Transforming Assessment
An Overview of E-Assessment for Senior Managers

DEFINING E-ASSESSMENT

E-assessment is the use of digital devices to assist in the assessment of student learning.

Within the national tertiary education system, e-assessment involves the use of information technology in the design, delivery and administration of assessment activities which contribute to both student learning and the award of nationally recognised Statements of Attainment or qualifications under the Australian Qualifications Framework.

REASONS TO ADOPT E-ASSESSMENT

E-assessment offers a range of potential benefits for an institution, a faculty/department, assessors, students, regulators, industry and professional bodies. These benefits fall into four main categories:

1. Efficiency

- timeliness for student access
- flexible delivery for students
- automatic processing of responses
- reliability in storage of responses
- effective storage and distribution of grades

2. Effectiveness

- immediate feedback for students
- analysis of question validity
- new question types

3. Authenticity

- access to people and resources
- able to simulate real world
- students can perform complex tasks

4. Engagement

- multimodal formats for students
- able to use virtual worlds and role plays
- able to use self and peer review
- facilitate group tasks

APPLYING E-ASSESSMENT

E-assessment methods can be used to design, deliver and administer assessment types across the four established assessment categories.

Diagnostic

Introductory low stakes tasks which enable:

- students to determine their preparedness for their current learning activities
- teachers to adjust their introductory learning activities.

Formative

Low stakes tasks designed to provide prompt post task feedback in order for students to:

- focus their learning efforts in particular areas
- have a greater understanding of their progress
- be better prepared to undertake a future learning and summative assessment task.

Summative

High stakes tasks used primarily for progression and certification purposes.

Integrative

Low or high stakes formative or summative tasks which provide students with the opportunity to:

- make judgments about the quality of their own learning or performance through review
- understand discipline standards and teacher expectations
- identify good quality responses.

The benefits of adopting e-assessment

E-ASSESSMENT APPROACHES

Listed below are a range of both common and evolving e-assessment approaches.

Selected response questions

The most commonly used form of e-assessment, whereby students complete a series of questions that have a pre-determined correct answer (convergent response).

This approach enables students to receive instant feedback in the form of marks and guidance to further learning. Teachers spend less time marking and writing feedback. Question types may include:

- Multiple choice
- True-False
- Ordering, matching or sequencing
- Cloze exercise (fill-in-the-blanks)
- Hot spot
- Likert scale.

Collaborative assignments

Students work remotely in a small group in order to complete a task which generally encompasses a problem solving and/or real life dimension. Students often have the option of working in real time (synchronous) or at different times (asynchronous) and most online applications enable each student's participation to be individually assessed (eg *Moodle* or *Blackboard*).

E-portfolios

Students collate a range of their work using an online application (eg *PebblePad*, *Mahara*) in order to demonstrate the progression of their learning and/or showcase their skills and knowledge. They are often used to facilitate reflective practice and to evidence vocational outcomes.
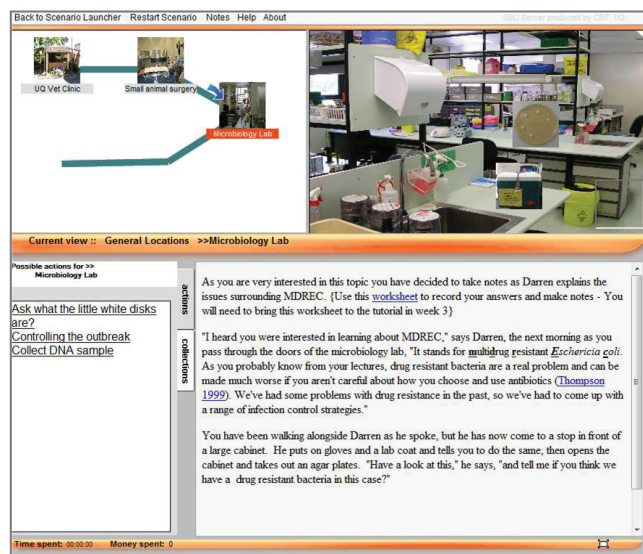
Screenshot from SBLi *scenario based learning activity.* *http://www.sblinteractive.org*

Online role-plays

Students use a persona to interact with other students in order to collaborate, negotiate or debate an issue. They are used when students are required to understand different stakeholder perspectives in a complex situation where the student responses are not predetermined (eg *Moodle*, *Blackboard* or *Fablusi*).

Scenario-based activities

Students respond as themselves to a prescribed set of questions where each response determines the subsequent information or questions presented. These tasks usually have a designated end point(s). Students are assessed on the quality of their decision-making and/or on the path that they have chosen to solve a problem (eg *SBLi* http://www.sblinteractive.org).

Virtual laboratory activities and field trips

Students work in a virtual and/or remote environment to complement/replace expensive laboratory sessions. In a remote setting, students can download data to their local computer from a remote sensor for use in the task. In virtual activities students collect and analyse authentic data.

Serious games

Students work towards achieving clearly articulated goals, outcomes and rewards in a game environment rich in interactivity and high quality 3D graphics. The game provides students with constant feedback in response to their actions and they are rewarded at regular intervals to maintain their motivation to continue with the tasks and achieve the goals

Virtual Worlds Using Avatars

Students work in a simulated multiuser 3D virtual world where they are represented as a character (avatar). A physical environment is often re-created as a 3D simulation for students to explore, build their own objects and complete specific tasks (eg virtual worlds such as *Second Life* or *OpenSim*). Reasons for their use include simulating a restricted, expensive or dangerous environment and enabling students to explore complex interpersonal tasks not readily facilitated in a physical setting.

E-ASSESSMENT DELIVERY PLATFORMS

Whilst e-assessment is commonly incorporated into the institutional learning management system (eg *Blackboard* or *Moodle*), other delivery platforms may include:

Specialist e-assessment software – accessed through web browsers and/or local computers, eg *Questionmark Perception*, *TestPilot*

Local area networks – accessed from local computers, often created and/or managed by faculty teaching and/or professional staff

Locally hosted websites – accessed through web browsers, often created and/or managed by faculty teaching and/or professional staff

Web 2.0 and Cloud computing – accessed through web browsers, eg *YouTube*, *PBWorks*, *Wordpress*, *Slideshare*, *Google Docs*

Virtual Worlds – eg *Second Life*, *OpenSim*.

Screenshot from Second Life *in teacher education.* http://www.virtualprex.com

ENABLING E-ASSESSMENT ADOPTION

Listed below are some key factors to consider when promoting the adoption of e-assessment to teaching staff:

Curriculum design is the key

E-assessment can provide more flexible access to tasks but it is the curriculum design that surrounds the assessment and the scaffolding provided by the teacher that provides the quality experience for students.

Manage teacher workloads

Numerous guidelines have been written about how to use technology effectively in education; however, the issue is not a shortage of advice, but rather the practical means to appropriately integrate this advice into teachers' existing workloads. Institutions can assist here by providing assistance in the form of e-learning designers who work closely with teachers.

Challenge historical approaches to assessment

Many standards and norms that are historically associated with assessment have been constructed using traditional text-based or face-to-face learning activities and their associated assessment tasks have been determined by the limitations of this educational environment. Continually question why your institution is doing things in a particular way.

Promote collaboration

E-assessment inevitably demands an initial investment of teacher time, so the reward should be an enhancement in the quality of the learning environment and student outcomes, as well as less time required for the design and delivery of future assessments. Over a period of time, the initial increased investment in time should translate into workload efficiencies; teachers should be able to leverage their previous endeavors and that of their colleagues to reduce their own future workloads.
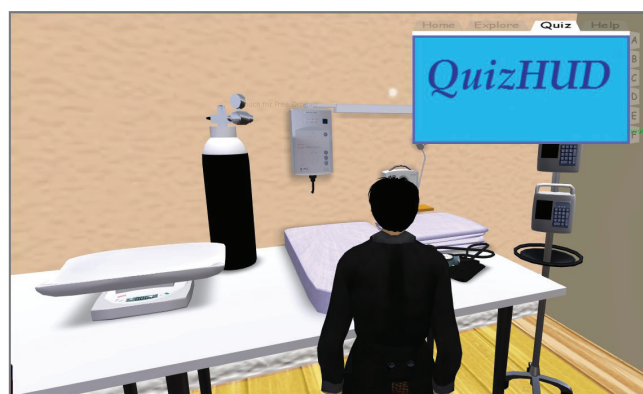
Screen shot from QuizHUD *in* Second Life

MORE INFORMATION

Visit **www.transformingassessment.com** for access to:

- sample e-assessment approaches
- e-assessment case studies
- Teacher's Handbook on e-Assessment
- literature references on e-assessment
- reports on e-assessment use

Produced by Geoffrey Crisp and Steve Linquist as part of the Transforming Assessment ALTC Fellowship.

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