A 2010 Snapshot of Educational Technology use by Teaching Staff of Charles Sturt University

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Introduction

- adoption of educational technologies crucial for student centred models

- the skilful use of educational technologies is becoming a professional requirement

- survey done to more effectively provide educational technologies to staff

- anonymous survey of 246 teaching staff at CSU about their attitudes towards and practices with technology for teaching

Background

- variations in support styles is needed to address the range of academic users from the well discussed early adopters to the reluctant adopters

- the perceptions and attitudes of staff need to be considered so that more inclusive and effective training and technology selection strategies can be implemented.
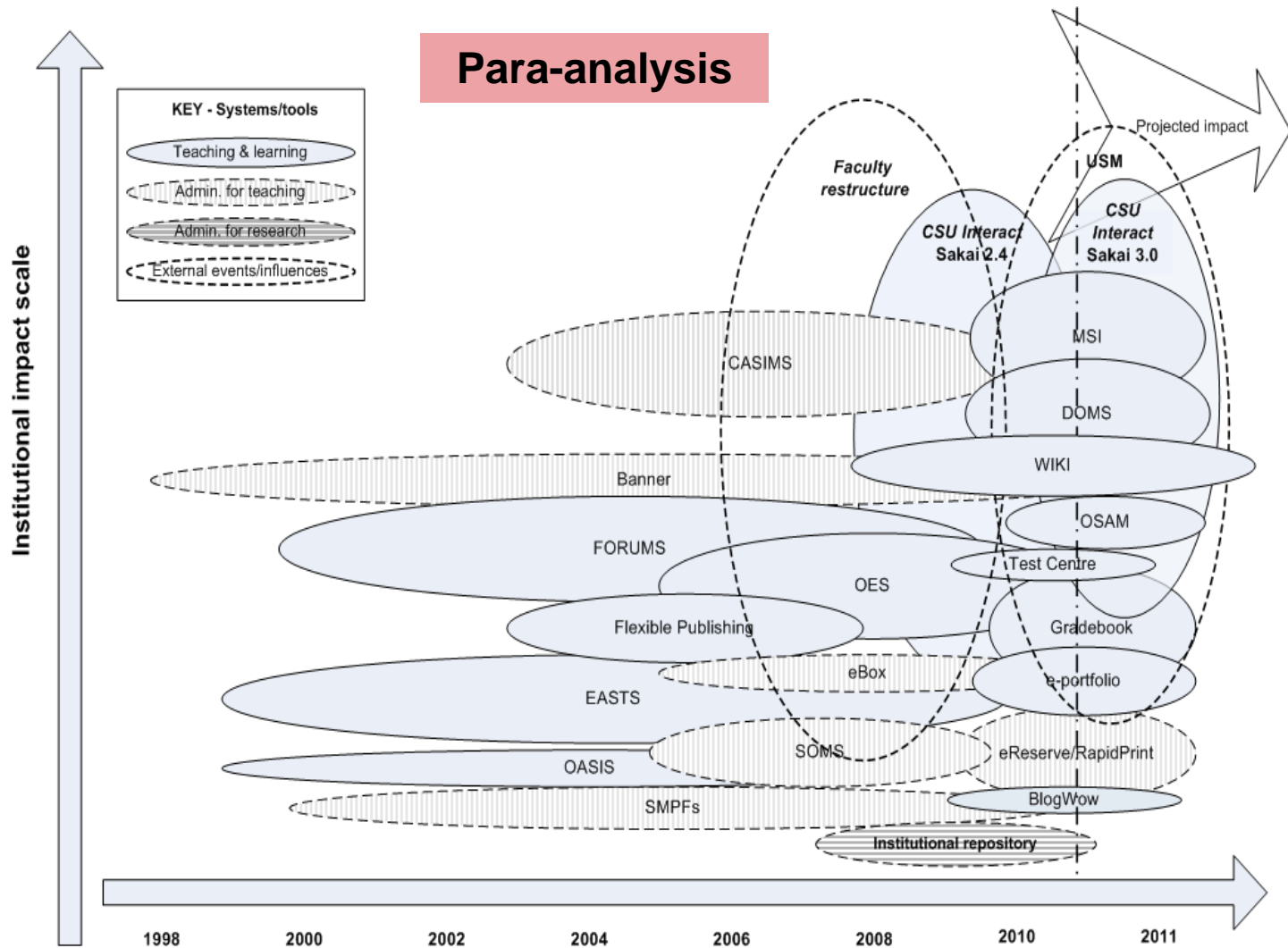
Background

- critical to consider the needs and preferences of the students who are supposedly the beneficiaries of these technologically enhanced experiences

- university students today are generally used to using a fairly limited range of technologies such as surfing the internet, email, mobile telephony, sms and office applications.

-Seeing the myriad technologies as an opportunity to improve teaching and learning for students, rather than as something students already know and expect to use, may be a more solid foundation n which to build the educational technology skills of teaching staff in universities.

The Study

The CSU context

- In 2010 the University employed 673 full-time equivalent academic staff, in four faculties (Arts, Science, Business and Education), as well as adjunct staff in a number of partner institutions within Australia and offshore.
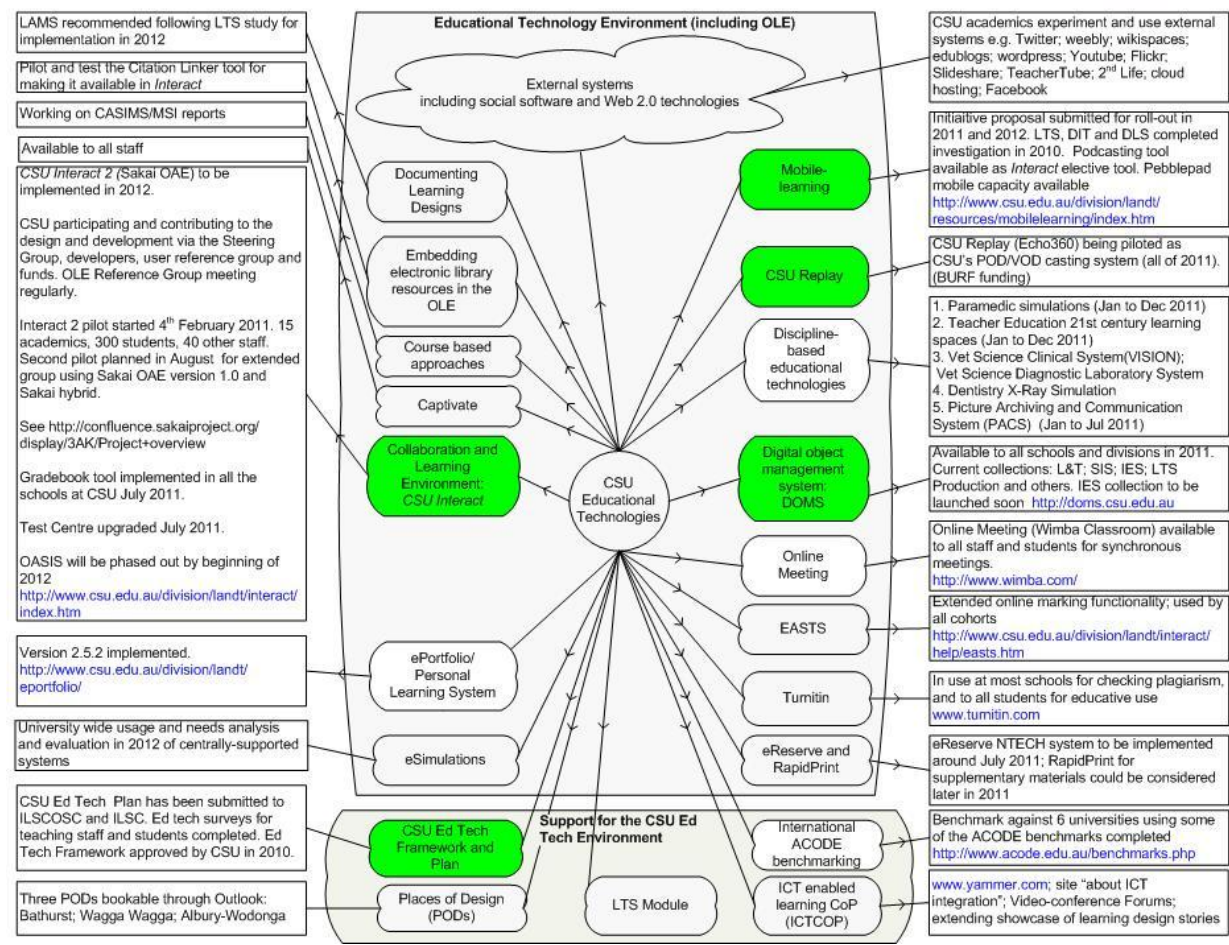
Para-analysis

(Buchan, 2010)

Dashboard of CSU Educational Technologies

http://tinyurl.com/ltsystemsdashboard   Prepared by the Division of Learning and Teaching Services, Charles Sturt University   22 July 2011

Green indicates major developments at present

Educational Technology Environment (including OLE)

External systems including social software and Web 2.0 technologies

LAMS recommended following LTS study for implementation in 2012

Pilot and test the Citation Linker tool for making it available in *Interact*

Working on CASIMS/MSI reports

Available to all staff

CSU Interact 2 (Sakai OAE) to be implemented in 2012.

CSU participating and contributing to the design and development via the Steering Group, developers, user reference group and funds. OLE Reference Group meeting regularly.

Interact 2 pilot started 4th February 2011. 15 academics, 300 students, 40 other staff. Second pilot planned in August for extended group using Sakai OAE version 1.0 and Sakai hybrid.

See http://confluence.sakaiproject.org/display/3AK/Project+overview

Gradebook tool implemented in all the schools at CSU July 2011.

Test Centre upgraded July 2011.

OASIS will be phased out by beginning of 2012
http://www.csu.edu.au/division/landt/interact/index.htm

Version 2.5.2 implemented.
http://www.csu.edu.au/division/landt/eportfolio/

University wide usage and needs analysis and evaluation in 2012 of centrally-supported systems

CSU Ed Tech Plan has been submitted to ILSCOSC and ILSC. Ed tech surveys for teaching staff and students completed. Ed Tech Framework approved by CSU in 2010.

Three PODs bookable through Outlook: Bathurst; Wagga Wagga; Albury-Wodonga

Documenting Learning Designs

Embedding electronic library resources in the OLE

Course based approaches

Captivate

Collaboration and Learning Environment: *CSU Interact*

ePortfolio/ Personal Learning System

eSimulations

CSU Ed Tech Framework and Plan

Places of Design (PODs)

CSU Educational Technologies

Mobile-learning

CSU Replay

Discipline-based educational technologies

Digital object management system: DOMS

Online Meeting

EASTS

Turnitin

eReserve and RapidPrint

Support for the CSU Ed Tech Environment

International ACODE benchmarking

LTS Module

ICT enabled learning CoP (ICTCOP)

CSU academics experiment and use external systems e.g. Twitter; weebly; wikispaces; edublogs; wordpress; Youtube; Flickr; Slideshare; TeacherTube; 2nd Life; cloud hosting; Facebook

Initiative proposal submitted for roll-out in 2011 and 2012. LTS, DIT and DLS completed investigation in 2010. Podcasting tool available as *Interact* elective tool. Pebblepad mobile capacity available
http://www.csu.edu.au/division/landt/resources/mobilelearning/index.htm

CSU Replay (Echo360) being piloted as CSU's POD/VOD casting system (all of 2011). (BURF funding)

1. Paramedic simulations (Jan to Dec 2011)
2. Teacher Education 21st century learning spaces (Jan to Dec 2011)
3. Vet Science Clinical System(VISION); Vet Science Diagnostic Laboratory System
4. Dentistry X-Ray Simulation
5. Picture Archiving and Communication System (PACS) (Jan to Jul 2011)

Available to all schools and divisions in 2011. Current collections: L&T; SIS; IES; LTS Production and others. IES collection to be launched soon http://doms.csu.edu.au

Online Meeting (Wimba Classroom) available to all staff and students for synchronous meetings.
http://www.wimba.com/

Extended online marking functionality; used by all cohorts
http://www.csu.edu.au/division/landt/interact/help/easts.htm

In use at most schools for checking plagiarism, and to all students for educative use
www.turnitin.com

eReserve NTECH system to be implemented around July 2011; RapidPrint for supplementary materials could be considered later in 2011

Benchmark against 6 universities using some of the ACODE benchmarks completed
http://www.acode.edu.au/benchmarks.php

www.yammer.com; site "about ICT integration"; Video-conference Forums; extending showcase of learning design stories

http://www.csu.edu.au/division/lts/docs/role/ltsystemsdashboard.pdf

Questionnaire design

- designed in close cooperation with staff from the University of Waikato, New Zealand in mid-2010.

- The questionnaire was based on the following surveys: University of Waikato, Staff and Student eLearning surveys 2008; ECAR Research study 6, 2007; Student Information and communications Technology project, University of Edinburgh; Association of College and Research Libraries, Informing Innovation survey 2009; VERSO, 2008; UNSW@ADFA, Students' ICT Experience, 2008; Victoria University, Student Questionnaire, 2009; MacQuarie University, Student Experience of Technologies in Universities, 2010; University of Wollongong Survey, 2008; UTAS, Staff and Student experience with eLearning technology surveys 2010.

Questionnaire design

-The questionnaire was thereafter customised to address key concerns about educational technology at CSU and had the following sections: Demographics – Personal; Demographics – Institutional; Technology Access; Use and awareness; Features currently used; Features they would like to use to support their learning; Views and Experience; University Services.

- A similar questionnaire was designed and administered among CSU students.

Administration and Sample Demographics

- Ethics approval for this survey was obtained from the CSU Learning & Teaching Services Ethics Committee

- online in Survey Monkey between 13 July 2010 and 1 August 2010. It was widely promoted in CSU and its partner institutions

-The survey was conducted anonymously and took approximately 30 and 45 minutes to complete

- Generally items have been chosen for reporting where it was considered that their usage was sufficiently common across the sector to warrant wider interest

Administration and Sample Demographics

- 246 teaching staff members, including 105 males, 137 females, and 4 not stating their gender

- 63 respondents from the Faculty of Arts, 40 from Business, 70 from Education and 49 from Science, with 24 indicating that they were not in a faculty

- 21 respondents indicated that they were aged 55-60, 43 were 51-54, 32 were 45-50, 47 were 40-44, 34 were 35-39, 24 were 30-34, 21 were 26-29, 10 were 22-25, 11 were 18-21 and 3 indicated that they were less than 18

Findings

General attitude towards technology
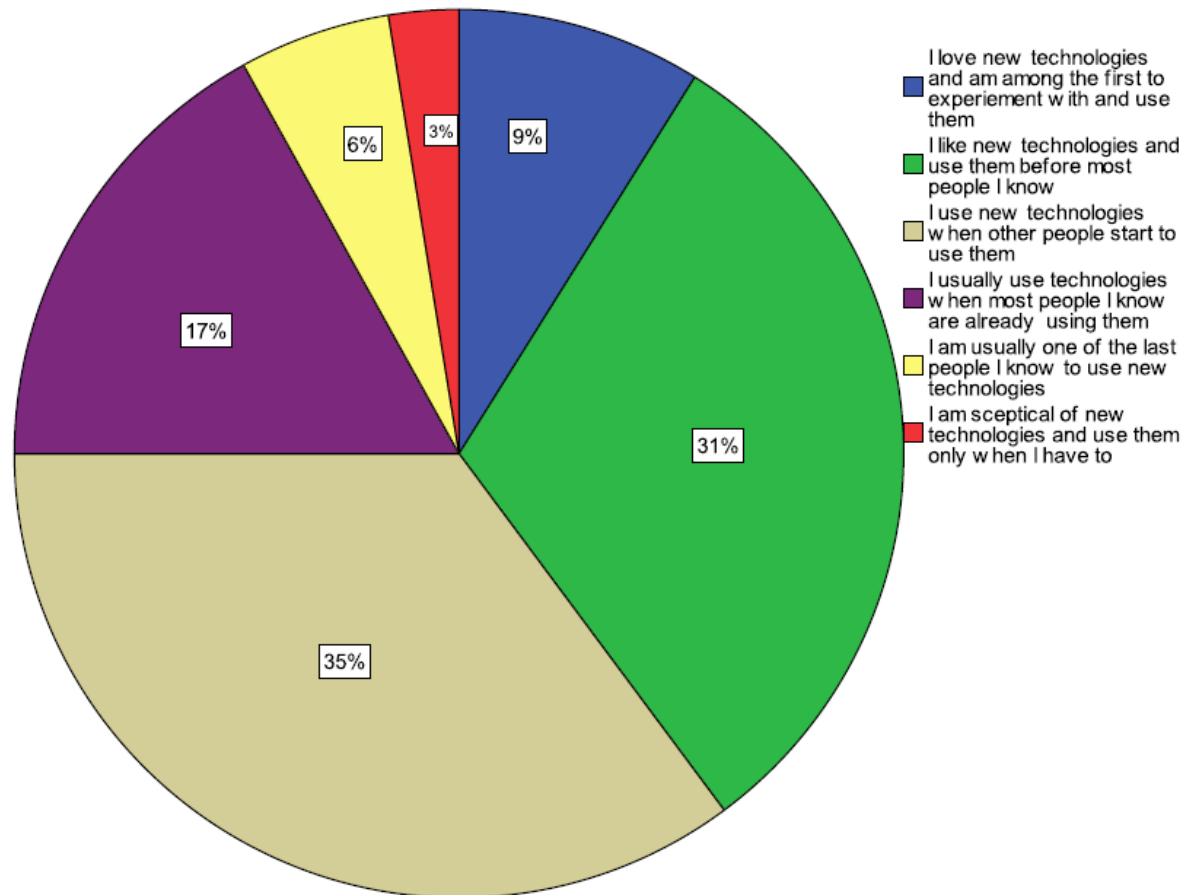
Figure 1: Attitudes towards new technologies

General usage of technology (8/60)

Table 1: Technology Use and Awareness

Technology or Tool	Never heard of it	I've heard the name but not really sure what it is	I know what it is but have never used it regularly	I use this occasionally	I use this regularly
Social Networking (eg. Facebook, LinkedIn, MySpace, Orkut, Ning)	0.4%	5%	36%	32%	26%
Email (Hotmail, gmail, Outlook)	0.8%	0.4%	0.8%	1.3%	97%
Wikis	3%	11%	39%	28%	19%
Electronic Simulations and Virtual Worlds (Second Life)	22%	20%	50%	5%	3%
Microblogging Services (Twitter, Tumbir, Yammer)	7%	19%	52%	14%	8%
Podcasts	3%	9%	34%	31%	23%
Spreadsheets (eg. MS Excel)	1%	0.4%	4%	18%	76%
Presentation Software (PowerPoint, Keynote)	1%	0.8%	4%	12%	82%

Attitude towards educational technology
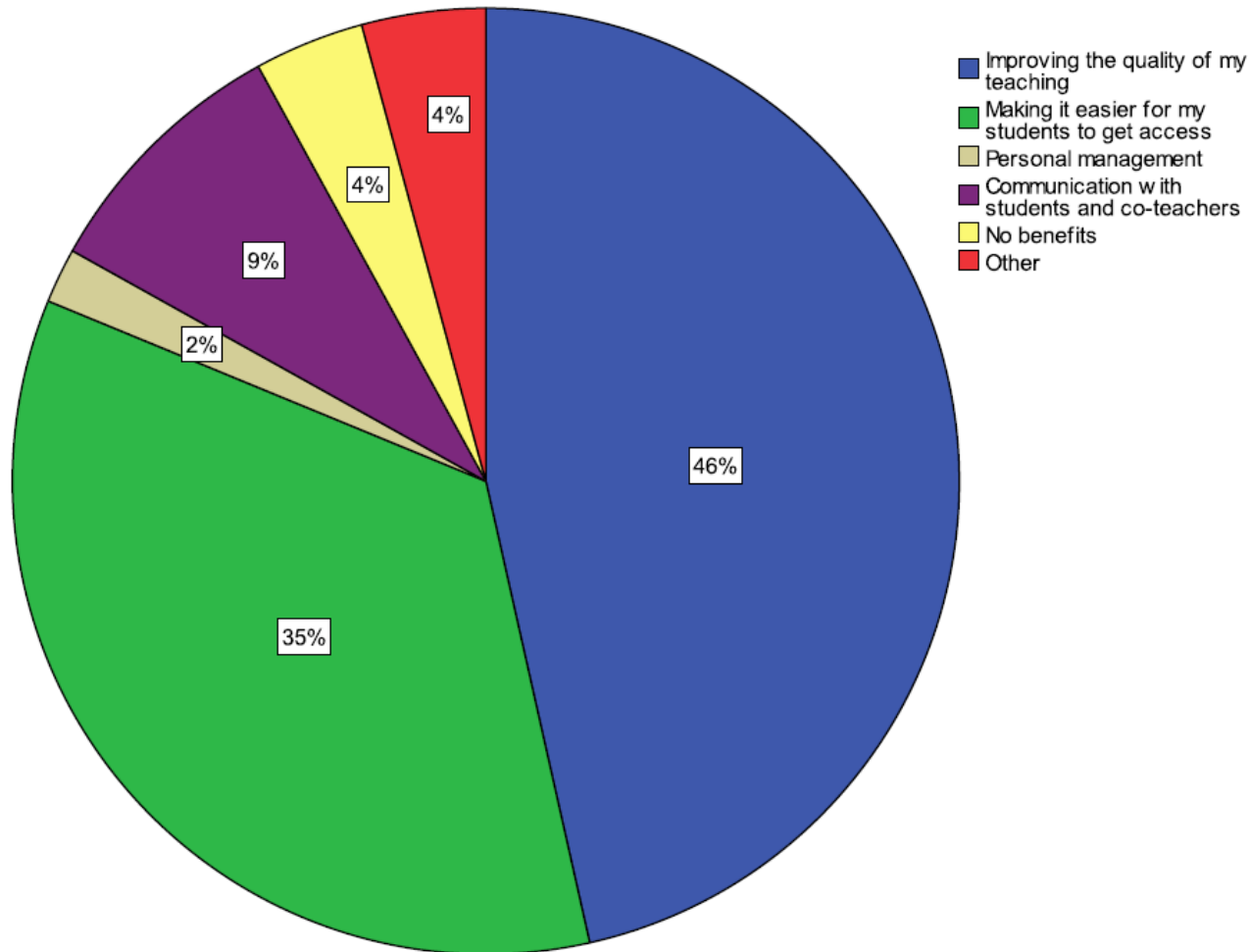
USE of the LMS (Sakai)

Table 2: Reasons for using the Learning Management System

Reason	Respondents (of 232 using the LMS)
It is Faculty/School policy	151
To allow access to supplementary resources	150
To increase the opportunities for communication	147
To allow access to lecture notes, slides and handouts	143
To increase the flexibility of teaching & learning	125
To provide blended subjects (where some core content, communication, readings or assessment is included online)	97
To allow access to audio or video resources	97
To selectively release online activities and content	69
To provide fully online subjects	63
For formative assessment (feedback only)	62
For summative assessment (count towards grades)	55
My students demand it	40
To use or link to simulations and virtual worlds online	28
Other (please specify)	11

Usage of selected technologies in teaching

	Frequency of Current Use			Frequency of Desired Use		
	Weekly or more (1)	Less than weekly (2)	Never (3)	Weekly or more (1)	Less than weekly (2)	Never (3)
Announcements	59.5%	33.9%	6.5%	69.8%	24.3%	6.0%
Lecture recordings	16.3%	19.4%	64.3%	41.5%	29.0%	29.4%
Discussion forums	63.9%	21.8%	14.3%	65.2%	25.3%	9.6%
Chat room	23.3%	25.6%	51.1%	38.1%	30.3%	31.7%
Wikis	15.0%	32.6%	52.4%	32.4%	32.9%	34.7%
Blogs	14.2%	25.7%	60.2%	29.1%	32.7%	38.2%
ePortfolios	10.7%	16.9%	72.4%	25.2%	31.8%	43.0%
Assignments – students getting marked work back online	12.4%	37.6%	50.0%	19.0%	60.7%	20.4%
Plagiarism checking by students before submitting their assignments	5.8%	17.0%	77.2%	20.0%	62.8%	17.2%
Animation	8.9%	22.2%	68.9%	25.5%	35.7%	38.9%
Quizzes for learning / self review / assessment	13.2%	33.3%	53.5%	28.8%	52.1%	19.2%
Subject information on my students' mobile devices (handheld)	4.9%	4.0%	91.1%	22.2%	25.0%	52.8%
Digital object management system (Equella)	4.0%	2.2%	93.8%	14.8%	23.3%	61.9%

Comparison by Age, Gender and Faculty

- a series of Multivariate Analysis of Variance (MANOVA) procedures were carried out using age, gender and faculty as independent variables

- analysis focusing on general purpose technologies indicated that there were no significant differences between male and female staff usage of any of the technologies

- younger teaching staff members used social networking tools significantly more frequently

Comparison by Age, Gender and Faculty

- no significant faculty related differences for usage of general purpose technologies

- teaching technologies also found no significant main effect of gender, indicating that there is no difference in usage by male and female teaching staff

- there were also no significant age related differences in frequency of use of these technologies.

Relationship between general technology usage and usage of technology for teaching

- personal usage and awareness of technologies is a strong driver of use of technology for teaching (as expected)

- in the case of usage of ePortfolios and plagiarism checking software, it may be that the range of initiatives within the university to promote usage have led to early adoption of these tools by people who were not naturally high users of technology.

Discussion and conclusion

- high usage figures for many teaching technologies, including technologies which most would assume would still be used only by early adopters. Mainstream tools like the announcements tool (usage of close to 95%) and discussion forums (usage of close to 85%) have become almost ubiquitous at CSU, while 28% of respondents are using ePortfolios, 40% are using Blogs and 48% are using Wikis all of which would be seen by many as leading edge Web 2.0 technologies. These findings can be contrasted with those of Shannon and Doube (2004), who in 2003 found that 55% of their University of Adelaide respondents used web teaching tools 'less than a moderate amount'.

Discussion and conclusion

- The even higher desired usage figures for these technologies suggest that their usage will continue to increase in the coming years to the point where the majority of university teachers will be making use of them.

Discussion and conclusion

- two technologies with very low current use and relatively low desired use, namely tools for the provision of subject information on mobile devices and the object management tools. The low current usage is reflective of the fact that these tools were not yet widely available at the time that the survey was completed. The low desired usage has implications for the university in terms of the professional development required. mLearn project has now started and new collections in the DOMS.

Discussion and conclusion

- teaching staff have genuine educational reasons for choosing to use technologies in their teaching. The fact that many teaching staff are making decisions to use online tools within their subjects that are not mandatory, such as Wikis, Blogs and ePortfolios, suggests that these staff are making decisions based on perceived pedagogical benefits.

Discussion and conclusion

-still a large proportion of staff who have little experience with emerging technologies like virtual worlds, podcasts, social networking tools and microblogging tools. This suggests that as Spicer (2003) points out, support for teaching staff needs to cater for staff at a wide range of levels of technology awareness and experience.

Discussion and conclusion

- a sizable minority of teaching staff use social networking tools, wikis and podcasts regularly. This runs counter to the notion suggested by Prensky (2001) of a Digital Immigrant teaching population teaching a 'Digital Native' population of students.

Discussion and conclusion

- Even though some teaching staff would fit into the age bracket characterised as Generation Y, and so might on this basis be assumed to be 'Digital Natives', the lack of age effects for usage of most technologies suggests that it is not in fact the younger staff who make up the group of frequent users of emerging technologies.

Discussion and conclusion

- In conjunction with earlier studies such as Kennedy et al. (2007) which suggests that many students are not regular users of Web 2.00 technologies and Kennedy et al. (2008) which suggests that age is not a good predictor of student and staff use of technologies in general, it becomes very clear that assumptions about staff or students' technology preferences, usage or proficiency based on age would be highly misguided.

Discussion and conclusion

- Perhaps the main assumption that could be made in relation to teaching staff and educational technology use is that as their technology proficiency increases so will their preference for a choice of tools that fit their diverse pedagogical needs.

Thank you

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