eLearning@UFH:
The Promotion of Technology-Enhanced Learning

Concept Paper

June 2009
1. Introduction

1.1. The use of the Internet and other information and communication technologies (ICTs) in higher education in South Africa has been growing rapidly for more than a decade. UFH has not been much involved in this wave of change and levels of awareness and usage of existing e-learning technologies at the institution are low. Only a handful of enthusiasts have been trying to use WebCT, an online learning management system (LMS), without the benefit of institutional support and development opportunities. In 2008 the Teaching and Learning Centre (TLC) started implementing an e-learning initiative that had been in planning for approximately four years, with the express purpose of improving the quality of teaching and learning.

1.2. The priority that UFH is giving to this endeavour is evident in the current Institutional Strategic Plan (SP2009): the promotion of Technology-enhanced Learning (TEL) is one of the objectives within the strategic goal of teaching and learning, research and community engagement excellence. The overall objective of TEL, as expressed in SP2009, is “to develop a critical scholarly culture encouraging context-driven and research-based transformative and innovative teaching and learning practices that involve the integration of technology”.

1.3. There are numerous definitions of e-learning. In essence e-learning is the use of ICTs in education. The “e” stands for electronic, referring to the digital environment, however, it is more useful to think of the “e” as standing for “enhanced”, “engaged” or “empowered”. E-learning also refers to an emerging discipline, as well as a variety of technologies. In order to avoid confusion and to indicate a particular approach to e-learning, at UFH the TLC has chosen to call it “technology-enhanced learning”. This approach places the learning firmly at the heart of the matter. It also serves to distinguish this endeavour from other activities of the eLearning Unit (eLU) of the TLC.

2. Benefits of TEL

2.1. ICTs provide opportunities and potentials for innovative teaching and learning practices that are not possible in other ways:

- Appeal to a range of learning styles, because it is an environment that can combine a variety of auditory, visual and textual elements into one experience.
- Provides opportunities for communication (online discussion forums, announcements, email) and collaboration (online group discussions, assignments, presentations), amongst students and lecturers beyond the physical and time constraints of the face to face class
- Enriches education, because it provides access to information beyond the holdings of the institution
- Encourages students to take responsibility for their learning, thereby allowing them to become independent, life-long learners.

2.2. It must be stressed that none of the above potential benefits happen automatically. The mere availability of the technology does not in itself result in integration, nor the improvement of teaching and learning. Lecturers and students need compelling reasons to change their existing practice and the often tacit, entrenched and unquestioned ideas underlying that practice. In addition lecturers and students need to learn how to exploit the technology to its full potential.

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1 University of Fort Hare Strategic Plan 2009-2016: Towards our centenary. March 2009.
2.3. The e-learning literature frequently refers to “untapped potential”\(^2\). Most of the reasons given pertain to the emphasis of e-learning implementation being on adoption of technology rather than integration into curriculum and pedagogy. This has resulted in the replication of existing approaches and practices (such as content dumping\(^3\)) in a new medium which have not exploited the strengths of e-learning technologies and therefore have not added any value.

2.4. Since TEL is about learning, it follows that it is not about educational administration, management, or operational logistics. The use of e-learning technologies can, however, facilitate and develop efficiencies in educational administration, etc. For example, all activities and data are tracked within a learning management system. This means that:

- no student work that has been submitted can ever get “lost”;
- all communication can be archived;
- multiple choice type tests can be marked automatically, relieving strain in large classes;
- plagiarism can be detected electronically
- marks can be recorded automatically and transferred to ITS (given the appropriate integration module)

3. Framing the UFH TEL Pilot

3.1. The UFH TEL pilot that is currently being implemented is being managed by the eLU, with the cooperation of the Information Communication and Technology unit and the Faculties. The pilot is context and research driven.

3.2. Driven by context

3.2.1. UFH has a challenging institutional set-up of three widely dispersed campuses of different characters with differing student profiles, different access to resources and differing infrastructures. One can expect teething problems unique to this particular context. An approach limiting initial involvement to small numbers of academics, courses and students spread over all campuses has been adopted. This allows the eLU to gather information on the nature and extent of support required (technical and pedagogical), as well as to ensure that all computer laboratories and network infrastructure have appropriate configurations.

3.2.2. As outlined above, the UFH context presents a challenging combination of characteristics in terms of the implementation of TEL. In order to gain the most from TEL, the elements of this context have to be aligned productively\(^4\). This means that the nature of the discipline, the learning outcomes of a particular curriculum, the learner characteristics, the lecturer characteristics, and the available infrastructure must align with each other and then the affordances\(^5\) provided by the technology must be aligned with that. In other words, how we use the technology must be determined by contextual factors rather than by the technology itself.

3.3. Driven by research

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\(^4\) Schofield, M. 2006. The SOLSTICE concept and application – synergising research, evaluation and enhancement for intelligent deployment of technologies to support learning. FORMATEX

3.3.1. Internationally, research on e-learning has become quite substantial, however, the bulk of the research is anecdotal and hence cannot be generalised readily from one educational context to another.

3.3.2. There is very little research to draw on directly applicable to the South African higher education sector and there are not as yet accepted national benchmarks. Most research has focused on the primary and secondary education sectors and by far the most productive countries in terms of e-learning research have been the USA, the UK, Australia and parts of Asia. In order to ensure the growth of a contextually relevant knowledge base of best practice, the TEL Pilot has been framed as a series of research projects, each with specified research outputs:

- The Use of Blended learning in a Science Methodology Course
- Blended Learning and the Repeating Student
- Teacher Education and Online Communication: THRASS
- Use of e-Learning methods to facilitate enhanced LLM supervisor-candidate communication and feedback at UFH
- eLearning and Student Retention
- Africa Educational Trust: Implementation of e-Learning Technologies
- An Investigation into the Use of e-Learning Technologies in Computer Literacy Courses for Teacher Education
- The Implications of e-Learning for Student Facilitators

3.4. The TEL Pilot has been structured as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Phase 1</th>
<th>Year</th>
<th>Phase 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>Blackboard was selected as the institutional LMS</td>
<td>2009</td>
<td>Pilot participants receive further development and training according to the needs of their individual projects</td>
</tr>
<tr>
<td></td>
<td>A server was acquired to host Blackboard (as well as other applications)</td>
<td></td>
<td>• conduct research on projects</td>
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<tr>
<td></td>
<td>Initial training on Blackboard took place to prepare eLU staff to support academics involved in the pilot</td>
<td></td>
<td>• showcase projects at event in November</td>
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<tr>
<td></td>
<td>12 pilot participants were selected from all campuses and from as many faculties as were willing to be involved.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>Training for eLU and ICT staff took place to ensure appropriate technological and administrative support</td>
<td>2009</td>
<td>The pilot participants received training on technical aspects of Blackboard</td>
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<tr>
<td></td>
<td>The pilot participants embarked on an 8-week online course hosted on the new Blackboard LMS</td>
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<td></td>
<td>18 UFH courses were activated and 679 students loaded on Blackboard</td>
<td>2010</td>
<td>Pilot participants submit research for publication</td>
</tr>
<tr>
<td></td>
<td>The pilot participants received training on technical aspects of Blackboard</td>
<td></td>
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</table>

*The eLearning Unit is currently involved in a Developmental Project on e-Learning involving 13 South African HEIs and the University of Edge Hill (UK) with the aim of establishing national benchmarks.*
Phase 2  |  2010-2011  |  With the collaboration of the Faculties, the initial course projects are broadened to development of entire programmes of study.

| Table 1: Structure of the TEL Pilot |

4. **Evaluation of the TEL Pilot**

4.1. The entire TEL Pilot is being monitored and evaluated on numerous dimensions, including the lecturer experience of the TEL staff development, the student experience of TEL implementation, the user experience of TEL support and administration, and ICT infrastructure capacity to support TEL. The results thereof will be made available to all TEL stakeholders and will be used to:
- improve the design of staff and student development initiatives for TEL;
- strengthen and streamline administrative and technical support for TEL;
- determine institutional challenges to TEL;
- determine areas for further research on TEL.

5. **Benefits of TEL approach**

5.1. The potential impact of the approach adopted for the implementation of TEL at UFH has significant benefits:
- A **contextually relevant knowledge base** is established on which other UFH lecturers can draw in the further expansion of TEL
- **Income** will be generated for the institution, faculties and academics in the form of research subsidy
- The initial ePilot participants and their successors will form part of a **community of practice** at UFH that can link to the broader national and international communities.
- The knowledge and skills pertinent to TEL will **grow within faculties**, making them gradually less dependent on the eLearning Unit for development of their TEL interventions
- **TEL expansion** can grow at a pace that is commensurate with our ability to support it.

6. **Beyond the pilot to 2016**

6.1. The ultimate vision for TEL at UFH is that it will become an integral part of mainstream teaching and learning activities; the technology should become “transparent”. A similar example would be that of email, which has become the institutional standard for communication.

6.2. Current UFH TEL activity is very low. Over the course of the pilot period and beyond we expect an increase in the volume of TEL activities as well as evolving levels of TEL activities, as summarised in the following table:
| Progress | 1. Low threshold activities (LTAs): | a. Disseminating resources via email or V-drive  
b. Using PowerPoint appropriately in the classroom  
c. Students submit assignments and receive feedback via email | No change in teaching approach required. Requires additional skills training for competence in particular software used. | Level and low extent of activity at UFH in 2008 |
|----------|---------------------------------|-------------------------------------------------|-------------------------------------------------|----------------------------------|
|          | 2. Low threshold LMS: | a. As above, just using tools of LMS for the same purpose  
b. No actual online active engagement | | Level of Phase 1 Pilot activity beginning 2009 |
b. Technology integrated into curriculum rather than add-on | Teaching approach has to be adapted. Reflection on teaching philosophy required. Start to focus more on cognition than content. | Level of Phase 1 Pilot activity mid-2009 |
|          | 4. Advanced LMS: | a. Online communication and collaboration  
b. Active engagement | | Level of Phase 1 Pilot activity expected 2009-2010 |
|          | 5. Stepping outside the LMS toolbox: | a. Rework instructional design with authentic tasks and active learning strategies  
b. Use generic tools, e.g. Google Groups, Facebook, wikis (i.e. Web 2.0)  
c. Use additional technologies, e.g. cellphones | Requires explicit teaching philosophy as well as open attitude to teaching and learning roles. Requires confident and continuous proactive exploration of new technologies that have not been designed specifically for teaching and learning. Requires extensive knowledge of learning, learners and teaching and learning contexts. | Expected level 2016 for highly motivated individuals. |

Table 2: Hierarchy of e-learning activities

As the one advances through the hierarchy, the more independent the lecturer and the learner become, and the closer the pedagogy approaches our current understanding of what learning is and how people learn.

6.3. It must be understood that Table 2 is a simplification of reality. Advancement through the hierarchy described does not have to occur in a strictly linear fashion and the levels are not mutually exclusive. It is expected that by 2016 there will be a spread of activities across levels 1 to 5 co-existing at UFH.
6.4. In order to achieve this several matters need to be addressed:
   a. The ability of academics to engage in LTAs will be supported as a means of introducing them to TEL through targeted workshops on essential academic technology skills (e.g. PowerPoint for Learning) that emphasise enhanced teaching practice and possibilities for growth.
   b. Academics wishing to use Blackboard will have to undergo development in TEL best practice by successfully completing the Web-based Learning module of the PGDHET, before using the LMS for formal teaching and learning. This is to ensure a minimum standard of TEL quality.
   c. Guidelines for various uses of TEL will be published on the institutional and TLC website.
   d. Key policies impacting teaching and learning (e.g. Teaching and Learning, Assessment, Plagiarism) will be reviewed to ensure reference to TEL where necessary.

6.5. The eLU will continue to monitor e-learning developments locally and internationally; advise, mentor and develop academic staff; conduct and supervise TEL research; and provide administrative support for users of the LMS. It is clear that TEL will continue to be fertile ground for research into our core business for a long time to come.

7. Practical requirements and challenges

7.1. ICT infrastructure.
   Obviously TEL runs on ICTs, which means that UFH computers and networks must meet the requirements for TEL:
   - student access to computers, i.e. an acceptable student to computer ratio (currently 1:9 in Alice and 1:30 in East London);
   - appropriate and consistent computer configuration across computer labs, across campuses;
   - adequate and reliable bandwidth for consistent access across all campuses;
   - stable servers and networks;
   - proper maintenance of all ICT infrastructure;
   - user support.
   The ICT Strategic Plan addresses many of these issues, however, there are numerous problems that are still to be resolved. This means that TEL rollout will have to be phased dependent on the above issues being resolved.

7.2. Computer Literacy: Students
   The eLU currently delivers credit bearing computer literacy courses for almost 1200 UFH students annually, on behalf of various faculties. The numbers are constrained by staffing, venues and timetable issues.

7.3. Computer Literacy: Staff
   The drive to improve computer literacy of academic staff began some time ago with the SANTED Sakha Ngethemba Project, in which the eLU offered academic staff the International Computer Driving License (ICDL). It continues with interventions from the eLU on both Alice and East London campuses. To have any significant impact, however, this is a matter that should be addressed on an institutional, rather than on an individual basis.

7.4. Budgetary issues
   The LMS that UFH has invested in, Blackboard, requires an annual license renewal fee ($47,462.00 for 2009/2010). This must be budgeted for as an operational cost. The server that was acquired in 2008 to host Blackboard and other applications will have to be upgraded approximately every 5 years to cope with increasing usage.
8. Conclusion

8.1. The application of ICTs in education is endorsed and promoted by the National Department of Education\textsuperscript{7}, because of the opportunities it offers for the enhancement of teaching and learning. UFH cannot afford to be caught on the wrong side of the digital divide, for the sake of the institution and for the sake of our graduates. It is thus the responsibility of UFH to ensure that ICTs are applied in support of the pursuit of excellence in teaching and learning.

8.2. It is hoped that this document will serve as a departure point for discussion, which will inform future TEL development. Since TEL is about UFH core business, this can only be to our advantage.

List of abbreviations:

\begin{itemize}
  \item eLU – eLearning Unit within the Teaching and Learning Centre
  \item HEIs – Higher education institutions
  \item ICDL – International Computer Driving License
  \item ICTs – information and communication technologies
  \item LMS – Learning management system (an online platform for teaching and learning)
  \item TEL – Technology-enhanced learning
  \item SP2009 – UFH Strategic Plan 2009-2016
  \item UFH – University of Fort Hare
\end{itemize}