students use resources and instruction to guide their learning independently of the classroom. This is not to say that students will have no contact with teaching staff and other students. Asynchronous communication facilitates information sharing outside the constraints of time and place and can occur through discussion boards, wikis, blogs, email and other tools that support peer-to-peer interactions. However the richness of Cloud Learning will enable other asynchronous techniques such as video and audio blogging, lecturer broadcasts, and video presentations. Hrastinski (2008) suggests that over 90% of asynchronous communication relates to content delivery. Synchronous

communication requires teachers and students, or students and students to be connected in real-time. Tools such as Skype, eLive, and Chat, supported through Web 2.0 technologies allow participants to connect socially and to develop meaningful relationships. In this environment, as suggested by Hrastinski (2008), just under 60% of communication relates to content whereas 30% relates to planing tasks and 15% to social interaction. It is therefore important that a well-designed Cloud Learning environment incorporate both asynchronous and synchronous communication opportunities for learners.

Proposals

1.   Deakin renames DSO to MyDeakin and initiates a project within Divisions and Faculties that will bring together all aspects of a learner's interaction with university systems into a single portal or site.

2.   MyDeakin is continuously reviewed to identify the fit with current and emerging teaching practices.

3.   Guidelines are developed to support the integration of the Deakin and non-Deakin cloud environments for teaching and learning.

4.   A clear and responsive governance model be developed to support Deakin's Cloud Learning with adequate resources to enable current operations and the evaluation and adoption of innovation.

5.   A special fund be established to support innovation, new technologies, trialling and adoption within Deakin's cloud Learning space to enable Deakin to be at the forefront of cloud learning and teaching.

6.   Learning Futures be resourced to fulfil its role in supporting educators and the development of instructionally designed high-quality, media-rich, and interactive learning experiences.

7.   Deakin invests in a system that will allow educators to load prerecorded video presentations visible to students via the cloud. This system could be called 'DeakinTV' or 'DUTube.

8.   Deakin initially implements the cloud learning model in one course having significant student load within each Faculty.

Proposition 3
Located learning is the primary channel for student-centred, place-based learning experiences.

In addition to enhancing the cloud for learning, Deakin intends to reimagine the use of lecture theatres, classrooms and other places where students have access to located learning experiences – on campus, in a learning centre, or in industry settings such as hospitals, schools and construction sites. With premium cloud learning experiences in place, located learning provides students with the opportunity to engage with educators and peers in new ways. With premium cloud learning experiences in place, Deakin unit chairs can completely rethink how best to engage students – providing more opportunities for rich interpersonal interaction through large and small group events. This is not a new idea: there is an emerging literature and body of practice around the flipped classroom, a pedagogical model in which the on-campus student experiences are reversed: lectures are recorded so that students can watch them off-campus, and in-class time is used for more interactive exercises, projects, or discussions. In this model, educators assume roles more akin to coaches and advisors (Educause, 2012). The flipped classroom is not without risk: it requires careful preparation and a well thought out pedagogical approach and there are some early adopters at Deakin who are already using this approach. These teaching innovators will become the trailblazers for this new approach at Deakin.

Located learning will have both compulsory and optional components. Learners will, for example, be required to attend laboratory classes, field work, placements, tutorials, recitals, and any number of other interactions that provide opportunities for place-based learning. Because located learning can exist in a broad range on venues, it may provide opportunities for learners who are traditionally classified as off-campus, to experience and particpate in locations other than classrooms. It is therefore possible to broaden the experience of some learner cohorts. Optional located learning opportunities will value-add to the cloud learning experiences available to learners. These opportunities, as they currently do, allow learners to attend class and to participate in the active learning activities designed for these spaces.

Teaching in the located learning environment will require different skills. Educators will need to carefully construct the intended learning outcomes. If the located learning is compulsory then these learning outcomes will need to build on the outcomes designed for the cloud environment. If the located learning opportunities are optional, then the outcomes need to complement the outcomes designed for the cloud components. All units at Deakin will need to demonstrate a balancing and integration of cloud and located lerning.

As well as designing appropriate learning outcomes, educators will need to be skilled in delivering a flipped classroom. Designing assessment that builds and promoted learning is a key as well as building authentic learning experiences. This will require an investment by the University in developing educators who can deliver interactive learning experiences and moderate the learning being undertaken.

Proposals

1. Deakin will develop new models of teaching and assessment that demonstrate quality learning outcomes for students in reimagined located learning environments on campus, in learning centres or in industry settings such as hospitals, schools, the workplace or constructions sites.

2. Deakin will trial and support new pedagogical models, and invest in the necessary evaluation to identify capacity requirements, for the delivery of located learning experiences (e.g. the flipped classroom) led by early adopters.

3. Deakin will reward and recognise educators who adopt new approaches to deliver located learning experiences and demonstrate that engaged, enthused and inspired teaching leads to enriched learning.

4. An integrated approach and framework for the design, construction and redevelopment of both formal and informal learning spaces on campus, in learning centres, and around the University environs is developed to ensure that students value located learning experiences.

5. Located learning spaces are designed (or renovated where appropriate) using the integrated approach and framework to support flexibility and re-configuration of the physical environment so that activities such as team-based learning can be undertaken.

6. Deakin develops and supports a meaningful time-tabling and room/ space allocation to ensure flexibility of flow and delivery learning activities.

7. Ongoing processes should be developed to involve students in reimagining the located spaces and a co-creation partnership initiated with them to design, develop, evaluate and modify these spaces.

8. The university considers cloud and located infrastructure as an integrated whole.

Proposition 4
Curriculum requirements and student profiles will determine the context and mix of cloud and located learning experiences

Digital competence is critical to thinking, working and living in a digital world. Digital competence is an evolving term and assumes a broad scope, covering "media and communication, technology and computing, literacy and information science" (Ilomaki, Kantosalo and Lakkala, 2011).

Our current generation of learners, raised on new media, also need literacies "to understand the power of images and sounds, to recognize and use that power, to manipulate and transform digital media, to distribute them pervasively, and to easily adapt them to new forms" (The New Media Consortium 2005). Skills and knowledge will be developed through the curriculum and complemented by learner support in the cloud and in located learning environments.

Learner support and training will require an integrated approach that connects expert assistance in technical skills, information and media literacies, MyDeakin and learning skills for a cloud environment. This consolidated service called ZOOM: *Zoom in …for help* (working title) extends and strengthens current services offered by divisions. This initiative recognises that digital competence is a core requirement for student success at Deakin.

Proposals

1. Deakin course leaders and unit chairs use the opportunity afforded by a premium cloud experience to re-think how best to engage students through rich interpersonal - small and large group - interactions.

2. All courses will be designed to allow all students a rich cloud experience; some courses will require a located student experience; some courses will offer an option of interactive learning experiences for students at one of Deakin's locations.

3. Digital competence will be recognised as a key graduate attribute.

4. A new service, ZOOM, will provide learner support and training for the cloud learning environment and where enriched University support systems can exist and be delivered via the cloud learning platform.

5. Digital literacies will be demonstrated by academic and administrative leadership through interactions with staff and students.

6. Deakin actively and continuously evaluates the effectiveness of cloud learning, located learning and blends of the two.

7. Ensure a broad and coherent course-based approach to the cloud and located learning mix.

8. Ensure that business models are developed at university and course level to identify the resource implications and ensure the sustainability of mixed cloud and located learning designs.

Proposition 5
To build capacity across the University to deliver cloud and located learning will require consideration of developing capacity in both pedagogy, infrastructure and organisational change

To achieve the vision of enabling access to open educational resources, Deakin-produced learning activities and publishers' educational and research offerings, it is important to learn from Deakin's past experiences in transitioning into the online environment. Systems and processes will require a

change in approach, moving away from high administrative inputs to systemic capture of data to allow discovery.

Digital curation is not new to Deakin (Deakin Research Online, Equella, E-readings). There is not the capacity, however, to deliver on Deakin's and CreaTe's future promise. Systems need reviewing. Roles and accountabilities need clarification. Stronger teams that bring together expertise from different divisions and faculties need to be formed. Success will require 1) digital scholars and educators, 2) curatorial knowledge, 3) publisher liaison and contract negotiation, and 4) digital rights management infrastructure, including 5) sophisticated identity management. All components need to be seamlessly integrated.

To meet their obligations as responsible researchers, universities have been building the capacity of researchers and higher degree by research students for digital scholarship. Digital scholarship is what we also require of our future educators. Training, support programs and events to raise awareness will be required, similar to the preparation for Excellence in Australia assessments.

Deakin may wish to define scholarship in a digital world to encompass all of Boyer's dimensions: discovery, integration, application and teaching.

Proposals

1. An integration project for digital curation of learning resources be undertaken to assess current capabilities, and identify future infrastructure needs and management.
2. The teaching dimension of digital scholarship be defined, developed and supported.
3. As well as developing institutional capacity for digital curation, Deakin provides professional development resources for learners, teachers and researchers to understand their capacity to be digital curators in their study and work.
4. Course leadership is enhanced to drive and support the curriculum changes required to embed and sustain cloud and located learning across the University.
5. Deakin invests in the development of infrastructure frameworks that can take advantage of cloud computing and space utilization to build cloud and located learning environments that can respond quickly and decisively to changing technology and higher education requirements of the future.
6. Deakin develops a culture that encourages and celebrates creativity and (managed) risk taking in learning and teaching with the aim of refining programs to achieve excellence in student outcomes.
7. Systems, processes and practices to better support collaborative work are identified trialed and promoted as they emerge from curriculum renewal activities.

References

Biggs, J. (2007). *Teaching for quality learning at university: What the student does* (3rd ed.).
Buckingham: Society for Research into Higher Education and Open University Press.

Boud, D. (2010a). *Assessment 2020: Seven propositions for assessment reform in higher education*. Sydney: Australian Learning and Teaching Council.

Boud, D. (2010b). *Assessment Futures*. Viewed 10 February 2011. http://www.iml.uts.edu.au/assessment-futures/index.html

Cannon, R. (2000). Guide to support the implementation of the Learning and Teaching Plan Year 2000: ACUE, The University of Adelaide.

Chalmers, D., & Fuller, R. (1996). *Teaching for learning at university: Theory and practice*. London: Kogan Page.

Educause. (2012). 7 Things You Should Know About Flipped Classrooms.   Retrieved 5 March, 2012

Hrastinski Stefan. (2008) *Asynchronous and Synchronous E-Learning* EDUCAUSE Quarterly, vol. 31, no. 4 (October–December) 2008. Viewed 18 March 2012. http://www.educause.edu/EDUCAUSE+Quarterly/EDUCAUSEQuarterlyMagazineVolum/Asynchronous andSynchronousELea/163445

Huba, M. E., & Freed, J. E. (2000). *Learner-centred assessment on college campuses: Shifting the focus from teaching to learning*. Boston: Allyn and Bacon.

Holmes, L. (1999). Competence and capability: from 'confidence trick' to the construction of the graduate identity. In D. O'Reilly, L. Cunningham & S. Lester (Eds.), *Developing the capable practitioner* (pp. 83-98). London: Kogan Page.

Ilomaki,L., Kantosalo,A., Lakkala, M. (2011). What is digital competence? EUN Partnership AISBL. Viewed 18 March 2012. http://linked.eun.org/c/document_library/get_file?p_l_id=16319&folderId=22089&name=DLFE-711.pdf

Knorr, E. & Gruman, G. (2011). *What cloud computing really means*. Infoworld. Viewed 18 March 2012. http://www.infoworld.com/d/cloud-computing/what-cloud-computing-really-means-031

Magolda, M. B. B. (2009). Educating for self-authorship: learning partnerships to achieve complex outcomes. In C. Kreber (Ed.), *The University and its Disciplines: Teaching and Learning Within and Beyond Disciplinary Boundaries* (pp. 143-156). London: Routledge.

Melville, D., Allan, C., Crampton, J., Fothergill, J., Godfrey, A., Harloe, M., et al. (2009). *Higher Education in a Web 2.0 World*. UK: JISC.

Mentkowski, M. (2000). *Learning that lasts: Integrating learning, development, and performance in college and beyond*. San Francisco: Jossey-Bass.

National Institute for Learning Outcomes Assessment. (2010). Providing Evidence of Student Learning: A Transparency Framework.   Retrieved 25 March, 2011, from http://www.learningoutcomeassessment.org/TransparencyFramework.htm

Newble, D. & Canon, R. (1995) *A handbook for teachers in universities & colleges: A guide to improving teaching methods*. Kogan Page (London).

New Media Consortium (2005). *A Global Imperative: The Report of the 21st Century Literacy Summit*. Viewed 18 March 2012, http://www.nmc.org/pdf/Global_Imperative.pdf

Nicol, D. J., & Macfarlane-Dick, D. (2006). *Formative assessment and self-regulated learning: A model and seven principles of good feedback practice*. Studies in Higher Education, *31*(2), 199-218.

Penn, J. D. (Ed.). (2011). *Assessing Complex General Education Student Learning Outcomes* (Vol. 149). San Fransisco: Jossey-Bass.

Race, P., & Pickford, R. (2007). *Making Teaching Work*. London: Sage.

Ramsden, P. (2003). *Learning to teach in higher education* (2nd ed.). London: Routledge.

Yorke, M. (2006). *Employability in higher education: what it is - what it is not.* Learning and Employability Series: Higher Education Academy.

Yorke, M. (2008). *Grading Student Achievement in Higher Education: Signals and Shortcomings*. Abingdon: Routledge.

Yorke, M. (2010). Assessing the Complexity of Professional Achievement *Assessing the complexity of professional achievement : Learning to be Professional through a Higher Education e-book*.

APPENDIX A

CD03: Engaged and e-Rich Learning Work Stream Requirements

RATIONALE:
To maximise student engagement, Deakin must move beyond an 'information delivery and resource provision' teaching model to adopt teaching practices that optimise student achievement and progress. This work stream will ensure Deakin harvests the potential of the new DSO environment to support staff and student engagement and high quality learning.

OBJECTIVES:

Active learning

1. Map the ways in which active and authentic learning assists students to attain the Deakin graduate attributes over their course of study.

Pedagogical strategy

1. Identify pedagogical approaches for increasing engagement and providing assurance of learning.

2. Assess the effectiveness and role of the following pedagogical approaches and recommend when and where they should be used: problem based learning (PBL), community-based learning (CBL), team-based learning (TBL), student-led learning, authentic assessment, reflective practice, cooperative social learning and self and peer assessment.

3. Determine value of replacing current lecture model with 'lecture' videos and small group learning.

4. Evaluate the pedagogical benefits of teaching students in peer groups.

5. Determine the potential for mobile and personalised learning tools, social media, online synchronous learning, eCities and other educational technologies to enhance student engagement and learning.

6. Review and define the mechanisms for tracking individual and/or cohort student progress analytics.

7. Explore the role of e-portfolios, digital storytelling and multimedia in providing assurance of learning and supporting students' professional practice development (Teach 21 areas of inquiry).

Assessment

1. Determine the benefits of using e-Portfolio within course and unit design, identify opportunities to realise these benefits.

2. Identify opportunities for designing and using assessment for learning.

3. Increase awareness and use of a range of assessment techniques that enhance learning and engagement.

The new DSO conversion and advanced functionality

1. Systematic uptake of advanced D2L e-learning functionality to support defined learning outcomes, graduate attributes and other guiding principles.

2. Develop strategy for moving Deakin staff from awareness of D2L to engagement, competency and advocacy.

3. Find, develop and promote exemplar units of study and award courses within each School, highlighting the use of different D2L features.

Technology support

1. Define necessary technology support programs for students and academic staff.

STRATEGIC QUESTIONS:

- How do we engage students actively in the learning, assessment and feedback cycle?
- How can we add value to students' learning by going beyond the traditional model of information delivery and resource provision?
- What new teaching and learning methods should be considered for dissemination more widely?
- What is the current use of PBL, TBL, CBL and reflective practice at Deakin, and what are the opportunities for and benefits of expanding these?
- How can assessment be designed to enhance authentic learning?
- How do we provide choice and personalise students' learning?
- How should Deakin harness the potential of the new DSO environment, mobile technology, eCities, simulations, social media and other technologies?
- How can student progress analytics be used to improve learning quality, and retention and success?

DELIVERABLES:

1. Defined range of pedagogical strategies to support systematic uptake of active learning within Deakin.

2. Proposed approach for embedding effective pedagogical and assessment strategies, across Deakin courses and units.

3. Recommended strategies for:
   - the use or replacement of traditional lectures
   - selection and application of pedagogical techniques, technologies and tools.

4. Proposed process for using course and unit progress analytics including:
   - definition of starting point
   - capture mechanisms
   - reflection to students, teachers and others
   - generating required action.

5. Proposed transition plan from Blackboard courseware platform to D2L.

6. Proposed exemplars – units and courses, by School.

7. Defined deployment program to enhance technical expertise of academic staff.

8. Defined technology support programs, beyond D2L deployment.

9. Provision of suitable IT support for new e-rich environment.

APPENDIX B

One Possible Future

It is 2014 and Emily is beginning her second trimester of second year as a pharmacology undergraduate student at Deakin University. Emily enjoyed her first year of study on the Burwood campus and was fortunate to live at home. Her program required about 20 hours of class time each week, which she found stimulating and challenging. What was annoying, however, was that she was required on campus every day of the week. Added to this, her schedule had days where her only classes were timetabled at the beginning and end of the day with large gaps in the middle.

Being a determined student, Emily spent some of this "unallocated time" in the library working with friends or completing the required reading. This was boring, particularly when the timeframes meant that she had to decline shifts at her part-time job because her class times clashed. If only she could have the classes back-to-back. The free time also became boring because in many cases, there was not enough work to fill the free time. Her lecturers covered the material very well, but there were only a few practice questions and activities provided. Emily often completed these at home where there is little help if she needs it, and no one with whom she can discuss ideas. Emily often felt that there was not much to do at Uni. She is prepared to work on her own, but she had difficulty in determining what she could be doing. She was a regular user of DSO but this resource only had copies of lecture slides and iLectures for classes that had already run. She couldn't jump ahead to new work because the lectures were not available until the class had been delivered. Some of Emily's friends spent time working on assignments, but these were few and far between in her course. She had completed a couple of reports in first trimester but most of her assessment was test-based. Therefore, her study time revolved around reading and summarising the textbook and lecture slides, and preparing as many summary notes as possible to remember the facts required for the tests.

Emily's world changed at the end of 2013. Her parents informed her that they were selling up and having a "seachange". They agreed to provide a small supplement to help her move into her own accommodation, but she would need to change her employment hours to meet the living expenses required. She would need to work at least 25 hours, and probably 30 hours per week to meet her expenses. She did not want to give up on her course which was a key goal in her future., but she realised that her Year 1 lifestyle would not work in 2014. She could not afford to have hours of free time at Uni when these could be used for work. Her parents were understanding and offered advice and support in thinking through options. Emily's course advisor also provided some study options as well. She decided to opt for a more flexible approach to her study by enrolling in 3 units in T1, 3 units in T2 and 2 units in T3. This would give her more time for paid employment but still provide a full-time study load and allow her to graduate "on time". She did not like her father's option of working like crazy over summer and saving for T1 and T2 because this provided no opportunity to catch up with friends, many of whom don't go to Deakin and some don't go to Uni at all.

During 2013, the Pharmacology course had undergone curriculum redevelopment as part of the Deakin CReaTe initiative. Emily was surprised to find that lectures had disappeared and her timetable was quite sparse. The unit outlines described quite a different environment to the one she had experienced in 2013. She still had lab classes to attend and these seemed to be blocked together, thankfully. She might be able to get away with coming to Uni only twice per week, and then only for short periods of time. The unit outlines described some new learning strategies. There were no lectures. Instead, she was provided with a number of short, recorded video-casts much like you see on TV documentaries. The assessment had changed as well. She saw that more units were asking students to engage in assignments and projects rather than tests, and she needed to build a portfolio to demonstrate her achievements. Things were looking up.

For Emily, T1 2014 was challenging but very motivating. Whereas previously the pace that the unit chair set controlled her learning, now she was in control of her learning. When she accessed DSO, which was now labelled as MyDeakin, she could see her course site that not only mapped out her

core units but also provided information about her progress. She could view, for instance, her progress towards the course learning outcomes that were presented in a much better framework that what she had seen at the beginning of Year 1. There were also links to the Academic Skills Unit that provided helpful guides to managing her own learning.

When Emily accessed each of her units in her MyDeakin site she found that the whole trimester was mapped out. The unit was divided into topics that provided a structure for her learning. The learning outcomes for the unit were clearly explained and she could identify what needed to be done from both a learning and assessment perspective. For example, in Pharmacology 2 there were five major topics, one for each of the learning outcomes. Each topic explained what needed to be completed. The unit chair provided three 10-minute video mini-lectures that could be viewed or download. These were not like the scratchy iLectures that she accessed in Year 1, but quality – albeit self-made – videos. In the videos, Emily could see the lecturer when needed but the view changed to slides, images or "live" lab shots as required. The unit chair had also included links to videos available from YouTube, the Library collection, and research sites as supplementary material. What interested Emily the most, however, were the extension materials. The learning outcomes described what a Pass student and a Distinction student must demonstrate and the extension materials targeted students who were aiming at more than a pass. There were also opportunities to add her own learning outcomes and demonstrate success in achieving these through her portfolio.

The challenging aspects of this new approach were that Emily needed to manage her own learning. The unit content now appeared in broadcasts available from the unit site. She found that classes were oriented around the application of her learning and monitoring her progress. Emily found that she was now using her study time to prepare for class rather than to summarize what her lecturer spoke about in class. On reflection, however, it was not a sudden change. There were small activities at the beginning of the trimester that prepared her to learn in this way. In one unit she was required to join an online tutorial, which she could do from home.

The assessment for each of the units had changed as well. The series of tests that were used previously, now were identified as self-assessment. You could complete the test when you were ready and could immediately find out whether you were progressing or not. The test feedback often provided links back to the video material that contained the answers so this helped Emily identify her weaknesses. What was most challenging was that the assessment required Emily to apply her learning. Projects and assignments were now used. The tasks were not large but required considerable planning and effort. These assessments were submitted online and Emily received feedback which shown where her application was flawed. In one of her units in T1, 2014 this feedback appeared as audio comments. In another unit the feedback arrived as a Rubric, which clearly showed where she had excelled and where things were not so good and what she needed to do to move to the next level.

At the beginning of Year 2, Emily purchased an iPad3 that she could use with her studies. The new iPad4 was due for release next month but the "older" version seemed to provide her with everything that she needed. In T1 she found the mobile device to be quite useful. She did not invest in Mobile WiFi for the iPad but she did have it available on her phone. She has WiFi access when she is on campus and she has access in her share house. She mainly uses the WiFi to "load up" learning resources onto her iPad. This enables Emily to use the resources when she has a break at work or when she is travelling. For example, she sometimes borrows an eBook from the Library that she can use from her iPad when she is on the tram. She also uses the iPad to download her lecture materials from the DeakinTV site. These materials have been organised into 10-minute packages that are targeted at specific learning outcomes for the unit. One really useful strategy that Emily has used is to search for other material on the DeakinTV site. She found a mini-lecture from a Nutrition lecturer that really helped to explain a difficult concept she was trying to master. She also found a presentation on thermodynamics in Engineering that she used in her last assignment.

New Learning Possibilities

The key concepts that can be drawn from this case study relate to new practices that learners and educators might adopt to support learning. The focus is on providing a rich set of opportunities that can be adapted and used productively. These include:

- Access to content through a variety of forms, from a variety of locations that focus on using, rather than receiving, content.

- Flexible timetabling that maximize the use of student time on-campus but allow learning to continue when attendance is an issue.

- More social and group learning opportunities that allows learning to be applied.

- Knowledge acquisition to be assessed by the learner so that progress can be self-evaluated (within guidelines) but educators focus on evaluating the application of this knowledge.

- An interconnected or searchable catalogue of e-Rich content that can be used by all students whether they participate in a unit or not.

- Course (program) structures that are well mapped to learning outcomes and provide a visual and visible measure of attainment and progress.

- Flexible delivery systems that allow learners and educators to connect to resources and applications through a broad set of devices.

Malcolm Campbell

CReaTe CD03 Workstream: Engaged and e-Rich Learning

30 January, 2012

APPENDIX C

Another Possible Future

It is 2014 and Mark is beginning his first trimester of second year as a Commerce undergraduate student at Deakin University. In his first year, Mark did not have a very clear idea of what he wanted to do in the future, however, after doing a number of the course core units, he now knows that Accounting and Finance are too narrow for him, Economics is too technical, Information Systems is too geeky and Law requires far too much work. He can see himself in a job closely working with people, moving around the world and having the most exciting time. Perhaps this will be a job in Marketing or Management. The problem is, however, to survive the next two years at Deakin, falling asleep in huge lecture theatres, twitting jokes to his mates in the tutes, doing lots of extremely boring online reading, and be repeatedly tested with mind numbing quizzes – this is not what he imagined Management and Marketing study should be!

After his fun-packed adventure holiday in Laos and Vietnam, Mark turned up at his Burwood campus and with a group of friends walked around to the cafeteria. There was something strange about the buildings he walked past, there was something different about students walking in and out, there was even something new about the cafeteria, he could not figure it out – the coffee was still the same! They took out their timetables, all became terribly confused perusing their schedules, compared their notes and understood very little from the new Deakin timetables. The first thing that struck Mark and his friends was that lectures seemed to have miraculously vanished; the second was that many classes had rooms with bizarre locations, such as Quant Hall and Business Mall; and the third was that some activities were listed as appearing very late at night. Luckily, the room numbers for the first few classes of the week were clearly written – perhaps their lecturers would be able to untangle the mess.

The first week of classes was incredibly testing – everything was completely changed. The lectures have indeed disappeared – no more cat napping in a lecture theatre after a weekend of partying and fun. The classes were offered in two modes, i.e. structured and unstructured.

The structured activities were all done in classrooms of up to 20 students. They featured workshop style teaching, with traditional mini-lectures and student presentations, both interwoven with discussions, project work and self-directed study. The classes, such as Accounting and Taxation Law, depended on all students using their laptops and tablets to access notes and documents, to research the selected topics on the web, share ideas with colleagues, and record group decisions while taking part in team activities. Interestingly, these classes were also virtually attended by off-campus students, who'd listen to all the presentations streamed to their home in real time and who'd participate in live class discussions and virtual interactions with their team members.

The nature of unstructured activities was also revealed in the first week of classes. These activities were taking place in what used to be lecture theatres and now converted into spacious halls of workstations and desk clusters designed for project work. These collaborative spaces were the new Deakin workhorses of hands-on learning. Here students across the Faculty of Business and Law were undertaking their project work, which now seemed to be Deakin's new obsession. Desks were pre-allocated by Deakin admin and scheduled in the same way as labs and tutes used to be scheduled in the past – the main difference was that these desk-located classes were scheduled for the entire three hours and all of this was to be self-directed work. A mix of students in the Business Mall was also strange. At some clusters students were working on their Management projects, at others on projects in Information Systems, whereas Mark and a few of his colleagues were here to start working on their group Interactive Marketing assignment. The clock ticked and a hall supervisor appeared in the midst of the workstations, she explained that the students had to connect their headphones to the sockets provided at each seat and that virtual tutors would guide their project work. The e-tutors were displayed on a screen mounted one per each cluster and in step-by-step fashion they explained how to synchronise individual students' laptops and tablets with the multi-party e-simulation driving the teams' work. As in the already familiar structured classes, the students

sitting around the desk and virtually present off-campus students were both active participants of each team. While the e-simulation seemed no more no less like an entertaining multiplayer computer game, it still required a bit of a team effort, arguing and debating, brainstorming, decision making, vote casting, flipping of textbook pages and pencil scribbling. The three hours disappeared very quickly, Mark and his friends were getting louder and the cups of coffee from the vending machine were filling in the bin near their cluster. The real-life tutors would often silently appear like ghosts next to them in the moments of louder conversation, to help with the technology, drop a hint here and there, or explain how to get more online help from the ever-present e-tutor. At the end of the session, Mark's group were all congratulated by the e-tutor and told that they have just passed the first module of Interactive Marketing. Mark reflected that working in the Business Mall was quite bizarre to say the least. The class did not resemble anything to do with learning or studying, and nobody assessed anybody in the three-hour period. Soon Mark found out that Quant Hall provided similar facilities. However, it was all Stats and in his case, while he was seated in one the clusters amongst dozens of other business students, the work was relying on his purely individual effort.

The mystery of night-time classes has soon evaporated as well. These 'night' classes were simply self-directed studies and online placement projects. Some took place early in the morning, some at night and other in-between classes. In one of these 'night' projects in Finance, he was group – developing a viable financial model for a small village of pottery makers in Peru. In a small international team of students across the globe, Mark engaged in really late night online interviews of Peruvian villagers, he argued with the Spanish student-interpreter from Columbia, then video collaborated with the accounting wiz kid from Geelong, all on his own developed the bestever financial strategy for the village, and then for days puzzled over the legal ramifications of his strategy mistakes with the most attractive Russian girl he has ever met online.

At the end of trimester, Mark did not even notice he had been studying at all. He had to sit only one exam out of his four trimester units. The Interactive Marketing e-tutor told his group that their work was in the top 20% of all business class and they would not have to sit the exam. The Finance unit had no exam as all assessment was done online. Accounting offered a choice of a traditional end of the trimester exam, or a series of short online tests done at the end of each of his unstructured Accounting classes, which he passed with flying colours. The Taxation Law had an exam but the series of cases showcased in classes, debated, analysed and presented by each student in class covered the entire exam. To his surprise, Mark somehow felt that Law could also become his life-long hobby.

One day after his Taxation Law exam, Mark was approached by the year coordinator who gave him a shock of a lifetime. The coordinator explained that based on the university computer logs, he was found to be one of the most effective technology users. As a top Information Systems student, Mark was to be recommended for the IBM scholarship in the exclusive Enterprise Systems major in Information Systems. Mark's head was spinning as he did not think he was enrolled in any IS classes that past trimester, he also thought that IS was really for the geeks, but then again, perhaps it wasn't after all.

Having finished his third trimester at Deakin, now with loads of free time on his hands, Mark started planning a long holiday in Russia. Perhaps Russian language could be a great elective for his next year study in Information Systems. Perhaps his future career would include bringing enterprise system to the frozen lands of Russian opportunities. Perhaps...

New Learning Possibilities

The key concepts that can be drawn from this case study relate to new practices that learners and educators might adopt to support learning. The focus is on providing a rich set of opportunities that can be adapted and used productively. These include:

- Access to content through a variety of forms, from a variety of locations that focus on using, rather than receiving, content.

- Student time on-campus is well designed to create opportunities for collaborative activities.

- Collaborative learning is set in a global context of different geopolitical locations, languages and cultures.
- Off-campus learners are integrated into day-to-day activities of on-campus students.
- More social and group learning opportunities that allows learning to be applied.
- Knowledge is to be acquired and assessed in the collateral learning settings (i.e. as a side effect of well designed activities).
- Flexible delivery systems that allow learners and educators to connect to resources and applications through a broad set of devices.

APPENDIX E

Assessment 2020: Seven propositions for assessment reform in higher education

Assessment has most effect when

1. Assessment is used to engage students in learning that is productive.

i. Assessment is designed to focus students on learning. To improve student engagement in learning, and to support better quality learning outcomes, it is necessary that assessment tasks are designed to direct student attention to what needs to be learned and to the activities that best lead to this. Effective learning can be hampered by assessment tasks that focus student attention on grades and marks or reproductive thinking.

ii. Assessment is recognised as a learning activity that requires engagement on appropriate tasks. Assessment tasks should be significant learning activities in themselves, and not only enable judgements to be made about what has been learned. The potency of student engagement in learning is enhanced when assessment tasks require substantial involvement over time, and when they are designed in an interlinked, constructive, organised and coherent sequence.

2. Feedback is used to actively improve student learning.

i. Feedback is informative and supportive and facilitates a positive attitude to future learning. Students benefit from clear and helpful feedback on their learning. Everyday learning activities as well as special tasks and tests provide opportunities for the provision of feedback. This places responsibility on staff to plan assessment in order to (a) develop their own skills in providing quality feedback, and (b) develop in students the skills they need to provide sound feedback to each other.

ii. Students seek and use timely feedback to improve the quality of their learning and work. Students' own skills of judgement are developed by their utilisation of feedback, guidance provided by those already inducted into the culture and standards of the discipline, and opportunities to grow their own skills of critical appraisal. They need to be able to seek and employ feedback from a variety of sources to develop a full range of outcomes from their studies.

iii. Students regularly receive specific information, not just marks and grades, about how to improve the quality of their work. Marks and grades provide little information to students about specific qualities of their work and do not indicate how it might be improved. While marks and grades may provide a crude tracking measure of how well students are doing, they do not help students move beyond their present standard of performance. Specific and detailed information is needed to show students what has been done well, what has not, and how their work could be better.

3. Students and teachers become responsible partners in learning and assessment.

i. Students progressively take responsibility for assessment and feedback processes. The overall aims of higher education include developing students' critical thinking abilities, which include self-critique, independent judgement, and other skills for continuing learning. Personal responsibility for assessing performance and providing and responding to feedback is a desired graduate outcome. It

is necessary and appropriate for university programs to foster this development throughout the curriculum.

ii. Students develop and demonstrate the ability to judge the quality of their own work and the work of others against agreed standards. Students need confidence and competence in making informed judgements about what they produce. They need to develop the ability to evaluate the quality, completeness and/or accuracy of work with respect to appropriate standards, and have the confidence to express their judgements with conviction. This requires deliberately managed assessment processes and practice that relates to judgements required in professional practice and mature community engagement.

iii. Dialogue and interaction about assessment processes and standards are commonplace between and among staff and students. Assessment activities and standards require disciplinary and contextual interpretation if they are to be understood, yet discussion of processes and reference points for determining standards is relatively rare. Assessment judgements are more consistent when those making them are able to reach consensus as to ways of establishing levels of performance. Student understanding of processes they can use to judge their own performance are similarly enhanced when they participate in dialogue about them with peers and teachers.

4. Students are inducted into the assessment practices and cultures of higher education.

i. Assessment practices are carefully structured in early stages of courses to ensure students make a successful transition to university study in their chosen field. For students to become independent and self-managing learners, they need to be supported in the development and acquisition of the skills they need for learning, including those of assessment. Critical to this attainment is early engagement in manageable assessed tasks to build confidence, and the expectation that learning requires not only an investment of effort but also the taking of initiative. This contributes to alleviating anxiety around assessment information, instructions, guidance, and performance. Early assessment provides information to both students and teachers on progress and achievement, and allows for identification of students in need of additional support.

ii. Assessment practices respond to the diverse expectations and experiences of entering students. Students come to higher education with great diversity in preparedness and understanding of what it involves. To ensure that all can engage equitably with assessment tasks, the implicit rules and expectations around what is required for success in any discipline need to be made accessible to students and opportunities provided for them to develop the academic skills they require to perform those tasks.

Assessment for learning is placed at the centre of subject and program design.

i. Assessment design is recognised as an integral part of curriculum planning from the earliest stages of course development. Assessment is not an 'add-on' to the curriculum structure of a program. It needs to be considered from the outset of course design and intimately embedded and linked to considerations of student learning as part of the curriculum. Assessment tasks, types and means of deployment need to be fully aligned with all other aspects of the curriculum.

ii. Assessment is organized holistically across subjects and programs with complementary integrated

tasks. The development of a full range of graduate attributes requires a systematic approach to assessment that builds and enhances those attributes through tasks that are diverse, complementary to each other and embedded strategically throughout a program of study. Integrated whole-of-program curriculum design needs to incorporate assessment and feedback as well as learning outcomes and teaching and learning activities. If carried out in this way, an emphasis on feedback for learning can be the focus of teaching and learning engagement in the early curriculum, leading to capstone and integrated assessment in later years.

Assessment for learning is a focus for staff and institutional development.

i. Professional and scholarly approaches to assessment by academic staff are developed, deployed, recognised and rewarded by institutions. Academics need particular support in developing expertise required for subject and program assessment responsibilities. Such support could include mentoring, dialogue with peers in informal and formal moderation activities or formal courses. However, while enhanced assessment skills are essential, their acquisition is not sufficient to ensure good assessment practice. Institutions should have explicit requirements that professional and scholarly proficiency in assessment is necessary for satisfactory teaching performance. Further, leadership and exemplary performance in assessment matters should be recognised for promotion, awards and grants.

ii. Assessment practices and the curriculum should be reviewed in the light of graduate and employer perceptions of the preparedness of graduates. The impact of courses on student learning, and the role of assessment in them, can only be fully evaluated following graduation. Common post-graduation measures (eg the Course Experience Questionnaire, the Graduate Destinations Survey) presently provide insufficiently detailed information for the improvement of programs. In particular, they do not enable assessment and feedback processes to be sufficiently monitored. Systematic study of the impact of such experiences on graduates (at, say, one and five years from graduation) and employers' perceptions of such preparation and standards are needed to ensure that courses are effective in the longer term.

iii. Assessment of student achievements is judged against consistent national and international standards that are subject to continuing dialogue, review and justification within disciplinary and professional communities. The quality of awards in higher education will be increasingly scrutinised nationally and internationally. Assessment practice needs to provide convincing evidence of students' accomplishments that can be judged against external reference points. Disciplinary and professional communities (both within and beyond the academy) are the focus for ongoing collaboration and dialogue to determine, review and moderate academic achievement standards. Such collaboration and dialogue requires clarity of expectations and persuasive evidence of learning outcomes.

7. Assessment provides inclusive and trustworthy representation of student achievement.

i. Interim assessment results used for feedback on learning and progress do not play a significant role in determining students' final grades. For purposes of certification, care must be taken to avoid the formal use of early grades that do not represent the outcomes reached by course or program completion. Entry-level knowledge, learning rates and final achievement levels differ. Although

learning itself is cumulative, progressively adding marks throughout the learning period towards the final grade can distort representation of end-of-study achievement. What *is* important is using interim outcomes to improve learning.

ii. Evidence of overall achievement to determine final grades is based on assessment of integrated learning. Many separate low-value pieces of assessment can fragment learning without providing evidence of how students' knowledge and skills from a unit of study are interrelated. This is often compounded across subjects, leading students to experience knowledge as disconnected elements. Strong evidence of achievement of the totality of outcomes can be provided by larger-scale tasks that require students to demonstrate coherent integrated learning, not isolated or atomistic performance.

iii. Certification accurately and richly portrays graduates' and students' achievements to inform future careers and learning. An academic transcript that lists subject titles and grades provides limited information to students, employers or educational institutions. Increased scope and sophistication of the reporting of achievement is needed to communicate outcomes well. Two areas for improvement are: *veracity,* in grades that are fully and robustly aligned with learning outcomes and standards; and, *richness,* in the documentation of student accomplishments to convey information about what students can and cannot do.

Assessment 2020: Seven propositions for assessment reform in higher education. Sydney: Australian Learning and Teaching Council (**www.assessmentfutures.com**)*This work is published under the terms of the Creative Commons Attribution- Noncommercial-ShareAlike 2.5 Australia Licence.*