The Christchurch Quake: Social Networking as Student Support in Disaster Recovery

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Abstract

Following the "Greendale Fault" Earthquake of 7.1 on 4 September, 2010 in Christchurch, New Zealand, students at the local Institute of Technology and Polytechnic (ITP) were significantly disrupted in their second semester. Occurring at 4.35am on the Saturday morning after only two weeks of courses, the ITP found itself cordoned off and part of an inner city curfew as older less well maintained buildings were reduced to rubble around it. Aftershocks continued but relatively little damage was sustained to the ITP's buildings. Students and staff were unable to attend study or work, and the situation was rapidly changing from day to day. However, students were affected differently depending on their location at the time of the quake, their access to communication technologies such as cell phones, the Internet, and their personal circumstances. Then the entire situation repeated itself with the 6.3 "Lyttelton Fault" aftershock at 12.51pm on 22 February, 2011 disrupting Semester One on only the second day of the semester. This paper blends two

qualitative methods, actor network theory (ANT) and narrative research to show the degree to which computing students accessed an online course to tell their stories, participate in social networking, and relied upon the School of Computing Moodle StudentInfo site in the recovery period immediately after the first disaster, and comparing this process over the "Greendale Fault" and the "Lyttelton Fault" events.

Keywords

Earthquake, disaster, communication, online, social networking, recovery, actor network theory, narrative

Introduction

Moodle, an open-source Learning Management System (LMS) has been used at the Christchurch Polytechnic Institute of Technology (CPIT) for the last eight years in the School of Computing starting with the blended delivery of the Community Technicians Project (McCarthy & Ross, 2006). While online and blended ICT course delivery has been gradually phased out, Moodle sites as repositories of resources were developed in their wake. Such sites are now used by almost all courses within the School of Computing at CPIT.

The "Greendale Fault" Earthquake of 7.1 on 4 September, 2010, significantly disrupted the beginning of the second semester. Occurring at 4.35am on the Saturday morning after only two weeks into the semester, after only two weeks of courses, CPIT found

itself cordoned off and part of an inner city curfew as older less well maintained buildings were reduced to rubble around it. Considerable damage was done to the inner city area (Christchurch City Council, 2010). Aftershocks continued but relatively little damage was sustained to the CPIT buildings. Power was cut to limited CBD areas (NZ Herald, 2010) but this did not include the CPIT campus.

Students and staff were unable to attend study or work on the CPIT campus for the following week, and the situation was rapidly changing from day to day with conflicting information. During this time students were affected differently depending on their location at the time of the quake, their access to communication technologies such as cell phones, the Internet, and their personal circumstances. Because power was still available at CPIT, the email and Moodle system was still usable. Staff were able to communicate with each other. The Public Relations and Communications staff were responsible for any corporate communications, giving the official viewpoint of the institution, and all other staff, academics included, were asked by way of email, to refrain from passing on any information, leaving it to the PR staff to fulfill this role.

After the 22 February 2011 "Lyttelton Fault" 6.3 aftershock, the Central Business District (CBD), which included CPIT, was once again cordoned off, a state of

emergency was declared and the CBD declared a disaster area (Watkins, 2011).   Similar to the "Greendale Fault" earthquake on 4 September, 2010, all of CPIT's IT Department's equipment was in reasonable working condition, especially those servers that provided email and Moodle facilities.   However, unlike the "Greendale Fault" earthquake, the "Lyttelton Fault" 6.3 aftershock produced a completely unexpected outcome. While once again relatively little damage was sustained to the CPIT buildings, this time the campus fell within the CBD disaster area and on 24 February, 2011, when Orion came under Civil Defence control, power was turned off to the entire greater CBD area (Sutton, 2011).

Once again, students and staff were unable to attend study or work at the CPIT campus – this time for four weeks. Again this was a period of constant change – not the least of which was the on-going extensions of the state of emergency. As long as the state of emergency was in place, either all or part of the CPIT campus was a no-go zone. Although the New Zealand Civil Defence Emergency Management Act 2002 gives the right to grant a state of emergency it can only be put into effect for a maximum of seven days. The original state of emergency was put in place on 23 February and has since been extended every week since – the most recent extension being put in place on 24 April, 2011 – at the time of writing this paper (Chapman, 2011).

Methodology

ICT research can be done differently by utilising qualitative methods drawn from sociology, gender studies and anthropology. Firstly, using a central theme in actor network theory (ANT), this paper draws on the concept of "following" and the use of boundary objects to examine some student responses to two natural disasters which occurred within six months of each other. It examines how human and non-human actants enabled social networking within a Moodle course website, information site and Learning Management System (LMS). In particular, it explores relevant concepts which apply to "following" in a virtual learning space; how the space is composed, and the patterns of mobilisation and engagement that occurred before during and after two significant natural disasters.

Secondly, using narrative method, it examines the ways that discussion boards can be used to enable students to engage in meaning making about a significant life event, and to maintain a connection as students during the period of disruption to their studies. The paper concludes with a critical evaluation of these methods.

As Savage and Burrows (2007, p. 3-5) point out, social surveys and in-depth interviews do not have the

robustness to be sustained as empirical methods in the changing virtual networked worlds where social transactional data is rich, cheap to access, and infinite. Social science researchers can now examine mobilisation and forms of engagement through and with material and virtual technologies, from moa bones, bikes, cars, and tomatoes to web sites, gaming, documentaries, and online chat rooms (Thode, 2009; Pentland & Feldman, 2007; Ruming, 2010).

Multiple pathways of encounters and responses are now possible to trace in a rich online milieu: text and images are archived virtually in a plethora of web sites, blogs, discussion boards, cell phone txt inboxes, Facebook walls, Wikipedia pages, Youtube clips, Amazon orders, Skype calls and so on. The multiplying machine is relentless (Miller, 1997) and enables the conducting of differently configured research.

ANT informed ICT research can access, trace, and make sense of processes and practices through empirical method. Thus, it can examine how things in these assembled worlds of online learning and student information web sites are produced and what they do. It enables researchers to engage in the complexity of hybridised co-constructed multiple research sites, to see how non-human and human actants interact within these worlds.

Thus, overlapping and sometimes contested worlds are flattened out as sociological elements coalesce and are briefly fused as socio-spatial compounds, and small scale spatial variations in consumption patterns (Savage & Burrows, p.9-10). We look down into the baroque complexities (Law, 2004) and examine "the practices that produce information about a state of affairs" (Latour, 1999). In this instance, how online students in the world of their online course responded after a major earthquake.

Online learning is especially dependant on human actants such as students taking responsibility for their learning. Lecturers are responsible for ensuring the development and maintenance of the site and spaces for interacting with the students during the course. Thus, learning is expected to be co-created between the human and non-human actants through various interactive activities. Non human actants are therefore an essential part of this online world.

Non-human actants include a range of internally and externally bounded things; Moodle LMS, the course web site, the layout and navigation interfaces, the created web pages, the downloadable items such as readings and assignments, and materials from external links, the interactive discussion board, Moodle chat, spaces for uploading assignments, repositories for assignment submission attendance lists, servers, ISP providers,

PCs, netbooks, notebooks, student computer suites, tables, chairs, rooms at home, office spaces, CPIT IT networks, the Internet, cables, wireless routers, modems, mice, keyboards, screens, lighting, and sunshine. Human actants include people in support services, IT technicians, e-learning team technicians, enrolled students, a lecturer, Head of School, School Manager, Jasper record system administrators, administrators in enrolments, librarians, learning services tutors and so on.

Given this complexity, this paper firstly follows the significant interactions between the human and non human actants in Semester 2, 2010, in this online Quality Assurance elective course, then the interactions with the Student Information web site at the ITP, within the Moodle LMS. To guide this analysis, the research questions are: What are the patterns of social interaction within the online worlds of QA600 and the Student Information sites in 2010 and 2011? What is the significance for social networking as a strategy for student support after a natural disaster?

Star and Griemsmer (1999), set out four types of boundary objects: repositories, ideal types, co-incident boundaries, and standardised forms. Repositories are defined as "ordered 'piles' of objects…indexed in a standardised fashion" (p.518), which are modular, enabling persons from different worlds to use them for their own purposes. In this research, the web sites are such entities. Ideal types are objects such as a diagram, or map, which is abstracted from other domains, yet have local components deleted, so it is a common object that is adaptable. The web pages within the web sites are examples. Coincident boundaries are common objects, with the same boundaries, but different internal contents. Elements such as discussion boards, chat spaces, assignment areas and so on are examples. Such an object can work in different sites, be autonomous, but enable the sharing of a common referent. Finally, standardised forms are boundary objects enabling communication across diverse and distributed work groups through standardised methods. Email is such an object. These concepts are particularly useful to apply to online worlds, and will be used in the analysis of mobilisation and encounters.

The other research method, Narrative research, enables narration of significant life moments, and the making of sense from them. The discussion boards and emails are rich sources of narrative about the effects of the disaster on the students and researcher. Conducted in the privacy of an online discussion board, students and lecturer can engage interactively in one to many conversations about the effects of the natural disaster, within the boundaries of the online course community. In the student information web site, the lecturer can engage in one to many messages with students in the

school community, and receive voluntary feedback from students by email. Anonymity is preserved by using pseudonyms for messages and emails from students.

Holstein and Gubrium (2000) characterise this approach as a self conscious methodology which enables the assembling of discursive practices into accountable identities. Building from experience, narratives combine selected words from within the contextual limits of sites and institutions to construct diverse and different "takes" on them. Small and broad experiences create coherent and diverse assemblages of plot lines, standpoints, and intersections of the ways that the storytelling of self is actively rendered and locally conditioned. Narratives link to context, provide optional ways of telling, reflexive agency through exercising variations by editing, and elasticity by deciding what is and what is not tellable. In other words, narrative enables us to enter other worlds, to meet, talk, and form connections with people whom we would normally have never known in those ways.

Thus, in this paper, the collaborative story telling is "followed" with a hybrid methodology that combines key elements of ANT method with narrative method. In other words, this paper examines the baroque complexity of the interactions and the diverse assemblages of active storytelling of selves. As Haraway (1995) predicted, "small, modest, and situated" research can be of value. This research progresses our understanding of how humans and non human actants interrelate to form rich online worlds to support participants' needs and overcome adversity.

Literature Review

CPIT's School of Computing teaches best practice in ICT disaster recovery plans, or IT service continuity management, and there is much out there written on this subject, academically by way of published works and commercially by way of industry certification such as the IT Infrastructure Library material (Open Guide, n.d.). Continuity management involves prioritising the businesses to be recovered by carrying out a Business Impact Analysis, carrying out a Risk Assessment or Risk Analysis for each of the IT Services in question, considering the options for recovery/continuity, and then testing, reviewing, and revising this plan on a regular basis (Open Guide, n.d.).

The IT business aside, even the business of being in business has a concept of continuity plan. Businesses, or in this instance, the corporate nature of education, have to have a plan to ensure they can keep on making money, solve supply chain issues or other challenges that business can face from either the unlikely event of major natural disasters or smaller, every day events such as illness or the departure of key staff members (Slater, 2009).

However, seldom do these more formal business practice approaches take into account the customer or, as in our case, the student. In other words, few consider the people who are involved in the disaster which either IT or a business needs to recover from and with whom they need to maintain continuity of service. Stephens (2010) does however examine the issues involved in crisis communication and how social media contributes to the recovery process with respect to people helping themselves and each other.

Stephens (2010) explains that social media are used for on-line collaboration to aid those in need, facilitate expressions of gratitude, facilitate expressions of grief, are used to share an individual's experiences of the crisis or disaster, and are used to provide information after the mainstream media have left the story. Of particular significance in her article is that of using an example of a Facebook site set up after the 4 September 2010 "Greendale Fault" earthquake. Stephens (2010) cites this as an example of filling the need of sharing experiences after a disaster. She describes such sharing of experiences as cathartic and the site "I survived the Christchurch Earthquake" has had just over 16,000 "hits" and people have posted their own stories, expressions of relief and photographs.

When national or local government and the established media such as newspapers and television have shifted focus from the human dilemma and are then talking about the financial costs of the aftermath of any disaster, generally people have not yet recovered and they still need some form of outlet (Stephens, 2010). Her explanation is that various forms of social media – blogs, Facebook and Twitter sites and various online community groups or forums are often the only outlets for information available to people after a disaster once the government and established media have moved on.

Some uses for social media were discovered in the wake of Hurricane Katrina striking the city of New Orleans on 27 August, 2005 and the 7.0 earthquake on 12 January, 2010 near Port-au-Prince in Haiti. Landry and Koger (2006) explain the significance of learning from previous disasters so that when the next one strikes the disaster recovery plan (or even business recovery plan) can be put into effect. Landry and Koger (2006) go on to explode 10 of the common disaster recovery myths. These include; only having to plan for natural disasters, that a mock test does test for disaster recovery, that attacks and hacks are only external threats, that disaster recovery "hot" sites don't need testing, that conference rooms can be adequate disaster recovery sites, that disaster recovery can be implemented later, equipment will be available during and after the disaster, that back-ups will work, disaster

recovery can be planned individually, and that everyone knows what to do.

Of these exploded myths of Landry and Koger (2006), three stand out in particular as having relevance to the Christchurch "Greendale Fault" 7.1 earthquake of 4 September, 2010 and the "Lyttelton Fault" 6.3 aftershock of 22 February, 2011 – that disaster recovery can be implemented later, that equipment will be available during and after the disaster, and that everyone knows what to do. In addition to this, Landry and Koger (2006) emphasis learning from what has gone before – that while Hurricane Katrina was one of the worst disasters in American history, many lessons were learned from it.

Tarlton (2010) describes how Twitter and Facebook were used to search for survivors after the Haiti earthquake on 12 January, 2010. At that time more than 160,000 people had joined the Facebook site "Haiti Earthquake" that had been set up to share information only a few days after the disaster. Almost 5,000 photographs had been uploaded – mostly of missing people, relatives, friends and loved ones. This Haiti earthquake killed an estimated 45,000 to 50,000 people and the search, and subsequent identification, was a lengthy process. Organisations and individuals used Twitter and Facebook to post requests for information on those in Haiti as well as news on those

who had been found. Tarlton (2010) cited the Twitter trends map http://trendsmap.com to show the words "Haitian", "quake" and "charity" were the most prominent from Europe.

Zuckerberg (2010) explains that within moments of the ground shaking at Port-au-Prince, around the world people immediately sought to help and express their solidarity. According to Zuckerberg, every minute, people had been posting more than 1,500 updates on Facebook that contained the word "Haiti". She went on to say that hundreds of thousands of dollars had been raised by the American Red Cross, Oxfam America, and Partners in Health by way of their Facebook pages in just the 24 hours of 14 January, 2010 – just 48 hours after the Haiti earthquake.

Findings

QA600 Web site

Following Moodle generated logs of online interactions, an overall pattern emerges. Logs for the previous academic years show more pronounced differences in viewing patterns, with peaks, troughs and lulls occurring distinctly at course commencements, times of assignment deadlines, and checking final results (See Figure 1).

Thus, the QA600 web site acted as more than a learning community at the time of the 4 September

2010 quake. By examining the patterns of interaction in the logs below, there is a clear pattern of sustained interaction with the site, even though the course work and delivery was suspended for a week. Students logged on to view the site and posted at a higher rate than the previous timeframe in the course, taking into account that the comparison is between a three week period in September 2010, compared with Semester 1 or previous years. It is suggested that social networking is occurring within the site, in the absence of being in face to face classes in other common courses. Students are logging on for reasons other than their use for academic needs. Site interaction continued to be sustained at higher levels throughout the remainder of the course, with an inclusive ongoing pattern of use rather than a more individualistic functional pattern of use (See Figure 2). The reason for this phenomenon is suggested as arising from the setting up of a discussion board "Telling our Stories" on Monday 6 September at 11.09am. This process as "followed narrative" is discussed next.

In the semester based course of 17 weeks, students log on to view material on the site more than they log on to post a comment. Interaction with the site is greater at the beginning of the course, as the students download course materials, assignments, and navigate the overall structure of the site to become familiar with it. For example, in the 1st Semester, 2010, February

and March were more active viewing periods than April and May. June and July are another active viewing period, while students finalise major assignments, and check final results, but not as great as the course commencement. Similarly, in the 2nd Semester, most active viewing occurred in the course commencement, July and August. However, the active viewing was higher than usual in September and October, with a distinct drop off of postings and viewings in November and December. (See Figure 2.)

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"Telling Our Stories" Discussion Board

A discussion board is a co-incident boundary object which has the same boundaries but different contents. In other words, this discussion board was located within the course site web pages, but was a separate entity. In this course, weekly discussions can be conducted between students and viewed by all enrolled course members. They differ from class discussions in that they are written, can be composed offline and then pasted into the discussion frame, can be deleted, edited and replied to. As such they often enable deeper thinking and reflection compared with verbal responses in a classroom.

The usual discussion board process in this course was that the topic is set by the lecturer, and students responded during a week's duration, which counted as attending the course. "Telling our Stories" differed from regular postings as they were voluntary, asked about the effects of the earthquake, the feelings of students, and asked for alternative accounts of the event from media accounts, at a personal and community level. The motivation from the lecturer was to maintain a social presence with the students at a stressful and uncertain time when it was unclear when classes could resume and information was rapidly changing day to day.

The lecturer began the discussion board at 12.05 pm by discussing how she experienced the event, what had preceded it, and the events of the first day. These included responses during and immediately after the earthquake, including with neighbours, communication and cooking difficulties during the power outage. She concluded by reflecting on the luck of time and place, and that no casualties had been sustained.

The first story, at 1.32pm was from an international student from a country prone to earthquakes. Suki recognised it was "a big one" and realised her luck of having an undamaged flat in the inner city as "I have no other place to evacuate to in New Zealand". Zuki tried to do work at her ITP but was not able to due to the earthquake. She gave assistance to stressed friends, and saw a city street "jammed with cars" from

onlookers. She offered water and a place to cook for any affected students. Zuki listed her address, phone and cell numbers, and encouraged others who needed help to seek it from her or others.

The second story, at 4.00pm, was posted by Steve, a local student, who lived in a northeast suburb that was badly affected by liquefaction. He described his actions as the earthquake struck:

My first instinct was to get under the doorway…my Mum called out to check everyone was up but my sister's door was closed. I tried to open it while calling out to her but it was like her door was locked. It turned out her door frame was distorting and that is why her door was stuck. After the main quake was over her door opened and she got under the frame… At the light of day, we checked the cracks…the entire grounds around the house was covered in 2 ft of mud and the foundation of the house is cracked and dropped about 5 inches. We spent the day cleaning the grounds of mud and visited my Uncle around the corner. His house dropped roughly 7 inches. We helped them clear their driveway…

Steve then described the effects on their family, and that they were evacuated to grandparents in an unaffected part of the city. He was also unable to work as racks had collapsed at his weekend workplace. This posting was responded to at 9.03pm by Zeni, another

international student from Asia. She praised Steve's efforts helping his sister and his physical labour cleaning up which she was also doing.

The third story was from Sam, at 5.15pm who lived further north. His initial reaction was that someone was shaking his sleepout. After listening to the transistor radio with his family, Sam went into the city with his father to his workplace. "driving to the airport in the pitch black was amazing and my dad makes remarks about looters" from the car radio bulletin. They see a destroyed motorway underpass on their journey.

The fourth story, at 7.21pm, is from Zeni who has had difficulty gaining Internet access. She was sleeping alone in her flat as her flatmate was away when the quake struck. Zeni talks about being with her neighbours in the darkened street, and staying with them in their car rather than be alone. "But now I know that having someone to be with is so good." Again, the radio is the main source of information. Physical damage to roads and churches scares her. "Lucky that nobody died in this Earthquake!!! Hope that Christchurch can get back to what it was ASAP!!!"

The fifth posting is from Sean at 6.25pm, who was out of town when the quake struck. Sean says "I'm rather stressed to be honest." It worried him that there was damage and he called family and friends to make sure they were all safe. He posts again at 9.53pm that he

knows of a man whose mother has died of a heart attack during the quake. Zeni responds "That's really sad!!!" and makes a religious reference to heaven.

The sixth posting is from Zena, a permanent resident, at 8.36pm. Zena shares her feelings; "I was sleeping and woke up to the violent shakes. All my senses turned on...I just kept praying. I was getting myself ready to die mentally...luckily nothing was damaged... no cracks, just some fences...but the shaking was bad. I was getting really stressed about aftershocks that followed. I'm really happy that no one died." This posting is responded to on Friday at 10.06pm by Zoe, a mature student. Zoe says that all in her family are safe and she has minimal damage to their homes. Nevertheless, in this stressful time she has not been able to work at her studies for upcoming tests. Zoe is touched by the kindness of people and the sense of community that has emerged. She offered her best wishes to her fellow students and trusted that the aftershocks were diminishing in intensity. The discussion board was rounded off by the lecturer on Sunday 12 September, prior to the Monday that the course resumed.

No opportunity was available to repeat this kind of support of students in the February 22, 2011 Quake. Its effect was greater, with 181 reported deaths at the time of writing, substantial and more widespread damage to buildings and equipment. Courses were disrupted for a four week period, with classes relocated to temporary locations outside of the inner city campus. Electricity was turned off within the cordon during the state of emergency, so no access to Moodle servers was possible. The relocation of the servers on which was actioned as part of the business continuity management plan, which is, as far as can be ascertained, in an area less likely to sustain damage.

StudentInfo Site

The CPIT School of Computing runs a "StudentInfo" website on the Moodle LMS. During the aftermath of the Christchurch "Greendale Fault" earthquake on 4 September, 2010, this "StudentInfo" site was used to convey information to students – to keep them up-to-date with what was, or was not, happening and to tell them, in effect, that someone was out there. The earthquake occurred at 4.35am on Saturday, 4 September, 2010, so there were no issues for the students about what to do next until the following Monday – 6 September. After receiving a text message from the Head of School, School of Computing, apprising the author of the situation, then using the "StudentInfo" website on Moodle, an email was sent to all School of Computing students at 6.11am with the subject line "Christchurch Earthquake results in CPIT closure". The message itself was brief and simply read

"CPIT campuses are closed on Monday 6 September while structural engineers check out the various buildings for damage. Results will be known later on Monday and further information will be available at www.cpit.ac.nz Pease check the CPIT website regularly for updates." (See Figure 4)

Then, again following an updated text message from the Head of School, an email was sent to all staff from the Public Relations and Communications Manager to the effect that all communications to all parties must go out through the PR Department. The author clarified this with the PR Manager and advised her was he was doing and planning to say to the students. She advised him to proceed. On receipt of this approval, the author then sent a second email to all School of Computing students advising them of the update. (See Figure 5)

Even though it was only the third day after the earthquake (6 September, 2010) students were responding by initially asking how they could submit, and whether they should submit, material for assessments that were now, or had been due that day. The second email also advised them, upon approval of the Head of School, School of Computing, that there would be no need to submit anything until the Monday of the following week (13 September, 2010).

By Wednesday, 8 September, 2010, the author was asked by the Head of School to inform all the School of

Computing students that CPIT would be closed until further notice. Then later that same day another email was sent to all the School of Computing students advising them that the institution would reopen on Monday 13 September 2010. (See Figure 6)

As further new developments came to hand, on advice from the Dean of the Faculty of Commerce and the Head of School, School of Computing, further emails were sent out to all the students – again keeping them informed and including them as part of the School of Computing community. (See Figure 7 as an example) Many of the staff, those who had previously indicated a wish to be kept informed of matters affecting students, were also being informed by these same emails. Over the period of the week long closure, the author sent some seven emails, averaging one per day.

Apart from the emails of thanks from students received during this time, there was evidence of student acceptance of the "StudentInfo" Moodle site as a source of information during the week of the ITP closure. The "All Activity" report shows a dramatic peak in the number of students accessing the "StudentInfo" Moodle site during this period, showing a rise from less than 1,000 hits at the beginning of September, 2010, to over 1,500 hits during the week of the "Greendale Fault" aftermath. (See Figure 8.)

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Figure 9 illustrates the student usage of the School of Computing "StudentInfo" Moodle website on weekly basis in September. It traces the site use in the week before the "Greendale Fault" earthquake on 4 September, 2010 up to and including the "settling down" of the aftermath by early October, 2010, as student and staff life got back to a more normal pace.

However, the Christchurch "Lyttelton Fault" 6.3 aftershock of 22 February 2011 presented a completely different story. Because the local supply authority, Orion, were required to disconnect the power to the greater "CBD" area which included the CPIT campus, communications with students were not able to be carried out in the same way as in September, 2010. It was over a week before any form of communication was re-established at all and this time it was only by way of the CPIT website and only fully managed by the Public Relations and Communications staff. Student communication was not carried out from within the School of Computing or any of the academic course staff.

Conclusions and Recommendations

To each of the postings, the lecturer and several students made supportive comments. The stories are unique expressions of the students' experiences, their feelings and concerns. Throughout the week, seven postings were made, from a quarter of the class, out of an online class of 28. The stories were viewed by more students than those who posted.

The September Moodle logs show that most viewing occurred at the beginning of the month. So, while 22 posts were made, most of the 2176 viewings occurred then as well. Students were logging on, and reading the stories, and returning to see what else had been posted. This is a significant use of this boundary object, as it enables contact that is initiated by the students themselves without having to participate directly in the forum.

It is suggested that this is evidence that the students were engaging in a form of social networking through the discussion board, of both an overt and covert nature. As it was voluntary, it is suggested that students were engaging in a useful form of maintaining contact during the course hiatus, and sharing their experiences and those of others directly and vicariously, depending on their needs. Fears, feelings, initial responses, and sources of support were shared within the intimacy of the online community.

All students continued with the course and 26 out of the 28 enrolled at the time of the quake completed it successfully, five with merit. It is strongly recommended that in the event of a natural disaster that disrupts curriculum delivery on line, blended or

face to face, that Moodle discussion boards be used to enable social networking as a form of support to those students. This could be provided by their lecturers as a means of maintaining contact in a way that enables students to access the degree of contact they desire, be it overt or covert, posted or read, heartfelt or reserved. It provides the lecturer with the opportunity to use the Learning Management System to sustain contact with students during uncertain times, and provides a space to seek out and give reassurance to each other.

With regard to the StudentInfo site, the Students' access to the "StudentInfo" Moodle site and personal feedback from individual students certainly demonstrated the advantage of being in regular contact with each other, fulfilling the needs as outlined in Stephens (2010). This was very much to the forefront in the September, 2010 aftermath and was not in evidence at all in the February 2011 aftermath as academic staff were not able to communicate with their students. After the September 2010 aftermath, all the School of Computing students returned to complete their studies whereas after the February 2011 aftermath there was an average loss over all qualifications of up to 25% of first year students.

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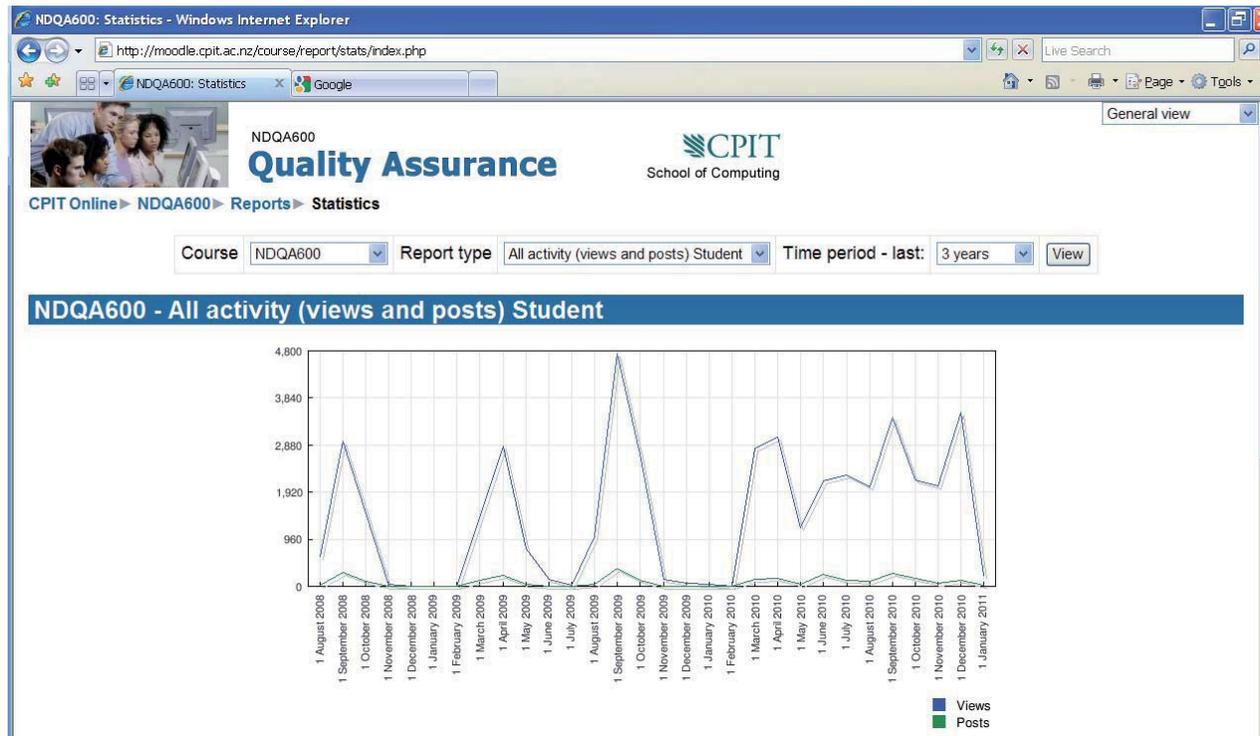Zuckerberg, R (2010) Global Relief on Facebook: Connecting in Times of Need retrieved 29 April 2011 from http://blog.facebook.com/blog.php?post=252151582130

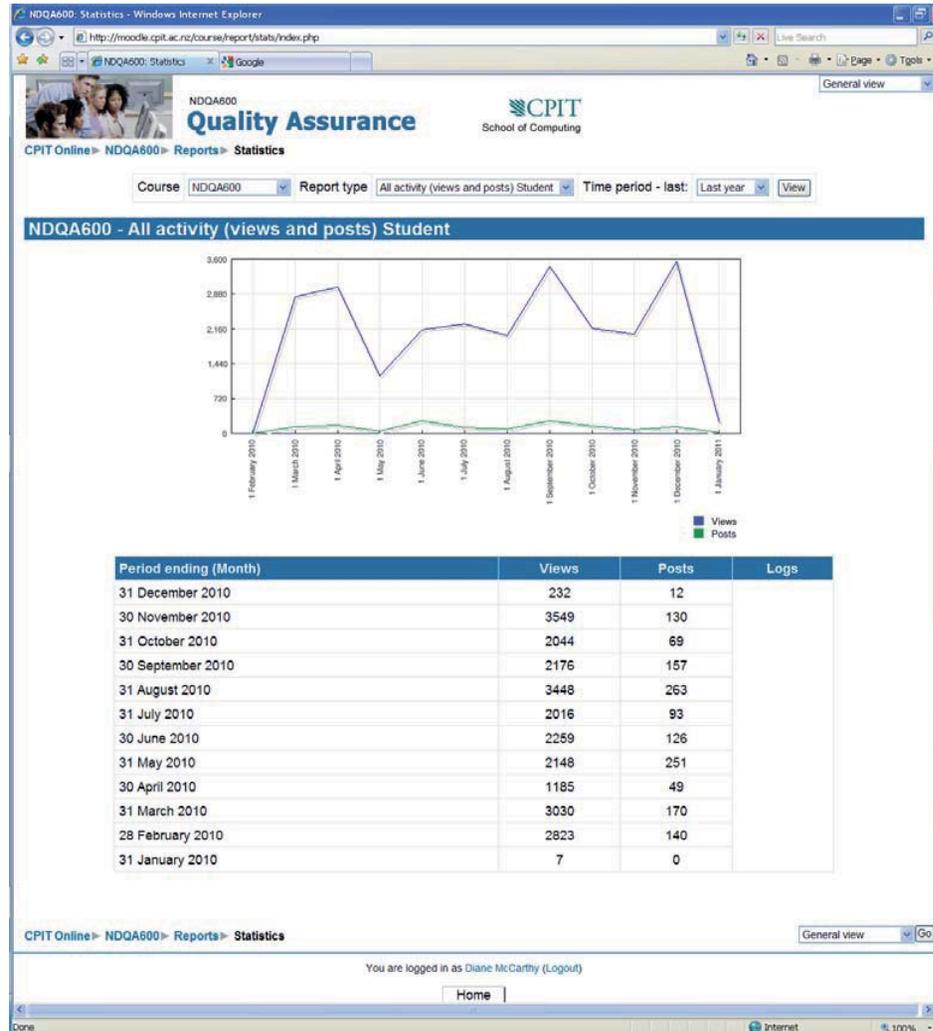Figure 1. Course Interaction: August 2008- January 2011 (Views and posts)

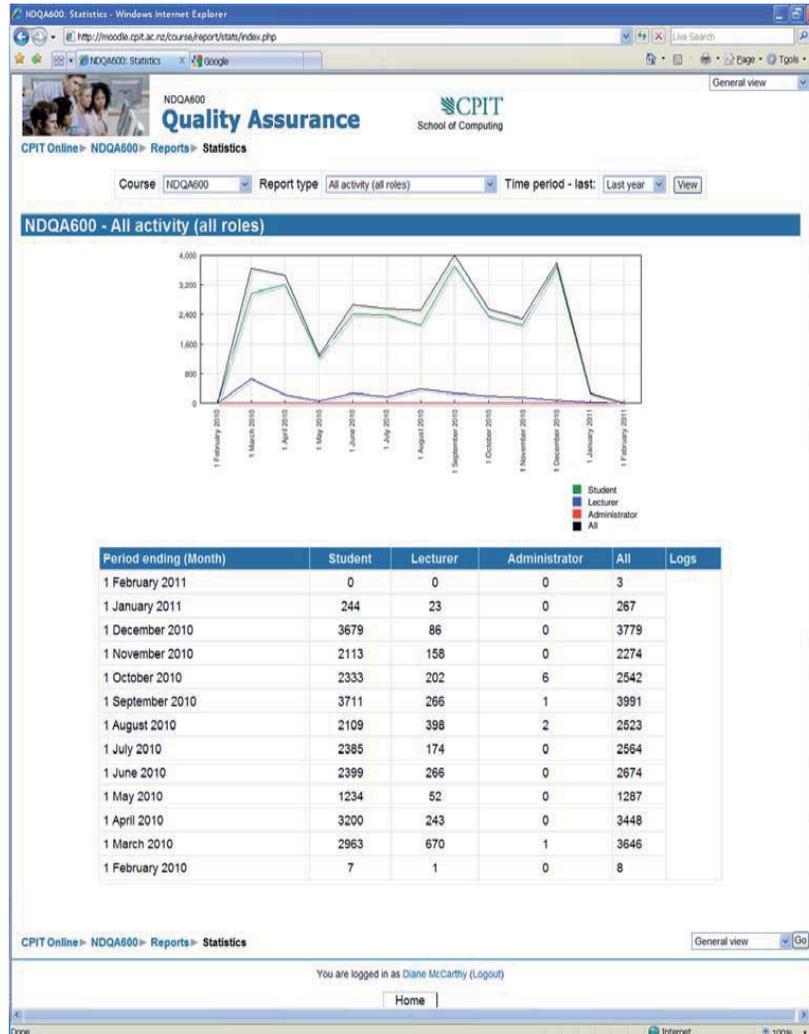Fiure. 2 Course Interaction: February 2010-January 2011 All activity (views and posts; student)

Figure 3 Course Interaction: February 2010-January 2011 (All activities and roles)
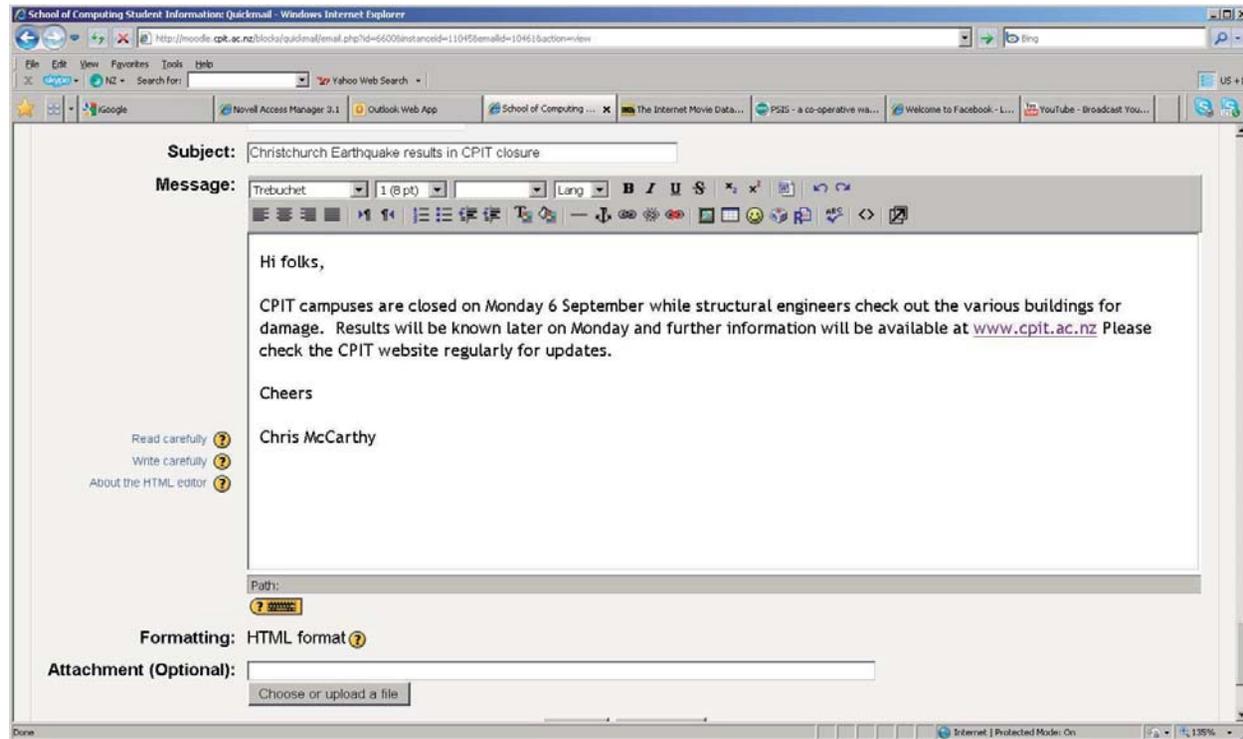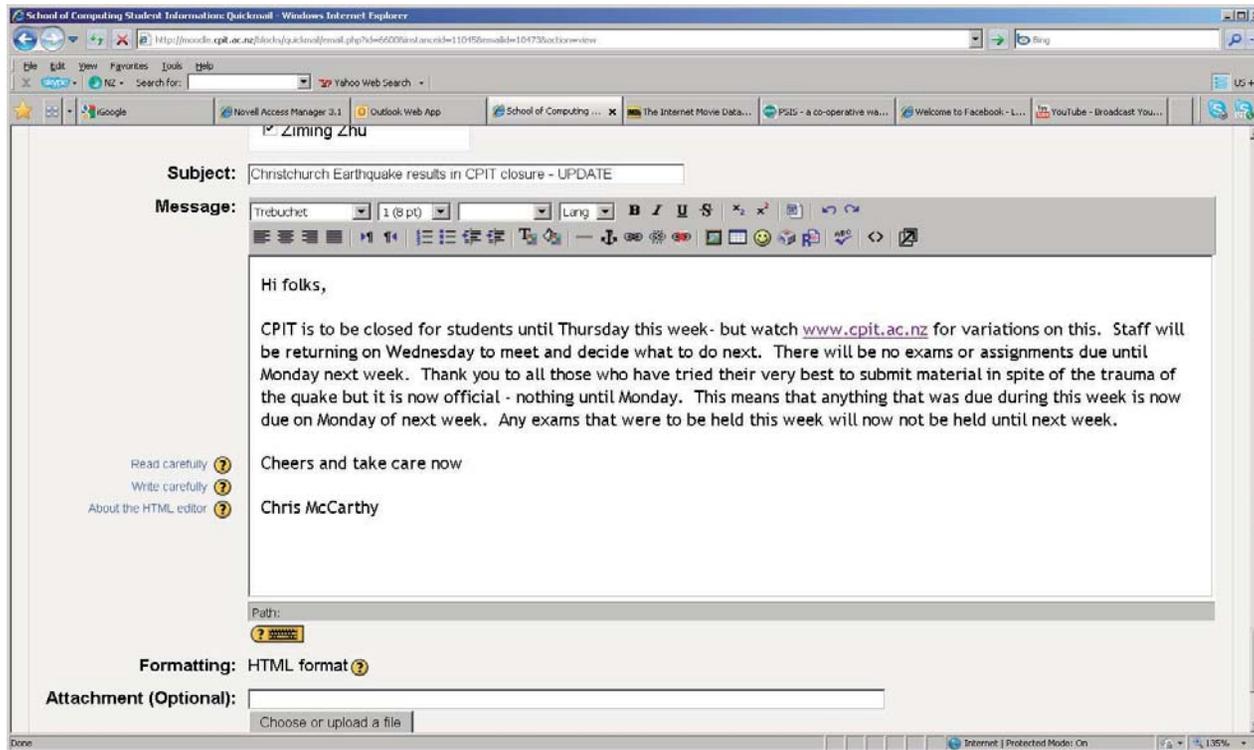
Figure 4. The first email sent 6 September 2010

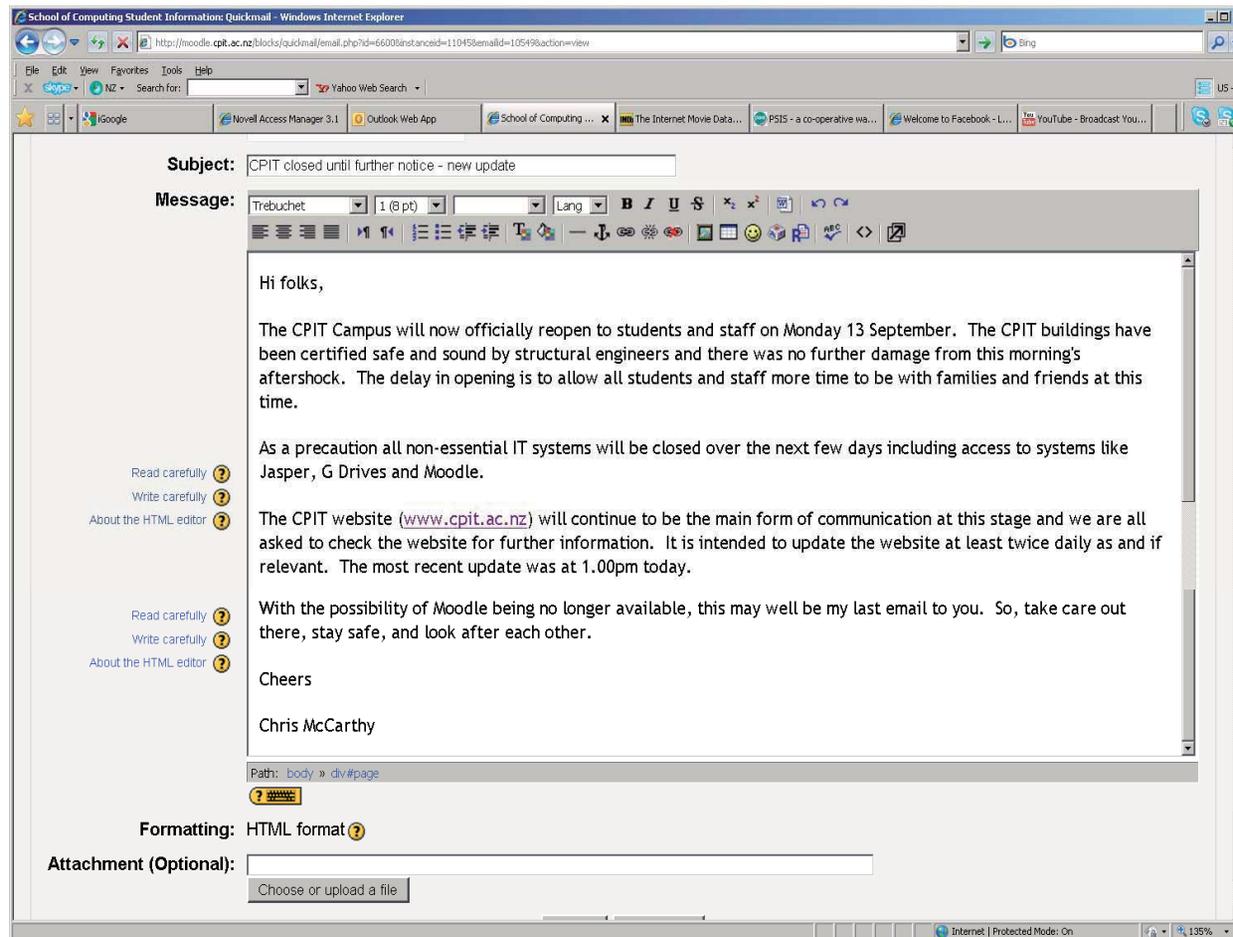Figure 5. Second email 6 September 2010

http://moodle.cpit.ac.nz/blocks/quickmail/email.php?id=6600&instanceid=110458&emailid=10549&action=view

File   Edit   View   Favorites   Tools   Help

Subject: CPIT closed until further notice - new update

Message:

Hi folks,

The CPIT Campus will now officially reopen to students and staff on Monday 13 September. The CPIT buildings have been certified safe and sound by structural engineers and there was no further damage from this morning's aftershock. The delay in opening is to allow all students and staff more time to be with families and friends at this time.

As a precaution all non-essential IT systems will be closed over the next few days including access to systems like Jasper, G Drives and Moodle.

The CPIT website (www.cpit.ac.nz) will continue to be the main form of communication at this stage and we are all asked to check the website for further information. It is intended to update the website at least twice daily as and if relevant. The most recent update was at 1.00pm today.

With the possibility of Moodle being no longer available, this may well be my last email to you. So, take care out there, stay safe, and look after each other.

Cheers

Chris McCarthy

Read carefully
Write carefully
About the HTML editor

Path: body » div#page

Formatting: HTML format

Attachment (Optional):

Choose or upload a file

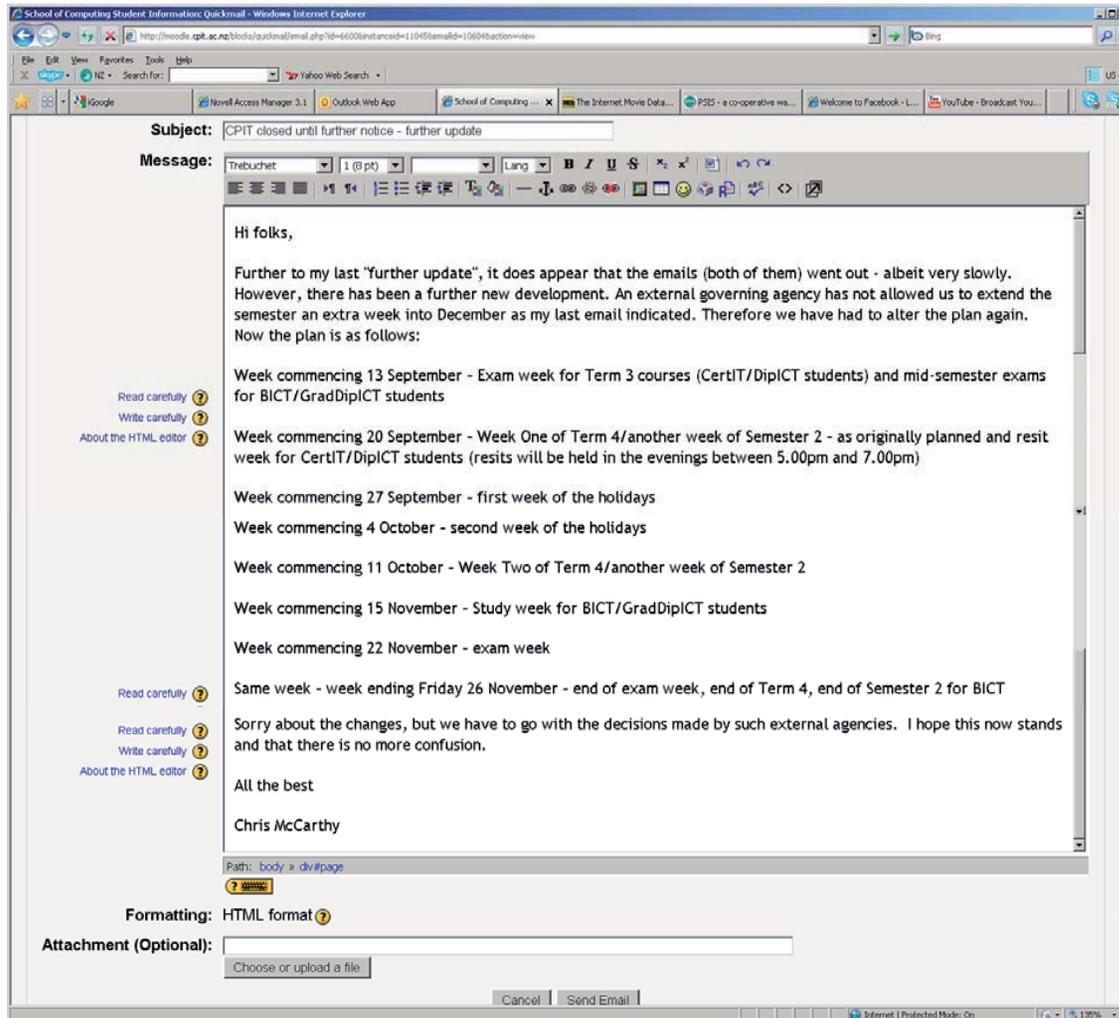Fig. 6. The fourth email sent 8 September, 2010

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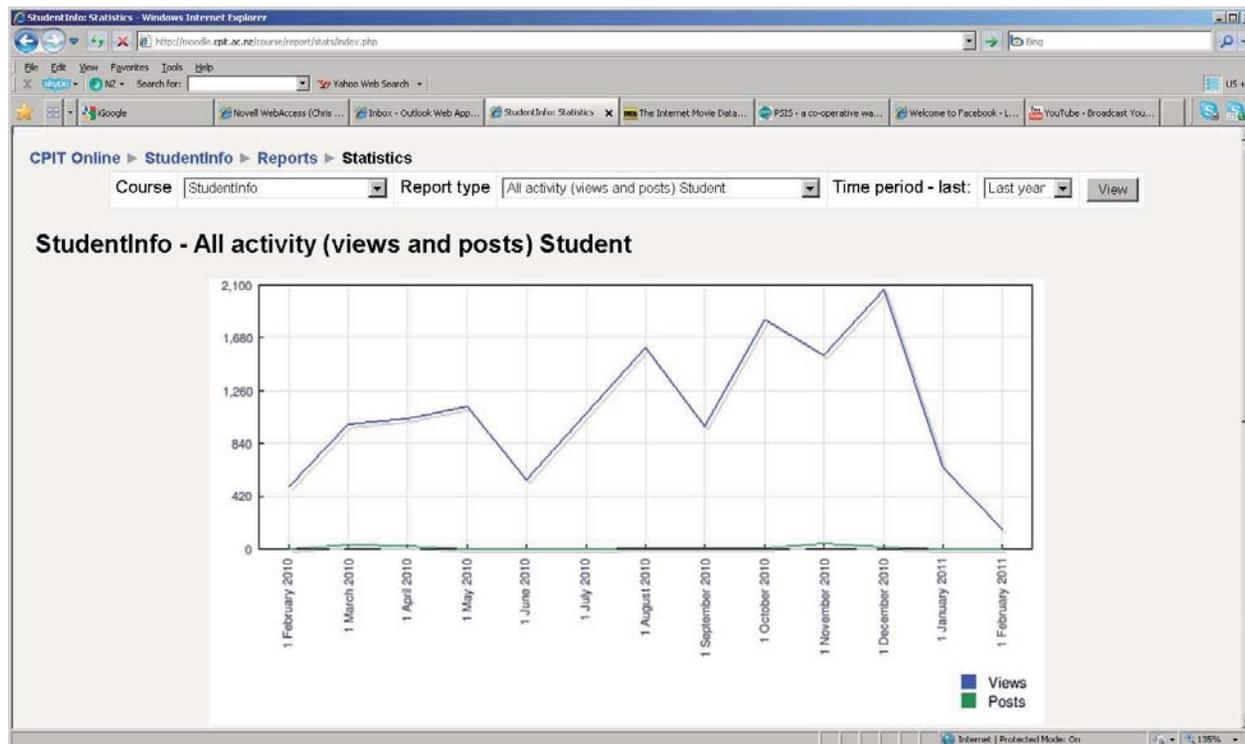Figure 7. Email sent Thursday, 9 September, 2010

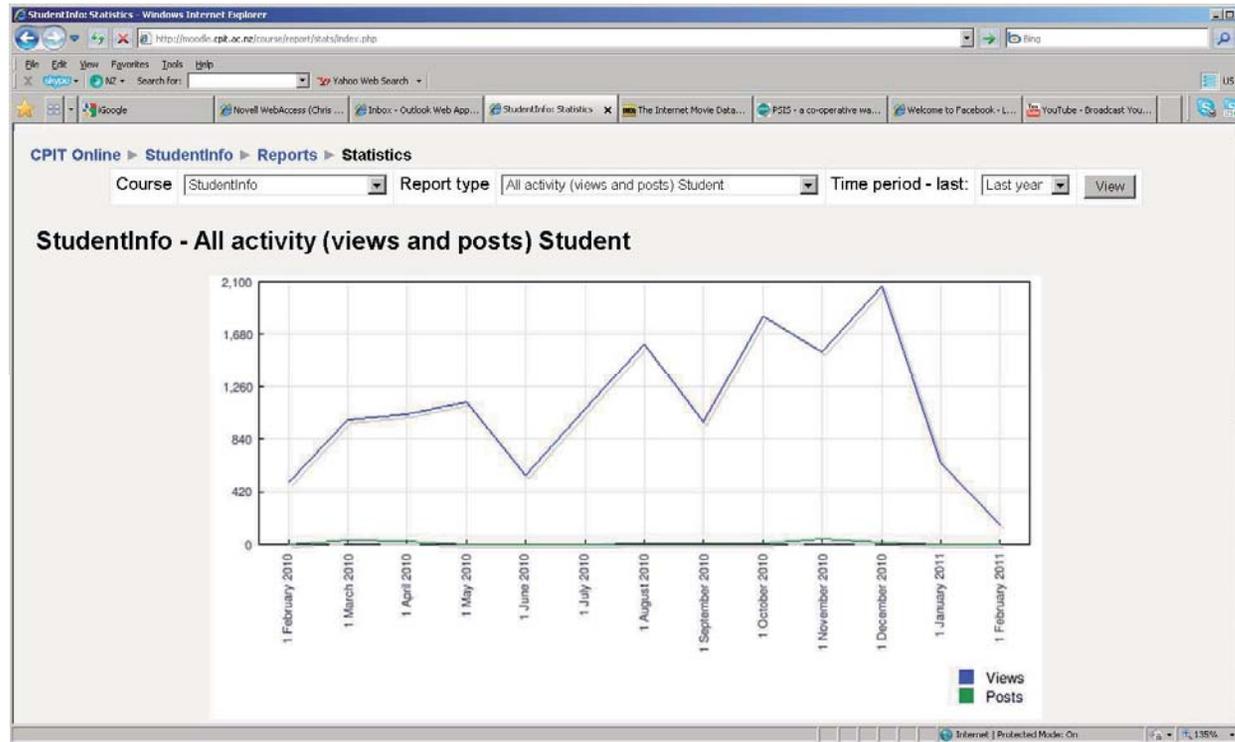Figure 8. The All Activities report showing students' access over the 2010 year.

Figure 9. The All Activities showing students' access per week