Measure.

FINDINGS OF THE MLEARN PROJECT

Measure

SUMMARY OF FINDINGS

The findings from these trials are based on the two surveys conducted, one at the start of the trial one at the end. In addition to this data are written reports from academic staff and informal one-to-one interactions that occurred between participants and the project team. This feedback has enabled the project to explore how students and staff have utilised the iPads and what their views are about various aspects of mobile technology.

PRE-TRIAL SURVEY

The pre-trial surveys were used to gather information to understand the participants' general level of knowledge, experience and confidence with the devices. In Survey 1 there were 43 responses: EML309 47%, ITC594 26%, MRS222 28%, and in Survey 2, 14 responses: 4 Students and 10 Staff members. The key measures from this survey were previous use of iPads, confidence in using them at the start of the trial and their current ownership of technology at the start of the trials.
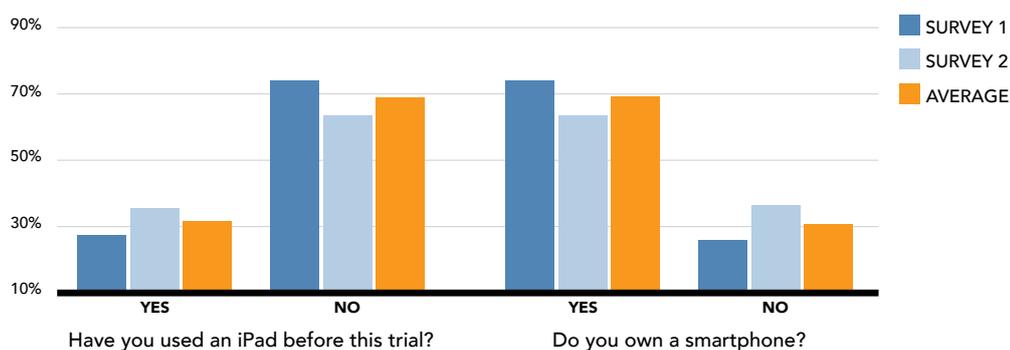

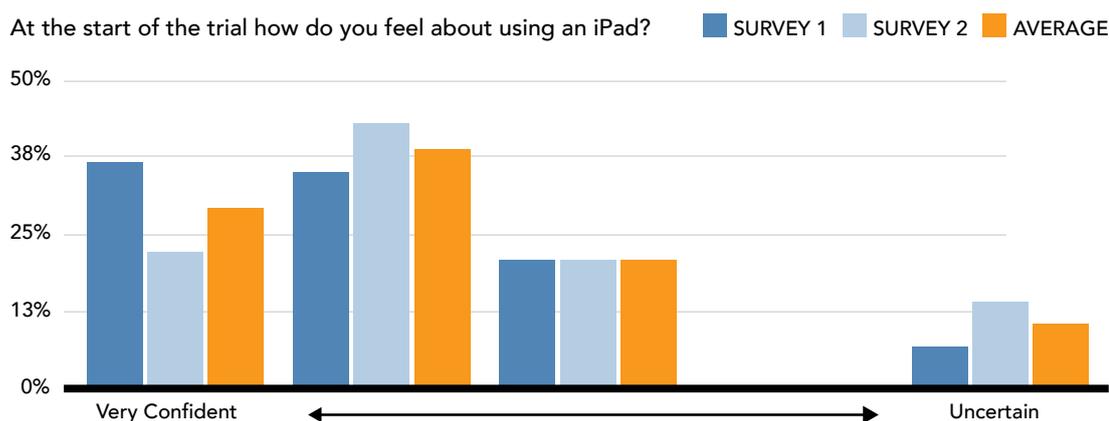*Figure 1: Previous experience with an iPad and smartphone ownership*

Figure 2: Question used a Likert scale to plot participant confidence.

These surveys were also used to get a better sense of their expectations of services and content related to the LMS (*Interact*) that should be available on mobile.

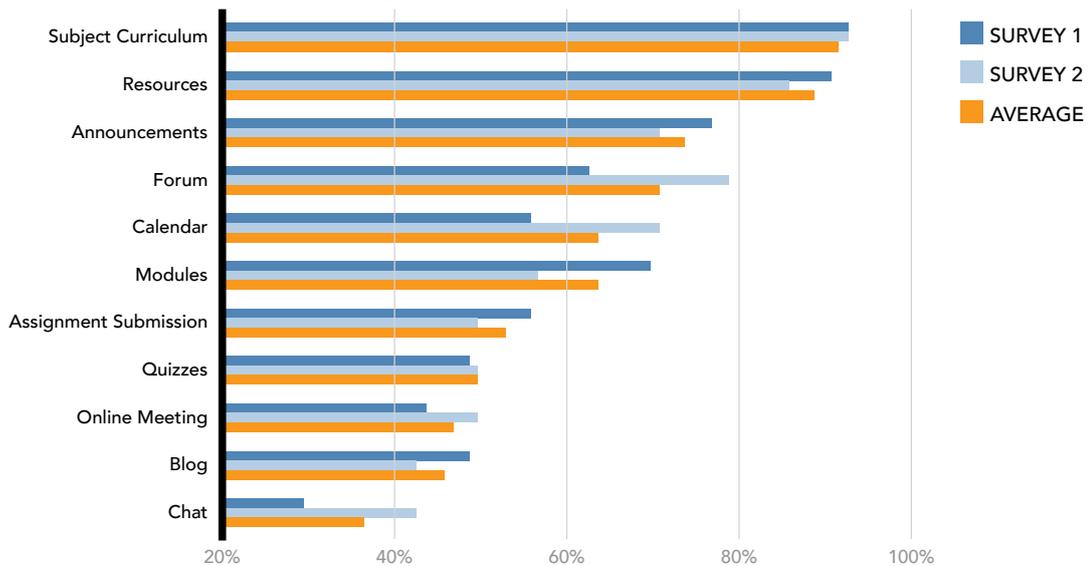## What tools from the LMS would you like to access on a mobile device?

Figure 3: Feedback from student as to what tools from the LMS they would like to access on a mobile device

What aspects of learning and teaching should be available on mobile technology?
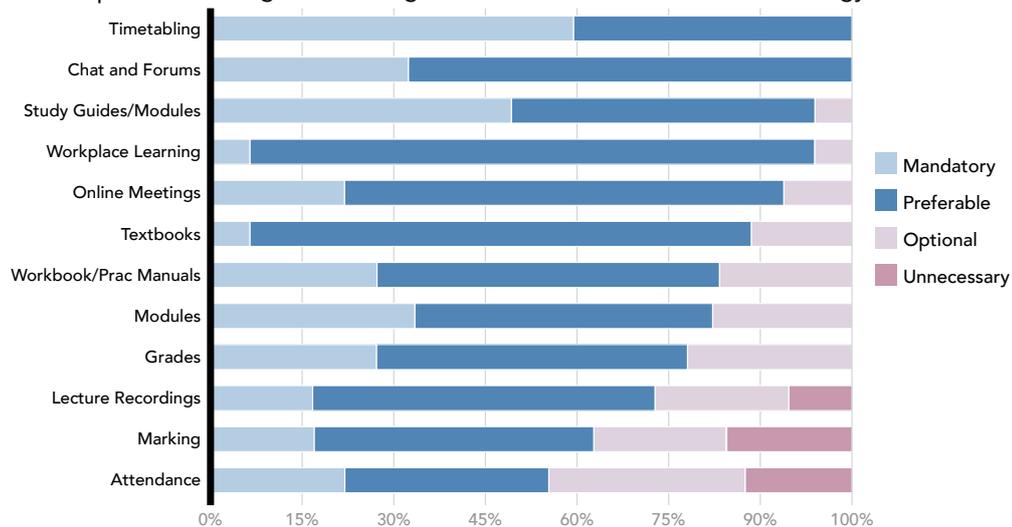

Figure 4: Feedback from participants on what aspects should be accessible on mobile technology.

EXIT SURVEY

The exit survey was used to measure what staff and students had done in the trials, how they had used the devices and how they viewed using the iPads. This survey have been broken up into three participant groups; Student Group 1 were part of the first set of trials, Student Group 2 who were the longitudinal group from MRS222 who conducted the exit survey after two sessions with the iPad, and the final group was made up of the staff participants. Participation was as follows:

» Student Group 1 (SG1): 13 Responses (EML309 77% & ITC594 23%)
» Student Group 2 (SG2): 5 Responses (MRS222 100%)
» Staff Group (STG): 9 Responses (Community Health 22%, Environmental Science 11%, Dentistry & Health Sciences 33%, Academic Support 11%, Other 22%)

Activities on the iPad

One of the key outcomes of the surveys was to gain a better insight into how staff and students would use an iPad. Across the three groups usage can be broken into the following categories:

Students reported that they would spend more time accessing their subject outlines, Interact, other learning materials and their lecture when they had an iPad. Access to library, forums and textbooks remain unchanged.

The median measurements across the groups showed that **the iPad was used 6.5 days a week for around 1.5 hours each day**.

The iPad's Effect

This section of the survey was used to gain a subjective assessment of how they felt using the iPad may have affected them. Staff and students responded that the iPad wasn't a distraction in class, a distraction in their personal space nor did it make them more focused in class. The majority of staff and students did feel though that the iPad made them feel:

- » more engaged and active in class and the subject as a whole;
- » it was a benefit during classes and personal time;
- » more motivated for study and that they were learning better;
- » and that they would recommend the iPad as a study tool.

Technology Preferences

Laptops are the preferred technology to:

- » Write an Essay
- » Use PebblePad.

Tablets are the preference for the remainder of the activities explored in the survey:

- » Write a blog/wiki
- » Access Interact
- » Access student.csu (which is the central student support website) Access staff.csu (which is the central staff support website)
- » Read your learning materials
- » Take to Class
- » Take to Practicum
- » Take to Conference
- » Take Home
- » Device supplied by the University.

One activity that had a preference for paper was "Read your Textbook".

Technical Findings

Other significant technical issues were uncovered during the trials including:

- » The CSU WiFi network uses the EAP encryption method that is incompatible with some devices, in particular eReaders and older mobile devices.
- » The Lithium batteries used in mobile devices are considered to be dangerous goods, and cannot be transported by air. Sending iPads by road transport lengthens the postage time to most students. Courier services offer an alternative in some cases but dramatically raise costs.
- » Apple licensing limitations that state a device can be associated with only one Apple ID account at any given time, and you may switch a device to a different account only once every 90 days.
- » Many components of the CSU online experience are not mobile friendly and use legacy technology or those incompatible with many mobile devices, in particular Java and Flash. These issues are compounded by the inability to provide support remotely or resolve systemic issues through the project.

» The iPads were extremely robust and build quality is excellent. No devices failed and only three were damaged through accidental drops.

PRE-SURVEY DATA

Phase 1

43 Responses: EML309 47%, ITC594 26%, MRS222 28%

Phase 2

14 Responses: 4 Students 10 Staff

Device Ownership

	Yes		No	
	n	%	n	%
Have you used an iPad before this trial?				
Phase 1	11	26%	32	74%
Phase 2	5	36%	9	64%
Do you own a Smartphone?				
Phase 1	32	74%	11	36%
Phase 2	9	64%	5	36%
				NB (Yes = 3/4 students and 6/10 staff)
Do you own a Tablet device?				
Phase 1	7	16%	36	84%
Phase 2	1	7%	13	93%
Do you own an eReader?				
Phase 1	4	9%	36	91%
Phase 2	2	14%	12	86%

Confidence Using Technology

	1 - Uncertain		2		3		4		5 - Very Confident	
	n	%	n	%	n	%	n	%	n	%
How do you feel about using an iPad for this subject?										
Phase 1	0	0%	2	5%	10	23%	16	37%	15	35%
Phase 2	4	29%	0	0%	2	14%	5	36%	3	21%
How do you feel about using mobile technology for your study?										
Phase 1	3	7%	0	0%	9	21%	15	35%	16	37%
Phase 2	2	14%	0	0%	3	21%	6	43%	3	21%
How do you feel about using mobile technology for social media?										
Phase 1	0	0%	0	0%	4	9%	14	33%	25	58%
Phase 2	4	29%	1	7%	0	0%	4	29%	5	36%
How would you rate your general computer knowledge?										
Phase 1	0	0%	0	0%	9	21%	18	42%	16	37%
Phase 2	0	0%	1	7%	6	43%	4	29%	3	21%

Current Phone Usage

	Once a week		Once a day		Many times a day		Other	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*
How often do you use your mobile phone?								
Phase 1	0	0%	5	12%	38	88%	0	0%
Phase 2	0	0%	2	14%	10	71%	2	14%

What Should be Mobile?

What Interact tools would you like to access on a mobile device?

	Phase 1		Phase 2	
	n	*%*	*n*	*%*
Subject Outline	40	93%	13	93%
Forum	27	63%	11	79%
EASTS	24	56%	7	50%
Calendar	24	56%	10	71%
Resources	39	91%	12	86%
Modules	30	70%	8	57%
Chat	13	30%	6	43%
Online Meeting	19	44%	7	50%
Quizzes	21	49%	7	50%
Blog	21	49%	6	43%
Announcements	33	77%	10	71%

	Yes		No	
	n	*%*	*n*	*%*
Have you used the m.csu website?				
Phase 1	24	56%	19	44%
Phase 2	3	21%	11	79%

(Only 1 student had used the site)

What CSU information should be available on a mobile device?

	Phase 1		Phase 2	
	n	*%*	*n*	*%*
Maps	19	44%	11	79%
Class Timetable	33	77%	13	93%
Library Catalogue	20	47%	10	71%
Contact List	25	58%	11	79%
Subject Handbook	22	51%	12	86%
eBooks	27	63%	12	86%
Subject Readings	34	78%	14	100%
Subject Materials	33	77%	14	100%
Lecture Recordings	34	79%	11	79%

Phase 1 Final Student Survey

13 Responses: EML309 77% & ITC594 23%

Activities on the iPad

» The iPad has extremely high use for Research both online and offline; CSU Library was used by more than half the students.

» Reading usage was also extremely high with 100% of students having used the device to read.

» Email and Facebook were the primary methods of communication from the iPad. Short form communication via instant messaging and Twitter was popular, as was Skype.

» Students used the iPad to write notes for assignments and lecture notes but also longer forms that included actual assignments and blog/journal/wiki posts.

» Most students viewed YouTube clips and around a third had used CSU Replay.

» The iPad was also used as a productivity tool to make lists, timetables and record dates.

» Most students chose to use the iPad in the classroom to take notes and do research, but also to perform more social tasks such as group work and to sharing.

Systems & Infrastructure

100% of students had used their iPad to access CSU Interact, followed by library catalogues and subject evaluations.

Time spent on the iPad

80% of students used the iPad daily, and the remainder 3-5 days a week

46% of students spent 1-3 hours on the iPad and the other 54% from 30 minutes to an hour

Students would access the iPad many times a day

Just over half of the students only used 30-40% on the iPad for study

54% of students spent more time on Interact

46% of students spent more time accessing other learning materials

31% of students spent more time accessing the Library

31% of students spent more time accessing their lecturer

The iPad's Effect

69% of students said that the iPad didn't engage them more in class, but 62% found that it made them feel more engaged with the subject

69% said that they did benefit from having the iPad for personal study outside of class

77% said that they felt that they had benefitted from having the iPad for personal use outside study

62% would recommend the iPad as a study tool, but only 31% said it should be mandatory

92% would like textbooks and other learning materials available on the iPad

Confidence Using Technology

As a general trend, students feel much more confident about using mobile technology since participating in the trial. Just over half the participants also feel more confident in their general computer knowledge after the trial.

How does your confidence about using an iPad in this subject compare now to the start of the trial?

More confident – 69%

The same – 31%

Less confident – 0%

How would you now rate your general computer knowledge?

1 – Uncertain > 5 – Very Confident

1 – 0%

2 – 8%

3 – 15%
4 – 46%
5 – 31%

How do you feel about your general computer knowledge now compared to the start of the trial?
More confident – 54%
The same – 46%
Less confident – 0%

Technology Preferences

Tablet is most popular student choice for

- » Accessing Interact
- » Accessing student.csu
- » Reading learning materials
- » Reading the textbook
- » Taking to class
- » Taking on practicum

Laptop is most popular for

- » Writing an essay
- » Using PebblePad
- » Writing a blog

If the university was to supply a device students were split over whether it should be a tablet or a laptop – tablet 46%, laptop 46%, desktop 8%

Phase 2 Final Student Survey

5 Responses: The student feedback for this set of trials came from the students enrolled in MRS222. These students used the devices throughout all of 2012 and also away on work placements.

Activities on the iPad

- » The iPad has extremely high use for research, accessing mainly online resources such as reference material and Google Search.
- » Reading usage was also extremely high with 100% of students having used the device to read.
- » All students used email, instant messaging, social media and Skype to communicate.
- » Students used the iPad extensively to write notes for lectures, research and assignments. Some students also used the iPad to record a blog/journal.
- » Most students recorded video of their experiences while on prac and also created a video for their course using the iPads.
- » All students consumed video via YouTube
- » The iPad was also used as a productivity tool for the calendar and to do lists.
- » All students chose to use the iPad in the classroom to take notes and research, but also as classroom clickers using Socrative.

Systems & Infrastructure

100% of students had used their iPad to access CSU Interact, followed by subject evaluations and PebblePad.

Time spent on the iPad

All students used the iPad 6-7 days a week
80% of students spent 2-5 hours on the iPad per day
Students accessed the iPad many times a day, but mostly for short periods of less than 30 minutes
100% of students spent more time accessing other learning materials

80% of students said that more than half of their time on the iPad was for study

80% of students spent more time on accessing Subject Outlines

80% of students spent more time on Interact

The iPad's Effect

100% of students said that the iPad made them feel more engaged in class

100% of students said that the iPad wasn't a distraction in their personal space

100% of students said that they benefitted from having the iPad during class

100% of students said that they benefitted from having the iPad during their personal time

100% of students said that the iPad provided more motivation to study

80% of students said that the iPad wasn't a distraction in class

80% of students said that the iPad made them feel more engaged in class

80% of students said that the iPad made them more active in class

Confidence Using Technology

The vast majority of students were very confident about their use of the iPad, in particular in applications relating to social media. This is an area that the academic focussed on and the results are quite clear. It is also important to see that this confidence could be carried into other subjects and boost their general computer knowledge.

How did you feel about using an iPad in this trial?

1 – Uncertain > 5 – Very Confident

1 – 0%

2 – 0%

3 – 0%

4 – 20%

5 – 80%

How would you feel about using an iPad in other subjects?

1 – Uncertain > 5 – Very Confident

1 – 0%

2 – 0%

3 – 0%

4 – 20%

5 – 80%

How do you now feel about using mobile technology for social media?

1 – Uncertain > 5 – Very Confident

1 – 0%

2 – 0%

3 – 0%

4 – 0%

5 – 100%

How do you feel about your general computer knowledge now compared to the start of the trial?

More confident – 60%

The same – 40%

Less confident – 0%

Technology Preferences

Tablet is most popular student choice for

» Accessing Interact

- » Writing a blog
- » Reading learning materials
- » Taking to class
- » Taking on practicum
- » Take to conferences
- » Take home

Laptop is most popular for

- » Writing an essay

Tablet/Laptop Split

- » Using PebblePad
- » Accessing student.csu

Paper

- » Reading the textbook

If the university was to supply a device 80% of students recommended the Tablet.

Phase 2 Final Staff Survey

9 Responses: Community Health 22%, Environmental Science 11%, Dentistry & Health Sciences 33%, Academic Support 11%, Other 22%

Activities on the iPad

- » The contexts for iPad use were spread across teaching and research but mostly in equal amounts
- » Email was the predominant form of communication but more than half of staff are using social media
- » Many staff used the device to record video or audio
- » More than half the staff created presentations, documents and learning materials on the iPad
- » The iPad was extremely heavily used for research and very evenly spread across the CSU Library, Wikipedia, online reference material, journals, Google Scholar, Books, newspapers and search.
- » Most staff used the device calendar and used it to jot down notes, access files and share work.

Systems & Infrastructure

78% of students had used their iPad to access CSU Interact and 56% used it for the Library Catalogues.

Time spent on the iPad

Staff usage was spread across 2-7 days, but 44% were daily users

89% of staff spent 30 minutes to 2 hours a day on the iPad. One staff member said they spent more than 5 hours on the iPad per day

Staff tended to access the iPad a couple of times a day but only for short periods, less than 30 minutes. This would be interspersed with longer periods reading, researching and marking

67% of staff spent more time accessing other learning materials

33% of staff spent more time with their colleagues

33% of staff spent more time with their students

22% of staff spent less time with the textbook

The iPad's Effect

100% of staff said that they benefitted from having the iPad for work purposes

100% of staff said that they benefitted from having the iPad for their personal research outside of work

100% of staff said that the iPad provided more motivation for teaching and research

100% of staff said that the iPad made them feel more engaged in their teaching

78% of staff said that the iPad wasn't a distraction in class

67% of staff said that the iPad made them teach better

67% of staff said that the iPad made them research better

56% of staff said that the iPad made them feel more engaged in class

22% of staff said that the iPad made them more active in class

Confidence Using Technology

The vast majority of staff saw an improvement in their confidence by the end of the trial. This is also evident in their general computer knowledge and reflects a gain in their digital literacy. The staff tended not to be as brash as the students, providing a much more even spread between Unsure and Very Confident.

How does your confidence about using an iPad in this subject compare now to the start of the trial?

More confident – 89%

The same – 11%

Less confident – 0%

How do you feel about your general computer knowledge now compared to the start of the trial?

More confident – 67%

The same – 33%

Less confident – 0%

How would you feel about using an iPad for your work?

1 – Uncertain > 5 – Very Confident

1 – 0%

2 – 0%

3 – 11%

4 – 44%

5 – 44%

Technology Preferences

Tablet is most popular staff choice for:

» Accessing Interact
» Writing a blog
» Accessing staff.csu
» Reading learning materials
» Taking to class
» Taking to conferences
» Taking home

Laptop is most popular for:

» Writing an essay

Tablet/Laptop Split

» Using PebblePad

If the university was to supply a device 78% of staff recommended the tablet.

Compiled Student Feedback

The following feedback was garnered from the students through open comments in the surveys.

Most Useful Application

- » I found it really useful to type notes on the iPad during class
- » The note pad was the most useful application to use in class for taking notes on class topics and information on any events/assignments coming up
- » Socrative and Chalkboard in conjunction with Pages. Take notes in class and add drawings or pictures and record class video or sounds
- » We used various apps to make virtual storybooks for children where you could draw your own pictures and add words, audio and voice overs. I found this really useful and ended up using it in another class for an assignment which got really good feedback
- » uPad was the most useful as it was used in a major part of our English lessons for writing blogs, while 'Notepad' was great for just taking notes within a normal lecture or tutorial
- » It is such a portable device, it made it very easy to access the Wi-Fi at uni from almost anywhere
- » Looking up the syllabus and locating information quickly in class
- » It was useful for bringing up websites, syllabus documents and resources, whilst typing the assignment on my laptop or iMac
- » Getting free and paid for copies of relevant literature. Taking notes and having a to-do list was also great
- » Quick easy access to the internet. Just ability to quickly search things online

Research

- » Taking notes during lectures and tutorials
- » Resources such as eBooks
- » Using IWB (Interactive White Board) to show the class

Creating content

- » Learning how to use technology
- » Completing our assigned English text types
- » Socrative and Slideshow lectures, like Slideshark

Positive Benefits

- » Less likely to carry laptop around with me. Also helped with study, where I had the Laptop or iMac on with the word processing document and used the iPad to find websites/resources. Made the screen less cluttered and more organised study.
- » The iPad made it easier to carry and store information rather than carrying a book/ Subject Outline to class and writing
- » Easy access to PDF files
- » Loved being able to relax in an armchair and do reading for uni!!! My husband adored being able to do internet shopping from his armchair instead of going to the computer; it was also great for sharing stuff with others in an informal environment
- » being able to look up each K-6 syllabus was much easier than bringing all the books to class and being able to quickly look up things to assist me during class was really good
- » Allowed me to get away from the desk, and don't need textbooks
- » Use while travelling
- » Not having to carry book to class, recorded notes on ipad

Problems & Issues

- » Giving the iPad back
- » Typing is slow for assignments, which I solved by connecting a wireless keyboard. Apart from that, some lecturers seemed to assume iPads were being used for things other than study in class/lectures and were perhaps not familiar with the possibilities of their use

- » Some of the activities that we were required to do were time consuming as we were not competent with using the iPad to begin with, for example, drawing, labelling and creating graphs. These activities would have been better done on paper as it would have been easier and taken less time
- » Issues with apps and the distraction of the iPad during lectures and tutorials
- » I had to learn a lot of new technology and felt I spent a fair bit of time learning about the technology rather than applying myself to the subject, but that is what happens when you use new technology
- » Finding it hard to work around uPad. Some of the little things that I wanted to do but couldn't was annoying
- » Losing work due to silly mistakes like clicking the red button in the corner by accident and not being able to retrieve the work
- » deleting info by accident, there was no way of getting it back such as the undo button on Word
- » screen too small to type all info, keypad covers the page where you need to type and you cannot see what you're typing – frustrating at times
- » Was hard to do assignments on
- » The iPad is distracting when there is such easy access to internet and social networking apps.
- » Internet access on placements
- » Sometimes the CSU Internet wouldn't work for days on end on the iPad, but I think this was an issue with the Wi-Fi rather than the iPads as it didn't happen to just me
- » Difficulty with university WiFi not being able to connect for intermittent periods of times

Where should CSU go from here
- » An increase in the availability of more tablet-friendly course content such as online lecture videos and eBooks.
- » I think that iPads should be subsidised or given to all students in education courses. I know the Apple store offers a 10% discount for uni students, but the way things are going with smart boards and the increase of technology in classrooms, it seems that without one, students are being left behind. Not all of us can afford to purchase them, so if the uni gave them to students (with the exception that leaving students need to hand them back) and allowed graduating students to keep them, not only would it improve student ability to learn, but open up massive possibilities for teaching staff
- » If iPads were utilised appropriately I think they would be a great device for students to use at University but due to the easy access to internet, social networking, search engines and YouTube they are too distracting within the classroom
- » To educate students in the use of different technology mediums
- » I think that having an iPad for uni would be extremely useful and I think everyone would agree that they would much rather carry it around than textbooks and other learning materials for their subjects, although I don't think assignments should be set by lecturers that specify having to use the iPad. There should still be an option.
- » I think we need to continue the iPad learning experience
- » More facilities
- » I believe giving out small laptops, such as high schools have been given, would be more appropriate and will have more use personally and for study.
- » I'm not sure if the iPad was the only factor in this, but in my class I went from a Pass in previous sessions to a Distinction. I think that my skills and knowledge were better displayed in my assignment

Most Important lesson

- » That everything can be much simpler! Aside from typing an essay or notes, the iPad made studying significantly easier, quicker and simpler. To be honest I think it was wrong that the university didn't offer to at least subsidise purchase of these for students who were in the trial, because it changed the way we studied and it is a big transition to go back to how we were doing it before
- » How to use an iPad for study purposes
- » That technology should not replace old methods such as using pen and paper and can be unreliable and not suited to all tasks
- » I learn a lot about using technology and how many amazing educational apps are out there
- » The ability to easily read and study on the iPad. Video lectures I downloaded were also great
- » How beneficial an iPad can be in class. I never really thought of an iPad as an educational tool but after using it for a semester I now realise how beneficial it was to my studies. Reading things online was the best thing and looking up the syllabus
- » It allowed for my education to be more interactive and engaging. It was really helpful
- » How easily you could incorporate technology into teaching a subject
- » How to take benefit by using while moving
- » you can actually type on a program on the iPad, i had no idea there were programs for iPads, although UPad is nowhere near as good as using/accessing Microsoft Word to complete assignments
- » How the iPad can be an effective marking and lecture delivery tool
- » The important role technology plays in our learning now
- » How to effectively use mobile devices to improve learning experiences
- » Classes are better with iPads