9. TEACHING ONLINE

There has been a significant increase in the development and provision of Curtin units offered in a fully online mode through Curtin Online and/or Open Universities Australia. As a consequence, most Curtin staff are now teaching online, or in a blended mode.

Blended learning is a term used to describe the combined use of face-to-face and online learning environments (Bonk & Graham, 2006). The approach has arisen in the context of parallel advances in web based technologies and understandings of how people learn.

Blended learning may incorporate, but is not limited to, any one or a combination of the following key elements:

- access to resources via learning technologies e.g. Blackboard learning management system, e-Reserve, iLectures, podcasts, RSS feeds;
- provision of online learning experiences, interactions and assessments, e.g. blogs and wikis, Blackboard Collaborate virtual classrooms, web 2.0 social networking technologies and online formative and summative quizzes; and
- posting and sharing of student-generated content and scaffolding for reflective practice e.g. iPortfolio, Live@edu.

Curtin supports the application of various technologies to enhance the learning experiences of students. In a blended learning environment, students can learn through a wide variety of experiences that include face-to-face activities as well as interactive videos and animations, simulations, and peer support networks. Students can work in groups, collaborate, and share their work with an online audience.

A meta-analysis conducted in the US compared effectiveness, in terms of learning, between online and face-to-face teaching (US Department of Education, 2009). Its conclusions, based mainly on higher education studies, found that in general, students in online courses outperformed students in comparative face-to-face classes. Interestingly, the greatest gains were found for students taught in blended learning environments. The authors were at pains to point out that the differences were not a result of the technologies per se but of the affordances that the technologies provided.

The Curtin Teaching and Learning website www ctl.curtin.edu.au includes valuable resources to guide you in the development of ePedagogy and online learning activities. Included on the website are:

- Learning approaches that are student-centred and harness the social and interactive elements of the online educational environment;
- Guides and videos on designing, building and facilitating your unit;
- Catalogue of learning technologies detailing educational applications and technical guides; and
- Case studies on integrating elearning options in units.

Staff who are involved in teaching online, or in a blended mode, are encouraged to enrol in the Foundations of Learning and Teaching Module 7 – Orientation to eLearning. In this module you will articulate your understanding of e-learning technologies and identify learning tasks that can be conducted in an online environment.
**Student Engagement in Blended Learning Environments**

A set of university-endorsed guidelines for were approved by Academic Board in 2011. These provide guidance to staff as they develop their online teaching and learning environments as well as assist in facilitation of self and peer review processes. In addition, they can provide benchmarks for engaging learning and teaching practices in online environments.

The rubric summarises the five elements that characterise effective teaching and learning environments. Each element is divided into three contexts in which educational technologies are used to facilitate ‘active’ learning. The appropriate context for each element will be based on the learning needs of the students in that unit.

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<thead>
<tr>
<th>Context: Online Environments</th>
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<th>Context 2</th>
<th>Context 3</th>
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<tr>
<td>Students refer to the Blackboard unit to gain unit information and download lecture and tutorial materials. Online learning space provides the student with access to learning resources, assessment guidelines, and basic communication tools.</td>
<td>Students refer to the Blackboard unit for personal learning needs and as scheduled for collaborative learning activities. Online learning space provides the student with collaborative learning tasks, formative assessments, various communication tools and complex learning activities.</td>
<td>Students engage with the teaching staff and student community via appropriate collaboration tools and in a variety of authentic online learning activities. Online learning space allows the student to be an ‘active’ learner who creates and interacts with the resources of the unit.</td>
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<td>Learning outcomes explained, Content easily navigable, Content in manageable segments e.g. modules, Tools and media are appropriately chosen to deliver learning resources, Timely and relevant learning materials e.g. lecture notes, tutorial worksheets, Supplementary resources in e-Reserve or hyperlinked, All resources are current, contextualised and copyright compliant</td>
<td>Provides lecture recordings such as iLecture, desktop capture, podcasts, Course design takes full advantage of online tools and media, Links to discipline-specific professional associations, Learning materials include resources that require student interaction such as case studies, case examples and simulations, Provides informal learning opportunities</td>
<td>Media rich resources e.g. videos, animations, simulations or Virtual labs, Student-generated materials augment/enhance learning materials, Students are not limited to the tools and resources used to develop and present understandings, Students are actively encourage to share understandings and resources</td>
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<td>Clearly stated expectations of student participation, Activities align with unit outcomes and assessment, Instructions and feedback on satisfactory completion of learning activities</td>
<td>Activities that facilitate student engagement e.g. blogs, wikis, journals, Learning activities are authentic, Online activities to support independent learning e.g. formative assessment via quiz tool or group collaboration area, Scaffolded activities culminating in a final product e.g. website, performance, demonstration</td>
<td>Student centred learning tasks that extend student engagement and collaboration e.g. creation of digital interviews, peer-review, digital mash-ups, Learning tasks have depth, complexity and duration, Problem-based learning e.g. simulations, Opportunity for self-directed learning</td>
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### Context 1
- **Communication and collaboration**
  - Broadcast messages and alerts to students e.g. announcements tool
  - Peer to peer networking opportunities e.g. discussion boards, email
  - Reference to industry communities and networks

### Context 2
- **Student support**
  - Staff contact information and contact guidelines
  - Student support services are included e.g. library tutorials, referencing styles
  - Faculty-specific help
  - Unit complies with Curtin accessibility policies and standards

### Context 3
- **Assessment**
  - iPortfolio integration
  - FAQs
  - Staff and peer to peer support e.g. through social media or discussion boards

### Context 1
- **Communication and collaboration**
  - Moderated discussions e.g. staff moderation of discussion boards
  - Social media such as journals, blogs and wikis
  - Virtual classroom – lecturer presentations and facilitated collaboration
  - Teaching staff role model conduct

### Context 2
- **Communication and collaboration**
  - Social media such as Twitter, Diigo, Flickr, You Tube, Slideshare
  - Virtual classroom – student presentations, student collaboration
  - Innovative opportunities for student engagement e.g. student conferences
  - Peer-review is part of the learning process

### Context 3
- **Student support**
  - Actively promoted linkages with industry professionals through an online community of practice
  - Vertical integration within a course
  - Peer support and mentoring

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### Engaging students using technology

Quality learning allows students to work on programs of study that are grounded in real problems. Adopting a blended learning approach doesn't mean changing your approach to teaching and learning. Your current practices such as modelling, group work and student presentations can, and should, be part of this approach.

As teaching staff at Curtin you are encouraged to give your students greater access to information, to each other and to new learning spaces. Blackboard is Curtin’s university-wide learning management system. The system can assist you in a number of ways.

- **Provide a learning space**: supplement face-to-face teaching or expand student learning opportunities.
- **Manage your class**: organise class lists, track students’ access to materials and assignment submissions, and allow students to track their own progress.
• **Provide information:** publish handouts, notes, iLectures, multimedia and course information. Note that simply placing ‘notes’ online does not make those materials interactive, it simply delivers them to the students in a different format.

• **Engage learners:** stimulate learner participation through interactivity (in simulations, forums, chat, quizzes and wikis, for example) using online technologies; extend communication opportunities for students and teachers.

The iLecture system is available in many of Curtin’s lecture theatres and classrooms enabling lectures to be recorded automatically. Audio and video of the lecture can be recorded together with other media used in the presentation such as PowerPoint slides. Lecture capture is designed to support the student learning experience by providing a flexible and convenient means of reviewing and reinforcing course content and engaging in online discussion tied to that content. Students can view the lecture content and materials at their own pace, pausing and rewinding as necessary. Recorded lectures particularly assist students who have to overcome language barriers, students who have timetable clashes and students with disabilities. Students can access iLecture recordings from links within their Blackboard units and can also download audio and video content to personal MP3/media player devices such as iPods, smartphones and tablets. Whilst the iLecture system cannot replicate the full interactivity of a live lecture it provides students with the opportunity to listen or watch recordings at times convenient to their learning needs.

Students and staff can also engage in online discussions integrated directly into iLecture recordings to turn these recordings into interactive, flexible learning opportunities. An upcoming feature is the ability for any automated iLecture recording venue to webcast lectures, seminars and presentations live onto the web allowing remote users to log in and watch the event live in real-time. Using the integrated Discussion Tool students and staff can engage in a back-channel asking and answering questions and discussing the lecture as it takes place.

A growing number of specialist iLecture recording venues are also available across campus that allow students as well as staff to record multi-camera labs, practicals, interviews, demonstrations and other types of recordings for self-critique, group review, assessment, student portfolios, oral and prac exams and other use cases. See www.ilectures.curtin.edu.au/

**Narrated and streaming PowerPoint** presentations enable lecturers to create presentations at their computers. These presentations can be used to provide an introduction to a unit; an outline of assessment requirements; or a detailed explanation of complex issues.

**Echo 360 Personal Capture** feeds directly into iLecture and instructions for its use can be found on the iLectures website (www.ilectures.curtin.edu.au). There are also a range of equivalent technologies such as Screenr (www.screenr.com) which can be used by teachers and students to create digital narratives.

**Blogs** are quick and frequent postings of short items, articles or comments on a simple website or blog (‘web log’). Blogs use chronological storage of posted items, lists of ‘favourite links’, archiving and categorising posts, and the capacity for others to respond with comments. Most blogs are primarily textual but they can include images, videos and audio. Some common educational uses of blogs are:
• A collaborative journal compiled over the study period with course related reflections;
• A class portal where students can access supplemental materials, links, videos, podcasts, assessment tasks and other peer/teacher feedback;
• A knowledge base constructed from individual blogs interrelated with posts and comments.

**Journals** are private spaces for students to collect experiences and post reflections on their learning process. The instructor or tutor can normally see all of the student journal entries but the students can only see their own postings. Journals can be particularly useful for students engaged in work placements or clinical practicums as a record of their experiences and their reflections on those experiences.

**Wikis** allow students to work together to build knowledge bases, synthesise research, collaboratively write papers and present projects. The history function of the wiki ensures the input of each author can be monitored and the overall development of the task can be assessed. Wikis can be used as planning spaces as well as summative expressions of research and learning. Additional functions such as tagging allow entries to be categorised, easily located and associated with other entries. Some common educational uses of wikis are:

• Developing and organising a glossary of key terms;
• Building a knowledge base around a subject;
• Collaborating on research or joint writing of assignments or projects.

**Virtual classroom technologies** provide a real time learning space. They give students opportunities for immediate interaction with their lecturer and fellow learners. Activities can include introductory exercises, brainstorming, problem sharing and solving, presentation of research and projects, role plays, debates, mentoring and support.

**Blackboard Collaborate** integrates within Blackboard and further information and support is available via the ctl.curtin.edu.au website.

**Mobile learning** covers learning with portable technologies such as mobile phones, tablets and netbooks and focuses on the learning that happens when mediated through a mobile device. Students can learn *from* mobile technologies (podcasts, rss feeds, administrative information) and *with* mobile technologies (interviews, observations, student-generated video recordings, reflections, digital storytelling) where the technology is a cognitive tool rather than a transmissive device. These devices are capable of supplementing, and often replacing, traditional desktop and laptop computers. They have the added dimension of being enabled with locative, motion, audio-visual and spatial capabilities, along with mobile multimedia capture and creation features. Multi-touch and gestural forms of input are also possible. This combination of interest and capability is driving a significant shift towards mobile learning.

The Blackboard Mobile Learn application gives students and staff access to their Blackboard units on a variety of mobile devices including Android™, BlackBerry® and iPhone OS. Students and staff can access documents in multiple formats, read announcements, create discussion threads, view and play media, access their grades, track progress on assigned tasks and connect with other students. Further information on download instructions and FAQs is at www.elearn.curtin.edu.au/blackboard/mobilelearn.cfm.
Questioning and polling using mobile technologies such as smartphones provides an opportunity to engage students in lectures and to keep their interest. The results appear in real-time so that students can see changes as they come in. It can include simple factual questions or higher level reflective activities that move information into long-term memory. Hotseat at Curtin is a social networking-powered mobile Web application, which provides students with near real-time feedback during class. Students can post messages to Hotseat by using their Facebook or Twitter accounts, or logging in to the Hotseat Web site.

In addition to mobile polling technologies, the ability to provide a self-marking online quiz or survey to your students is a powerful way to reinforce learning, while assessing knowledge and understanding. Students like formative quizzes as it gives them an opportunity to check their understanding of key issues. Blackboard currently supports the use of tests, quizzes and surveys in an online environment, and Blackboard Collaborate also allows you to poll your students in a live virtual classroom.

But what is it really like to study and teach in a blended learning environment? We interviewed three lecturers so that you can hear for yourself.

www.blogs.curtin.edu.au/cel/928/what-is-it-really-like-to-study-online/

We have also interviewed our eScholars whose projects entail designing, implementing and evaluating learning activities in a blended learning environments. You can see these at blogs.curtin.edu.au/cel/category/escholar/

Curtin Wireless network connections are available at many locations around Curtin’s campuses. The wireless network provides a secure environment for students, staff and guests to connect portable devices to the internet, at no cost. See https://cits.curtin.edu.au/staff/internet/wireless/index.cfm