



**Towards
the Enhancement of the
CSU Virtual Learning Environment**

Report to ILSC of VLE Working Party

September 2005

Contents

1. Executive Summary	3
2. ILSC Recommendations on Development of CSU VLE	4
3. Implementation of ILSC Recommendations	4
4. Terms of reference for VLE Working Party	4
5. Consultation, research and deliberation processes	5
i) Initial identification of areas	
ii) Scoping of features of identified learning technologies	
iii) Prioritisation Survey	
iv) Circulation of Report of VLE Working Party	
6. VLE Prioritisation Survey	7
i) Methodological Issues	
ii) Survey Results	
iii) Contextual feedback	
a. Current Learning Technologies	
b. Additional Learning Technologies	
c. Review of High Priority Areas	
iv) Overall considerations	
7. Recommendations	13
8. Appendices	15
Appendix A: Survey to Prioritise the Extension of the CSU OLE in 2005 & 2006).	
Appendix B: Ranked Results for all New Technology Survey Items	
Appendix C: Features derived from the four scoping reports of the top ranked technologies	
Appendix D: Features required in current technologies as listed in the comments sections of the completed questionnaires	

1 Executive Summary

The VLE Working Party was established by the ILSC with representation from faculties and divisions with the task of identifying and prioritising additional functionality for the CSU Virtual Learning Environment (VLE). Over the last 10 months the Working Party has conducted an extensive consultation and research process in order to ensure that its recommendations about learning technologies relate to the needs of staff and students and have the potential to support teaching and enhance student learning. The consultation and research process has been undertaken in three stages:

- i) Identification by faculties of broad areas where improvements to the current system are desired;
- ii) A scoping exercise conducted by four reference groups to explore benefits and features of available learning technologies in the identified areas; and
- iii) A university-wide survey of potential enhancements to the VLE both in terms of enhancements to existing learning technologies and the potential benefits of additional functionality of the learning and teaching process.

The data from survey responses (38 from academic groupings and 7 from divisions involved in professional development of academic staff) were analysed from multiple perspectives to ensure that the findings were robust.

The Working Party met to consider quantitative and contextual feedback and recommends to the ILSC the following priorities:

- i) Online Grade Book enabling easy managing of assessment marks for academics and timely access to assignment marks for students
- ii) Enhanced functionality and workspace for students to support individual and collaborative online work.

Further areas in which significant interest was demonstrated, particularly for DE students, were:

- iii) Online Surveys Polls as extension of upgraded multiple choice assessment System (OASIS)
- iv) Online Marking (in conjunction with upgrade of EASTS)
- v) Assembler Technology to facilitate creation of online learning materials
- vi) Instant messaging and online monitoring.

The feedback did not support prioritising the acquisition of synchronous communication technologies but suggests possible extensions to current asynchronous capabilities including (vi) above.

The Working Party recommends a significant extension in the University's online learning environment in 2005 and 2006 in line with the strong commitment of CSU to expanding the OLE through the stated CSU Strategic Priorities 2005/6. In this context the Working Party emphasises that for learning technologies to be adopted by staff and students they need to be easy to use, reliable and accessible. Stress was laid by many respondents on the need for an integrated approach to learning technologies in the CSU online environment for both students and staff. This issue is being taken up in part through the planned redesign of the Subject Entry Point which will provide integrated access to all learning technologies for staff and students. Although staff have prioritised technologies that may assist their teaching, no new technologies should be introduced without careful assessment of their user friendliness and scalability. The overall recommended strategy is one in which new functionality is considered in conjunction with the enhancement of existing elements of the CSU VLE.

2 ILSC Recommendations on development of the CSU VLE

At its July 2004 meeting, the University's Information and Learning Systems Committee (ILSC) adopted a series of recommendations in relation to the short to medium term development of the CSU virtual learning environment. The adopted resolutions were as follows:

1. the University adopt a "best of breed" strategy to the short to medium term development of its VLE
2. The ILSC maintain a watching brief over developments in the commercial VLE area and monitor emerging trends among Australian universities' adoption/development of VLE.
3. CELT be asked to lead a multi-disciplinary, widely representative, working party to prepare a paper that identifies and prioritises the tools that would enhance teaching and learning through the CSU VLE
4. CELT continues to work with the Online Services group and other groups such as the Library and the Division of Student Services to propose a new subject portal¹ for consideration by the ILSC in preparation for implementation in 2005.

3 Implementation of the ILSC Recommendations

As a result of Recommendation (3) the Director of CELT requested nominations from Deans and Executive Directors /Directors and established a working party with the following membership:

Presiding Officer Tulloch, Marian, CELT	Divisions Bristow, Paul DIT Buchan, Janet CELT Morton-Allen, Matt DIT Smith Karin Library Services Griffin David LMC Hardy, Gwenda LMC McVilly, Beverley Student Services Muldoon, Nona CELT Uys, Philip CELT
Faculties Atkinson, John Science & Agriculture Britton, Eileen Orange campus Cameron, David Arts Kent, Jenny Commerce Munday, Jenni Education Ritchie, David Health Studies	

The identification of requirements for a redesigned Subject Entry Point was undertaken by a separate working group and the report is on the agenda for the September 2005 meeting of the ILSC.

4 Terms of Reference of VLE Working Party

The terms of reference for the VLE Functionality Working Party are as follows:

¹ The term "Subject Entry Point" rather than "subject portal" is used in the remainder of this paper.

1. To identify the additional functionality that should be introduced into the CSU Virtual Learning to enhance both teaching and learning; and
2. To prioritise the implementation of the identified items of functionality in preparation for the establishment of separate formal projects to select specific tools.

5 Consultation, research and deliberation processes

The consultation, research and deliberation processes were undertaken in three stages:

- i) **Initial faculty consultation** The Working Party endorsed a set of open-ended questions in order to ascertain from academic staff the perceived limitations of the current CSU VLE and the features that should be considered to enhance teaching and student learning.

Areas where a need for improved functionality was identified (no order of priority implied)

- a) *Online marking of electronically submitted assignments*
- b) *Assessment*
- c) *Grade Book system for organisation and online submission of grades.*
- d) *Student presentation area*
- e) *Shared group workspace for students to work collaboratively and share files.*
- f) *Improved Synchronous communication video/and or audio, improved CHAT facility, sharing on-line documents (text and graphics) during real time interaction.*

Feedback from the consultation process suggested that many academic staff did not feel competent to engage with the question of enhancing the online learning environment without further guidance as to the possibilities. The Working Party therefore established a scoping exercise.

- ii) **Scoping of features of learning technologies** The scoping exercise was led by Dr Philip Uys (Manager, Educational Design and Educational Technology, CELT). The identified areas were researched by four working groups (with representatives from both academic and non-academic staff). The groups investigated the areas of online assessment and grading, online marking, student presentation and shared workspace area, and synchronous communication. Their task was to identify the features of particular learning technologies and their potential contribution to learning and teaching using the following sources as appropriate:

1. Use feedback already obtained from faculties and schools (Tulloch, 2005a; Tulloch, 2005b)
2. Literature review - both internal (earlier studies and documents) and external
3. Analyse established LMSs both commercial (WebCT; Blackboard etc) and open source (Moodle; KEWL.NextGen; SAKAI etc)

4. Analyse specific products, both commercial and open source, external to established LMSs
5. Critique current CSU OLE (Forums, OASIS, CHAT, EASTS, eReserve, Flexible Publishing, Subject Outline-SOMS)
6. Analysis of other learning technologies being used at CSU (informal and un-supported)
7. Contact staff about features of learning technologies that they have used while studying at other universities
8. Contact / send informal RFP to key vendors incl Apple, Microsoft, Centra, WebCT, Blackboard, etc.
9. Investigate OLE's/learning technologies in use at other universities both in Australia and abroad.

Each working group produced an extensive report which will be a significant resource for project teams implementing the Working Party recommendations. The features identified in the reports were the basis for the affordances or benefits of learning technologies described in the survey items Section 1.

The detailed scoping reports including the identified features are available along with the survey instruments used in Stage 3 at:
S:\Common\ Temp Folder Less Than 90 Days\2005 OLE scoping project

- iii) **Survey of priorities for addition of learning technologies** Based on the identified features of the researched learning technologies Dr Uys, with the support of the Working Party, developed and conducted a survey to ensure widespread feedback on the priorities for learning technologies of academic staff and divisional staff involved in professional development (Appendix A Survey to Prioritise the Extension of the CSU OLE in 2005 & 2006).

Section 1 surveyed the likelihood of the respondent group adopting technologies providing features to enhance learning in their subjects by December 2006. The focus of this section was on the affordances (benefits) for learning and teaching.

Section 2 requested feedback on the use and projected uptake of existing elements of the CSU online environment. Provision was made for ratings and comments (See Appendix D).

- iv) **Circulation of the VLE Working Party report** Feedback from all stages of the consultation process was taken into account in the Working Party's final deliberations. The report which is to be submitted to ILSC for the meeting of 26th September, via the ILSCOSC, has also been circulated via Heads of Schools, Deans and divisional representatives on the Working Party in order to provide a final opportunity for sections of the University that did not respond to the survey to provide feedback before the ILSC considers the Working Party recommendations.

6 VLE Prioritisation Survey

i) Methodological Issues

The timelines and resources available to the Working Party imposed certain constraints on the consultation process. It was determined that a survey in electronic form was the most effective and manageable way of obtaining widespread timely feedback from the University community. Faculty representatives indicated this needed to be done on a discipline basis because the diversity of disciplines in several faculties meant that an integrated faculty response was not possible. The Orange campus was treated separately because of its history of use of the commercial product WebCT. Student Services responded to the academic survey for their bridging subjects. Responses to the survey were sought from discipline groups and from divisions who were engaged with the professional development of academic staff.

A total of 38 (3 received after data collated) academic surveys and 8 divisional surveys were returned. Table 1 indicates the number of surveys per faculty and the number of subjects claimed to have been represented. The number of subjects represented by a single survey varied from 4 to 106 with an average of 22 subjects.

Table 1 Academic Survey responses by Faculty

Faculty	Number of Surveys	Number of subjects
Arts	1	21
Commerce	5	172
Education	8	92
Health	12	137
Science & Ag	10	250
Orange	1	106
Student Services	1	13
	38	791

Before considering results of the surveys, a number of limitations to the process need to be acknowledged. It was not possible to mandate a standard method of consultation and survey administration. Some surveys that claimed to project usage across a number of subjects were completed by an individual or small group. To guard against artefacts of particular approaches to data analysis, both a weighted (by number of subjects) and an unweighted approach were adopted, and subject mode was also considered. It was hoped that if different analyses produced the same broad pattern of results, confidence could be attached to the conclusions drawn. In addition an analysis was made of faculties for which a feature was a high priority to examine the breadth of interest in a particular learning technology.

It is also recognised that while staff may indicate a particular functionality as desirable, the likelihood of its adoption is dependent on the delivery of the identified benefits for learning in a way that is easy for staff and students to use.

Some staff found the survey cumbersome or its intent difficult to follow. However, the consistency and interpretability of the findings suggest that the data gathered is meaningful and represents a wide cross section of the University.

ii) Survey Results

a) *Broad principles*

In presenting the results the findings are contextualised in terms of the scoping reports, qualitative survey feedback and the Working Party deliberations. Comments on the surveys,

other written responses and feedback from representatives emphasised key concerns about the online learning environment:

- 1) Importance of ensuring user friendly, effective learning technologies. Staff want current applications to work as well as possible not just significant investment in new products. In fact many features identified can be seen as extensions of existing aspects of the online environment not totally new technologies.
- 2) Greater integration of the CSU online environment is needed to facilitate staff and student use. (This is being undertaken by the Subject Entry Point project.)
- 3) Likelihood of adopting a learning technology will depend on ease of use; it must deliver on the described benefits. The emphasis must be on the learning opportunities afforded by any technological feature not on the technology as such. Projects based on the prioritisation process must assess ability to deliver desired outcomes. Equally, additional staff may be attracted to use a new feature of the OLE once its potential for enhancing learning is demonstrated.
- 4) Students' perspective: The views of students were not systematically canvassed during this Working Party. Rather reliance was placed on feedback from academics and the divisions, particularly Student Services, to represent the needs of students. Information from the Student Experience Questionnaire and subject evaluations was considered where relevant. It was acknowledged that in a competitive market we need to be concerned about meeting student expectations.
- 5) Cognisance must be taken of the varied quality of students' online access. Some academics feel restricted by the limited University requirement for an hour a week administrative access. In the Faculty of Commerce attempts to maintain comparability of practice between onshore and offshore students (where CSU access is limited or non-existent) was seen to constrain use of the online environment.
- 6) Access issues for students with disabilities must also be considered in design and adoption of new features.

b) Current learning technologies (Survey Section 2)

Data for projected increase in take up of existing learning technologies by December 2006 is presented in Table 2. The data for Orange has been presented separately because it relates to a campus which is changing over to the CSU VLE. The block data for 106 subjects at Orange for all subjects adopting specific learning technologies may need further investigation given a more detailed survey of Orange staff usage of WebCT and their technology needs did not demonstrate uniform adoption of all nominated features (eg low take up of CHAT facility).

Table 2 Additional subjects planning to be using learning technologies by December 2006

	INT 2006	DE 2006	Orange NT	Orange DE
FLEXIBLE PUBLISHING	36	16	106	106
CHAT	11	20	106	106
EASTS	48	6	106	106
OASIS	23	37	10	10

The survey indicates a gradual extension of these learning technologies. As yet no formal response to the survey has been received from the School of Commerce but the Head of School indicated that an extension of use of OASIS was an important goal of that school.

c) New Learning Technologies (Survey Section 1)

A largely consistent picture of the priority areas of the academic respondents was derived from the varied forms of data analysis. Appendix B presents the full set of items and the percentage of surveys (averaged over Internal and DE subjects) which identified *Definitely* or *Likely* to use in response to the question *How likely is it that your discipline/area would actively use an online learning technology that provides the benefit below, in a significant number of subjects, by December 2006?* The rank ordering resulting from weighting surveys by the number of subjects represented is also indicated.

- The two highest priority areas were an online grade book function and online workspace and support software for students to support collaborative and individual online activities (shared workspace, file sharing, e-portfolios).
- Additional features to which a high priority was attached include online surveys, online marking, an assembler technology to support creation of learning resources instant messaging and monitoring of students' online engagement.
- The area of synchronous communication was rated as a low priority by the majority of respondents.
- The training needs of the divisions had significant overlap with the needs of faculties with prioritising of shared workspace, online surveys and an assembler technology.

Recommended features of each technology are listed in Appendix C with further information contained in the working group reports

S:\Common\ Temp Folder Less Than 90 Days\2005 OLE scoping project

iii) Review of High Priority Areas

a) Online Grade book

The introduction of a technology to support efficient online handling of grades was the most highly ranked additional feature to the online environment.

Item	How likely is it that your discipline/area would actively use an online learning technology that provides the benefit below, in a significant number of subjects, by December 2006?	% surveys indicating likely use averaged across modes [Rank]	Rank Weighted by subject number	Comments
	Online grade book			
7	Improved efficiency for academics in managing, viewing and manipulating class, group or individual assessment scores and final grades online.	72% [1]	1	All faculties
6	Opportunities for students to learn from the assessment tasks prior to further assessment through increased timeliness and accessibility of provision of results online.	62% [4]	4	Particularly important for DE (67%)

An online system for recording grades

- i) Needs to be introduced as a University wide administrative system
- ii) Needs to be integrated with the CSU Banner system
- iii) Needs a built in calculation function
- iv) Removes the multiple entry of marks in electronic and paper form and thus reduces clerical errors
- v) Reduces administrative data entry demands on schools
- vi) Provides students with more rapid access to assignment marks
- vii) May require revised assessment protocols and regulations.

The Orange campus has experience with using an online grade book and has found it favourably received by students.

It is important to note that this function at least in a basic form is an administrative addition not an enhancement of learning and teaching, as such. It has the potential to make a positive impact on academic and school-based administrative staff workloads and also has significant benefits for students.

Given the importance given to speedy feedback to students (see below - Online Marking) consideration should be given to the adoption of a system which enables the delivery of online qualitative feedback prior to return of hard copy assignments. If this feature were incorporated into the system then this technology has the potential to address a very significant area for students, their desire for prompt feedback.

b) Student Workspace/ Publishing Area

Item No.	How likely is it that your discipline/area would actively use an online learning technology that provides the benefit below, in a significant number of subjects, by December 2006?	% surveys indicating likely use averaged across modes [Rank]	Rank Weighted by subject number	Comments
	Student workspace			
3	Enhanced opportunity for student collaborating in groups/teams through sharing of and contributing to shared online resources.	64% [2]	2	All faculties
22	Increased efficiency of collaborative projects and work through online sharing and working on the same files.	60% [5]	3	All faculties
	E-portfolio			
1	Students can demonstrate professional practice by collecting, storing and presenting relevant information by using an online space (often referred to as e-portfolio).	63% [3]	6	Courses with professional basis

Currently students can engage in online group work through sub forums using attachments. This is cumbersome and difficult to manage. There is a high demand for a shared presentation/web publishing area for students to support increased cooperative learning in small groups, supported by systems for efficient file sharing.

There is also a high priority on providing space and supporting software for assembling of e-portfolios. These portfolios are seen as a record of student learning. Current space is not

organised appropriately and large enough to allow students to assemble a record of their professional work (or developing graduate attributes) over the duration of their course. Professional portfolios may be assessable items. They can also potentially be a record of lifelong learning and it is suggested that graduates retain access to portfolio space.

c) Online Surveys/Polls and Assessment (OASIS)

The online surveys/polls shares elements with the multiple choice assessment functions of OASIS but require different data handling and output. An extended version of OASIS is being released. It is recommended that this version be fully evaluated. In 2004 OASIS handled over 14000 individual test submissions in some 164 subjects by 1251 individual students, so it is a very significant learning technology. The extension of the technology to online surveys and polls is in the high priority category and could be considered as part of the evaluation process. It was also recommended that consideration be given to the development of generic item banks (eg in relation to study, referencing and library skills etc.)

Item No.	How likely is it that your discipline/area would actively use an online learning technology that provides the benefit below, in a significant number of subjects, by December 2006?	% surveys indicating likely use averaged across modes [Rank]	Rank Weighted by subject number	Comments
	Online Surveys/polls			
19	Increased student responsibility for their own learning by involving them in decisions about how they might learn as well as checking that students have mastered a particular activity or skill through creating online surveys and polls.	55% [7]	8	

d) EASTS and online marking

A revision of EASTS is to be undertaken in 2006. The revision will address a range of issues including the printing of various file types and the better handling of Excel files. A revision of EASTS will need to be interrelated with any grade-book application that is added to the VLE.

Item No.	How likely is it that your discipline/area would actively use an online learning technology that provides the benefit below, in a significant number of subjects, by December 2006?	% surveys indicating likely use averaged across modes [Rank]	Rank Weighted by subject number	Comments
	Online Marking			
5	Improved efficiency for markers using online marking through easily appending generic comments, convenient use of plagiarism software, turnaround time of expert markers, and taking advantage of reusable digital objects.	57% [6]	9	Supported by Health Sci&Ag Orange St Services
4	Improved quantity and quality of assessment feedback to facilitate the development of higher order thinking through online marking by building on generic, comments using annotations, audio or video and discipline specific features such as mathematical and	54% [8]	10	

	scientific notation and calculation.			
--	--------------------------------------	--	--	--

There is significant interest in the possibility of online marking in some disciplines. Currently a trial is being undertaken of online marking and recommendations from this group can inform the revision of EASTS. It is recommended that CSU continues to explore possibilities of online marking which has significant advantages in terms of assignment turnaround, legibility of feedback, ability to draw appropriately on a bank of generic comments, and plagiarism checking.

Feedback from the recently introduced Student Experience Questionnaire and from subject evaluation indicates promptness of feedback is a major concern for students. However, for widespread adoption the system has to be flexible and easy to use by markers. For instance marking is currently often undertaken off campus. In the short to medium term adoption of online marking is likely to be focused around certain disciplines and types of assignment where major advantages are perceived.

Equity issues for students unable to submit assignments online would also need to be considered both in relation to timeliness of feedback and plagiarism checking.

Decisions about online marking need to be taken in conjunction with the features provided in an online grade book (potentially another approach to providing some online feedback).

e) Assembler Technology for creation of online learning materials

The acquisition of an assembler technology to support the integration of digital files into learning materials is a high priority for both academic and divisional staff particularly in DE subjects. If CSU purchases a Digital Object Repository for the storage and retrieval of digital resources, an efficient assembler technology provides the link between this system and resources presented through the online learning environment.

Item No.	How likely is it that your discipline/area would actively use an online learning technology that provides the benefit below, in a significant number of subjects, by December 2006?	% surveys indicating likely use averaged across modes [Rank]	Rank Weighted by subject number	Comments
	Assembler			
24	Increased academic planning regarding, and higher quality of, online learning materials through ease of assembling digital learning content from a variety of sources.	50% [9]	7	Particularly for DE materials (56%)

f) Synchronous and asynchronous communication

The results of the survey indicated staff attach a low priority to the acquisition of synchronous communication tools. This includes cost efficient on-line voice communication in real time (Voice-over-IP) which was ranked 20/27. The results do not support prioritising the acquisition of a synchronous communication product or a major investment in the CHAT application. Reasons given for lack of support for these technologies include staff workload, limitations in effective group size, scheduling difficulties with getting students together at a single time, and technical difficulties in getting all students online (firewalls etc).

It was also pointed out that the distinction between synchronous and asynchronous communication is becoming blurred (eg some academics chose to inform students when they will be online in forums to answer questions etc.)

A feature that was given a fairly high priority particularly for subjects with an IT focus was instant messaging. As an additional feature to the current online environment this can enhance student connectedness without the difficulties of organised real time online teaching.

Item No.	How likely is it that your discipline/area would actively use an online learning technology that provides the benefit below, in a significant number of subjects, by December 2006?	% surveys indicating likely use averaged across modes [Rank]	Rank Weighted by subject number	Comments
	Instant Messaging			
17	Increased online collaboration and relationship building through being informed when a co-member of a group is online and then to be able to make immediate contact.	39% [12]	5	Particularly in IT related subjects across faculties
	Online Monitoring			
27	Improved motivation and support of students through enhanced monitoring of their online learning progress.	49% [10]	11	

There was also support for enhanced online monitoring systems to track individual student progress. Again this is a feature of an asynchronous environment that facilitates individualised support for students.

Recommendations

1. The VLE Working Party endorses a significant expansion and investment in the online learning environment to improve its coherence, the effectiveness of existing learning technologies and the addition of further functionality as part of the CSU strategic commitment to enhancing the online learning environment.
2. High priority be given to the introduction of a grade book function in the online environment that assists efficient grade handling by academics and provides students with ongoing access to their assignment marks/grades. The grade book needs to interface with the Banner system to eliminate multiple entries of grades. The project will need to be conducted in conjunction with a consideration of the implications for CSU assessment procedures and regulations.
3. The capacity of students to work cooperatively and individually in the online environment be enhanced by
 - i) Establishment of shared workspace and file sharing systems to support cooperative learning activities.
 - ii) Establishing space and framework for creation of e-portfolios
4. The current upgrade to OASIS be systematically evaluated and the addition of a function to analyse online surveys and polls be explored.

5. The planned upgrade of EASTS take account of recommendations from the project group exploring online marking. Further investigation be undertaken of technologies to support more timely feedback to students through online return of assignments or by the inclusion of a qualitative feedback function within the grade book function.
6. The provision of an assembler function to support the easy creation of learning materials from variety of digital resources be prioritised (maybe in conjunction with the evaluation of Digital Object Repository Systems).
7. In the short to medium term CSU direct resources to the enhancement of the asynchronous interactive features of its online environment (including instant messaging and online monitoring) rather than a significant investment in synchronous online technology.