The development of an integrated learning environment

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This paper examines the integration of a Simulated Professional Learning Environment (SIMPLE) with a Learning Management System (Moodle), an E-portfolio System (Mahara) and other learning technologies to create an Integrated Learning Environment (ILE) in the Graduate Diploma in Legal Practice (GDLP) at ANU. The focus is on the work undertaken by Educational Developers and IT Consultants to develop and integrate the technical aspects of the new environment so that students and lecturers experience a comprehensive integrated teaching and learning environment.

Keywords: Simulation, integrated environments, social learning, collaboration, higher education, tool development, educational technology, educational design

Background on the Graduate Diploma in Legal Practice (GDLP)

The Graduate Diploma in Legal Practice (GDLP) is offered by ANU Legal Workshop. Students need to complete the GDLP before they can be admitted into legal practice.

The GDLP is flexibly delivered online, but is currently based on traditional educational design. Over the past six months the GDLP has been restructured and redesigned using innovative educational practices to develop a new Integrated Learning Environment (ILE).

Background on the Integrated Learning Environment (ILE)

ILE is made up of three separate technologies that work together to create a new learning environment. The technologies include the ANU's Learning Management System (Moodle), a Simulated Professional Learning Environment (SIMPLE) and an E-portfolio System (Mahara).

Moodle was adopted by ANU in 2009 and is gradually being implemented campus wide. Moodle was chosen because it is open source software that can be customised to meet the needs of the University. Being part of the Moodle community allows ANU to influence future developments of tools that form part of the Moodle environment.

Social constructivist learning theory, which influenced the development of Moodle (Dougiamas, 1998) also plays an important role in the creation of ILE. Collaborative technologies such as discussion forums, chat and web conferencing will be used to promote learning in this environment.

SIMPLE is simulation software that was developed by Paul Maharg, a Professor of Law, and Michael Hughes, a Web/Application Developer, both from the University of Strathclyde in Glasgow, Scotland. SIMPLE forms an important component of ILE because it provides a means for achieving a more authentic, collaborative learning environment. Simulated learning environments are beneficial because they are:

- Close to the world of practice
- Enable students to practise legal transactions
- Facilitate a wide variety of assessment
- Encourage collaborative learning

- Students begin to see the potential for the C in ICT; and that technology is not merely a matter of word-processed essays & quizzes, but a form of learning that changes quite fundamentally what and how they learn. (Maharg, 2009)

The SIMPLE software is open source and ANU College of Law has developed its own copy in-house to be used in ILE.

Mahara is being investigated as the E-portfolio system for ILE because it integrates well with Moodle. It will be used for students to submit a body of evidence, which indicates that they have met certain competencies throughout the GDLP. In addition, there are a number of educational reasons for including an E-portfolio system in ILE. These include recognition of prior learning, encouraging life-long learning (Field, 2000), reflective practice (Smith, 2001) and providing flexibility and ownership of the learning process.

Coordination and management of the development of the ILE Project

Consultants from the professional services firm, KPMG, were employed to assist with the initial development of a plan, which involved review of the phases of designing, developing, testing and implementing the Project. A Project Manager was appointed and a series of streams were identified with responsibilities for various aspects of the Project. These included:

- Project management and stakeholder communications (business case)
- Program design (component development, course design)
- Integrated Learning Environment (people, processes and systems)
- Program support (educational, technical and administrative)
- Transition planning (people, students, systems, procedures)
- Program marketing (Marketing strategy) (Sanders, 2009)

The College Education & Innovation Support Team (CEIST) and the IT & Communications Unit (IT & C Unit) have taken on the task of developing and integrating the technical aspects of ILE.

The link between the College Education and Innovation Support Team (CEIST) and IT & Communications Unit (IT & C Unit)

The Educational Developers in CEIST play a key role in College educational initiatives and support both lecturers and students in Legal Workshop. Various strategies are used to assist lecturers with new technologies from individual support to group training sessions and "just-in-time" learning (Hall, 1999). CEIST helps IT & C Unit to better understand the lecturers' requirement and to develop tools in a way that will be of most use to academic staff.

The IT Consultants in the IT & C Unit work on the development of tools, software and educational materials that can be used by lecturers to enhance the learning experience for students. One of the many roles the IT & C Unit fulfils is advising CEIST on the types of technologies available to academic staff. IT Consultants investigate tools to find out if they are viable; if they require development before they can be used or whether an alternative tool can be used.

The IT & C Unit and CEIST work closely together researching, advising and supporting the educational and technical needs of the College. Both will play an integral part of the development and support of lecturers and students in ILE.

The integration of technologies

The integration of the technologies that form ILE is key to providing students with ease of use and seamless navigation. Figure 1 shows the relationship between the technologies and how the students interact with them.

Some of the technical issues that need to be addressed in the integration of the technologies include:

1. Providing students with a single sign-on so that they only have to login once and can then easily access each technology
2. Grouping students across technologies

3. Creating a look and feel for each technology that helps to promote learning.

The IT & C Unit has been working to create a single sign on for ILE so that students only have to log in to the system once. It is envisaged that students will log in to Moodle and be able to enter SIMPLE or Mahara directly via a link without having to repeat the login process.

Group work forms an important part of the learning process in ILE. Students will be placed in groups or "firms" and will need to remain in their designated firm across each of the technologies. IT & C Unit are currently investigating ways to import the same group of students into each of the technologies.

Designing a look and feel for each of the technologies is important to guide students and lecturers between the different roles that they take on in ILE. Table 1 shows the different roles within each of the technologies in ILE.

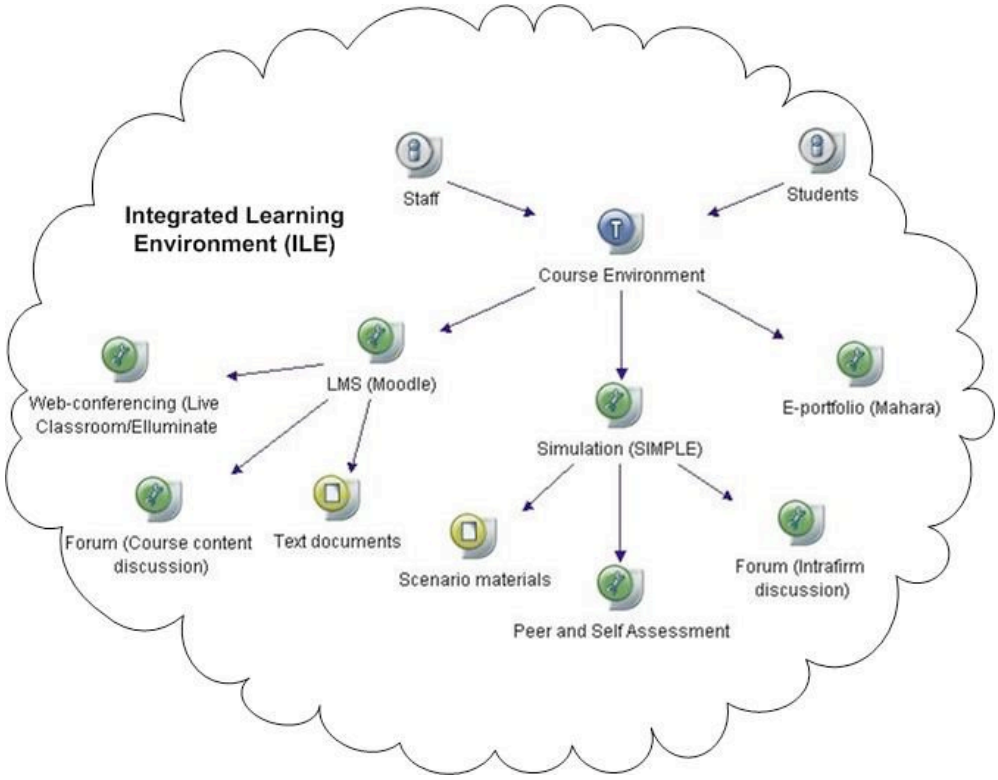

Figure 1: Student access and integration of technologies

Table 1: Roles within the technologies

Technologies	Student Roles	Teacher Roles
Simple "in-role" (virtual office space)	• Junior partner in a firm - representing plaintiff or defendant, buyer or seller	Various roles: - Practice Manager - Senior Partner - Both clients - The court - Regulators - Banks - Witnesses & third-parties
Moodle "out-of-role" (course area)	• Student	• Lecturer
Mahara "out-of-role" (E-portfolio)	• Student	• Lecturer

Roles vary within ILE depending on the technology that students and lecturers are working in. The look and feel of SIMPLE and Moodle/Mahara will be different so that it is obvious to students and lecturers whether they are "in" or "out" of role.

Trialling ILE technologies

A trial is currently underway to test the technologies and their integration from both a teacher and student perspective. Sites have been created in Moodle and a model simulation in SIMPLE has been implemented. A range of staff from Legal Workshop and other parts of the University have been put into firms to play the part of the student/junior partner. Participants were chosen from diverse backgrounds with varying technological skills, to represent the cohort of students that will enter this learning environment in the future. The aim of the trial is to see how the software and processes actually interact in a structured course environment. We will also use it to gather feedback from the various participants on the ease of navigation and use of the technologies that make up ILE.

At the time of writing, the trial was still underway, however a number of issues have begun to emerge. Some of these issues include:

- SIMPLE forms a major part of ILE, so should Moodle sit within SIMPLE or vice versa?
- Further clarity of roles when working within each technology for students and lecturers
- Further customisation of SIMPLE and fixing of 'bugs' – can Activity Logs, Personal Logs, Peer & Self Review and Intra-firm discussion forums be created in SIMPLE so students and lecturers remain "in-role"?
- Do we use Mahara or wait until it is integrated with Moodle? If so, what do we use in the meantime? If we begin with Mahara before it is integrated with Moodle, students and lecturers will have to become familiar with three different interfaces, which might become confusing.
- The scenario used in the SIMPLE trial simulation is quite limited compared to our full intentions of a 'live' course. Will the trial's results be an adequate representation of the data and communication to integrate with Moodle and Mahara?

Further testing and trialling needs to take place with a real simulation and more involvement from academic staff. This will take place later in the year.

Conclusion

ILE aims to create an interactive, collaborative and authentic learning environment for GDLP students by integrating three technologies, Moodle, SIMPLE and Mahara. The integration of these technologies is an important aspect of the design and development phase of ILE. In order to focus on enhanced learning, students and lecturers need to experience a seamless, user friendly and aesthetically appealing environment.

Collaboration between the IT & C Unit and CEIST has been driving the technological developments of ILE by identifying issues, working out solutions and testing and trialling each technology. While there is still much work to do before ANU Legal Workshop goes 'live' with ILE, the progress that has taken place so far indicates that it will be possible to integrate the technologies that make up ILE, thus providing students and lecturers with an innovative and up-to-date teaching and learning environment.

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