Enhancing Engagement in Large Course in the Wake of a Crisis: The Facebook Experiment

Trevor Nesbit
Ara Institute of Canterbury, New Zealand
trevor.nesbit@ara.ac.nz

Angela Martin
University of Canterbury, New Zealand
angela.martin@canterbury.ac.nz

Vanesa Tenant
Independent Scholar, Kingston, Jamaica
vanesa.tennant@gmail.com

ABSTRACT
The use of social media in higher education has attracted attention from many researchers. In this paper the results of a study into the use of Facebook in two offerings of a large first year Information Systems course and one offering of a large second year Accounting Information Systems course are presented.

The courses that were the subject of the study were offered during 2011 at the University of Canterbury in Christchurch, New Zealand. This creates added context for the study of the major disruptions caused by the major earthquake on 22nd February of that year and significant snowfalls in August of that year.

The results show that the decisions to use Facebook as an additional communication channel in these courses in the wake of the earthquake and snowfalls was justified, provided that joining the groups was not a mandatory requirement for enrolment in the courses.

Keywords
Student Engagement, Social Media, Facebook, Crisis Event
1. INTRODUCTION AND RESEARCH METHOD

The use of social media tools has been the subject of a number of experiments in higher education. The purpose of this paper is to present the results of a study into the effectiveness of using a social media tool (Facebook) as an additional communication channel between staff and students in large classes, particularly in the wake of natural disasters and extreme weather events.

Facebook was used extensively as an additional communication channel in two offerings of a large (approximately 300 and 500 students respectively) first year Information Systems course and one offering (approximately 170 students) of a second year Accounting Information Systems course at the University of Canterbury during 2011, a year which was disrupted significantly by earthquakes, and to a lesser extent by snow storms.

A literature review covering the use of social media in higher educational contexts is presented. This is followed by an outline of the methodology followed in the paper and a description of how Facebook was used across the courses. The results from a survey of students enrolled in the courses are then presented. The questions that were included in the survey are presented as part of that section of the paper. This is followed by an analysis and discussion after which conclusions pertaining to the success of the experiment are drawn.

The research question that this paper seeks to address is:

“What are the benefits and risks associated with using Facebook as an additional communication channel between students and lecturers in the wake of a crisis?”

It should be noted that at the time of these earthquakes, the feature in Facebook that allows people to mark themselves as safe had yet to be implemented.
2. LITERATURE REVIEW

2.1 Introduction to Literature Review

The literature that has relevance to this study can be found in four bodies of research. First that of student engagement and different aspects of student engagement; second in the social nature of learning; third in the use of social technologies in education; and fourth in the use of social media surrounding crisis events. The aspects relating to the use of social technologies in higher education are explored in the contexts of social technologies for collaborative learning; social communication technologies for the communication and exchange of information; social technologies for emotional support; whether social media can be a substitute for course management systems; privacy and internet safety; and the creation of distractions.

2.2 Engagement

Engaging students and keeping them engaged has often proved to be a problem. As can be imagined, this problem gains new factors that influence it and compound to produce a larger student engagement issue in the wake of a crisis.

The concept of engagement in learning has been the subject of much research in an attempt to address student motivation in learning situations (Fredricks, Blumenfeld, & Paris, 2004). Three types of engagement have been identified as being behavioural engagement, emotional engagement and cognitive engagement (Fredricks et al., 2004).

Behavioural engagement relates to positive conduct and following rules and norms (Finn, 1993; Finn, Pannozzo, & Voelkl, 1995; Finn & Rock, 1997). Emotional engagement refers to students' affective reactions in the classroom, including interest, boredom, happiness, sadness, and anxiety (Connell & Wellborn, 1991; Skinner & Belmont, 1993). Cognitive engagement refers to psychological investment in learning, a desire to go beyond the requirements, and a preference

Other researchers had also identified an increase in student engagement as being one of the benefits of using social media in this context (Cuesta, Eklund, Rydin & Witt, 2016; Roblyer et al., 2010) with others highlighting that Facebook is a great tool for promoting student engagement (Sobaih, Moustafa, Ghandforoush, & Khan, 2016).

The nature of engagement referred to in this study is predominantly that of cognitive engagement, in particular, the “student's psychological investment in an effort directed toward learning, understanding, and mastering the knowledge, skills or crafts that the academic work is intended to promote" (Newmann et al., 1992), however in the analysis section of this paper are some aspects that emerge that relate to behavioural engagement and some that relate to emotional engagement.

2.3 Social Nature of Learning

Tying student engagement into a form of social activity relies on the idea that learning has a social nature and is well established in Social Learning Theory (Vygotsky, 1978). This has been evident in studies involving the use of technology in education. This is particularly used when the technology being used by the students is also used by the students for social communication (Nesbit & Martin, 2011).

The term Prevailing Personal Social Communication Technologies (PPSCTs) has been developed to cover those technologies that are personally owned and/or used by a large percentage of students in a given context, where the students
frequently use those technologies for personal and social communication (Nesbit & Martin, 2011).

2.4 Social Technologies in Education in General

Although interaction through social media is not providing true social activity (in a form that has been historically deemed “social activity”), social media interaction does provide a platform for people with common interests and goals to put an almost anonymous voice to their questions and their social transactions/dealings. Basing this in an educational setting could mean increased learning potential.

The volatile nature of interaction enabled by social media can sit uncomfortably within existing higher education practice (Hemmi, Bayne, & Land, 2009).

A number of issues have been identified in the use of social media in education, but despite these, there are a range of student and tutor perspectives which show that these technologies have significant potential as new collaborative, volatile and challenging environments for formal learning (Hemmi et al., 2009).

A study conducted in 2010 that included a survey of a similar group of students at the University of Canterbury showed that Facebook was by far the most dominant form of social media amongst them. This study went on to identify a number of potential risks and challenges relating to the use of social media in a business setting (see Table 1), and that these had the potential to be generalised into a higher education setting (Nesbit, 2011).

| Divulging of confidential information outside the organisation and breaches of security |
| The organisation itself being unaware of their use, wasting employee time and loss of control |
| Reducing trust and use of the tools being incompatible with the culture of the organization |

Table 1 - Risks and Challenges from Using Social Media in a Business Setting (Nesbit, 2011)
The use of social media such as Facebook is one of the latest examples of communications technologies that have been widely-adopted by students and, consequently, have the potential to become a valuable resource to support their educational communications and collaborations (Roblyer et al., 2010). The indications from this study were that students would be much more likely to use Facebook and other similar technologies than academic teaching staff.

Of particular note is the significant difference between the perceived role of technologies like Facebook as being social, rather than educational (Roblyer et al., 2010) with this having potential links to Social Learning Theory (Vygotsky, 1978) and the ideas of using PPSCTs as part of students’ learning (Nesbit & Martin, 2011).

It was also noted in some studies that Students are the ones that are more willing and enthusiastic in its adoption compared with academics (Sánchez et al., 2014; Balakrishnan, 2017; Pérez, Araiza & Doerfer, 2013; Roblyer et al., 2010). It has also been noted that social media can be a platform for fast and efficient communication, convenience with resource sharing, time-saving, increasing interaction and facilitating in collaborative classroom activities (Akçayır, 2017).

2.5 Social Technologies for Collaborative Learning

Social technologies have been reported in many studies as being useful in enabling collaboration between students in a higher education context.

In one study it was found that Facebook friends helped students to identify and find learning material on the Internet, and to answer questions about logistics (course venues, times, assignment details, etc.). In this study students interviewed also talked about how Facebook allowed them to learn from the older students whom they did not usually meet with in person, allowing them to network with groups who had similar academic interests (Bosch, 2009)

In a second study, students reported that facebook provided a space where they can discuss and share their success and challenges. Furthermore, Facebook offered
opportunities for active learning and an open-ended forum for student consultation that may allow students who are introverts in class to give feedback to their fellow peers and lecturers (Ivala & Gachago, 2012).

In a third study, it was found that much of students’ ‘educational’ use of Facebook was based around either the post-hoc critiquing of learning experiences and events, the exchange of logistical or factual information about teaching and assessment requirements (Selwyn, 2009).

In another study, Facebook provided opportunities for student collaboration with both peer generated content and pedagogical content knowledge (Rambe, 2012).

In a further study, students revealed that Facebook was most helpful in providing study tips and suggestions. Students shared that posts that asked questions (and the related discussion that followed) were beneficial to their learning (DiVall & Kirwan, 2012).

The concept that interactions via Facebook supported community building and provided opportunities for modeling, both of which promote learning has also been identified (Arnold & Paulus, 2010).

In a further study, students stated that Facebook is an environment in which they feel comfortable and motivated to research, discover, create and fulfill school assignments (Grosseck, Bran, & Tiru, 2011).

In another study the findings included that interaction and connectedness was very important to the study’s participants. For several of the students in this study, the preference was for informal interactions with other learners. The study indicates that some students are actively seeking opportunities for informal learning and use new media to support this (Andrews, Tynan, & James, 2011).

The idea that students perceive the use of Facebook positively as a tool to enhance communications, community building, and engagement emerged from another study. In this study students shared that they use Social media for topic related
questions addressed to peers and/or the sharing of links to articles, new events, multimedia files, or other matters of interest (Buzzetto-More, 2012).

In a further study it was revealed that Facebook users who participated in the study kept their relationships and communication with their colleagues, classmates or people with whom they are studying; they also exchange information, share ideas and views during this communication process (Mazman & Usluel, 2010), with this facilitation of collaboration also being commented on (Milošević, Živković, Arsić & Manasijević, 2015). The Openness, interactivity, and sociability which are the nature of social media has been noted as bringing about an increase in communication, collaboration, and interaction (Manca & Ranieri, 2016).

2.6 Social Technologies for Communication and Exchange of Information

The concept that social technologies could be used in higher education to facilitate communication and exchange of information has been reported in a number of studies.

In one study is was found that Students also used Facebook during university vacations to connect with others about holiday projects, and share lecture and study notes (Bosch, 2009).

The idea that Facebook groups have the potential of enhancing student levels of engagement in learning through its promotion of improved interaction and communication between lecturers and students and vice versa was one of the findings one study (Ivala & Gachago, 2012).

In one study it was revealed that students would exchange information about academic and intellectual requirements of their courses, usually concerning the nature of required reading for seminars, the speculated content of examinations or the required content of essays and other assessment tasks. In some instances, potentially privileged information and advice given to one student by a lecturer or tutor was relayed dutifully to a wider audience (Selwyn, 2009).
In a further study it was identified that Facebook benefited students by promoting visibility of common problems that students had with course-based concepts. (Rambe, 2012).

In another study the Facebook page used enhanced communication and interaction between students and the course instructors. Students were able to receive updates and information which may have been missed via other communication means. Response to questions and facilitation of discussions were faster than relying on email and discussion boards on a platform familiar to students and allowed access to academic information on a system that they are constantly engaged with (Irwin, Ball, Desbrow, & Leveritt, 2012).

It was found in another study that students strongly agreed or agreed that they were more likely to post on Facebook than Blackboard and 77% strongly agreed or agreed that they were more likely to see and read posts on Facebook than on Blackboard (DiVall & Kirwan, 2012).

In another study it was found that the majority of participants highlighted the educational advantages including increased levels of communication and collaboration to deeper levels of reflection (Brady, Holcom, & Smith, 2010), with other studies commenting on the Openness, interactivity, and sociability that are enabled (Manca & Ranieri, 2016) and the increases in communication and interaction (Ahern, Feller, & Nagle, 2016; Pérez et al., 2013).

2.7 Social Technologies for Emotional Support

A number of prior studies have covered the use of social technologies for emotional support in a higher education context.

In one study it was demonstrated how one example of student community building on Facebook was an online group set up to provide emotional support to the friends of a student who had been killed in a car crash (Bosch, 2009).
In further study it was found that another category of Facebook exchange centered on supplication, and the seeking of moral (rather than intellectual) support with regards to the demands of the students’ studies. In these postings students would often present themselves as rendered helpless in the face of their university work in the expectation that their peers would then offer support and comfort (Selwyn, 2009).

In another study conducted Facebook was used as an important social tool by the majority of the respondents to aid transition to university (Madge, Meek, Wellens, & Hooley, 2009).

It has also been revealed that students who experience stress might use Facebook as an outlet for voicing this stress. Students may share concerns about stress in their natural, frequently used environment (Egan & Moreno, 2011).

In another study, when students shared their experiences in efforts to help others through the Facebook messages they wrote, especially students from Virginia Tech who went through a shooting incident before other campuses, their efforts most likely helped others learn about coping. Besides helping others, they probably redirected their own emotions in a constructive manner. The study outlined how in the case of Northern Illinois University, following the shooting, the university canceled classes for over a week and encouraged students to return to their homes and be with their families. Instead of being with their friends on campus, those students scattered, yet they could remain in contact with each other and with other students sharing the same experiences through Facebook. Additionally, many alumni, community members, and students from other universities joined groups and sent messages, and students could then see that there were people outside the university who cared (Shelton, 2009).

It has also been found that involvement in a Facebook Group correlated with students’ sense of belonging in the course, and their sense of belonging strongly related to their perceptions of learning. Students who felt greater belonging in the
course, aided by their involvement in the Facebook Group, perceived themselves to have learned more (Dougherty & Andercheck, 2014).

It was found in one study that students who were anxious about face-to-face communication went to Facebook to pass time or to feel less lonely (Sheldon, 2008).

In a further study the findings revealed that students used Facebook or MySpace as a means to communicate with each other or to the greater community in the case of campus crises. For example, after the Virginia Tech shootings, postings such as “Are you OK?” helped students locate their friends, find out what was happening, or tell their stories of the event. More than three thousand students joined a Facebook group called “I’m OK at VT,” which allowed them to say that they were safe, inquire about missing others, and eventually list the names of the victims (Mastrodicasa, 2008).

More than ten thousand students at Virginia Tech used social network sites such as Facebook or MySpace to communicate on the day of the shootings (PaperClip Communications, 2007). Gifts or individual tributes on each victim’s profile page were left in mourning (Heffernan, 2007).

In a further study it was revealed that the largest number of posts included those that were associated with affective communication such as group reinforcement, encouragement and support. These posts were typically positive and encouraging in nature indicating that the group sense of community was strong among participants (English & Duncan-Howell, 2008).

2.8 Social Media and Crisis Event

In the same way that social media replaced the church as a form of support after the Christchurch earthquakes (Veer, 2012), social media also replaced the classroom to support students.
Investigation of recent disasters reveals use of online social media as an emergent, significant, and often accurate form of public participation and backchannel communication. This highlights the value of social media as an additional communication channel in the wake of natural disasters (Palen, 2008).

The large earthquakes in Christchurch (New Zealand) in February 2011 had significant impacts on many aspects of life in the city. A study investigating how first year commerce courses at UC were managed in the wake of the earthquakes described briefly how Facebook was used as an additional communication channel with students (Nesbit & Martin, 2011).

A more recent study found that in a crisis situation, Facebook serves as an effective pedagogical tool (Ramadan, 2017).

2.9 The Nature of Social Media Not a Substitute for Course Management Systems

A number of studies have identified that the nature of social media is such that it should not be a substitute for a course management system.

In one study it was identified how students perceive the use of Facebook positively as a tool to enhance communications, community building, and engagement; however, they do not want to see social networking services replace course management systems like Blackboard (Buzzetto-More, 2012).

In another study it was identified that that Facebook appeared to be a good tool to support communication and social interaction but not for formal learning (Wang et al., 2012).

In a further study it was revealed that some students do not necessarily want their education—which they may see as quite a separate part of their lives—to mix with their social environment (Sclater, 2008).
Finally, in another study some concern was raised about the need to keep up to
date with the course Facebook activity in addition to other communication media
such as emails and the learning management system (LMS) discussion boards
(Irwin et al., 2012). It has also been commented that Facebook can be more
convenient than a LMS (Staines & Lauchs, 2013) however this concept has been
disagreed with by some (Lee & Chong, 2017), and there is also the view that
Facebook could be used in parallel with a LMS (Cooke, 2017).

2.10 Privacy and Internet Safety

A number of studies have identified that the issue of privacy and internet safety
relating to the use of social media in higher education is of significance.

In one study students were concerned about using Social Media in their courses,
with some reasons including: they did not want their friends to know what they
were doing in the course; they felt insecure as non-registrants for the course might
easily join course events; and Facebook was more appropriate for interactions
between social friends (Wang et al., 2012).

In another study, several students noted that student profiles often contain
information they do not want professors to see. Some students conveyed a sense
of anxiety about interacting with faculty. Many students indicated that the
student/faculty relationship should remain professional and should not be familiar
or sociable (Hewitt & Forte, 2006).

A further study found that students consistently regarded Facebook as a social
study space beyond the reach of university staff. It appears problematic for staff to
try to formalise Facebook use in education, considering this student attitude and
the issues of privacy (the sharing of personal information that Facebook entails)
and equity relating to the not-insignificant number of students who do not use
Facebook at the time of the study (Gray, Annabell, & Kennedy, 2010).
These issues of privacy and related concepts has been a common thread in a number of other studies (Balakrishnan, 2017; Cheng, Chan, Kong & Leung, 2016; Foogooa & Ferdinand-James, 2017; Miron & Ravid, 2015; Smith, 2016; Stanley, 2017).

2.11 Distraction

The issue of social media usage creating a distraction for students in higher education has been identified. In one study Facebook users reported a negative impact with participants stating that Facebook use caused them to procrastinate and were distracted from school work, and that they had poor time-management skills (Kirschner & Karpinski, 2010). In another study some students found the blurring of studying and socializing caused distraction (Gray et al., 2010), with this having also been noted in other studies (Purvis, Rodger & Beckingham, 2016).

2.12 Summary of Literature Review

A number of threads emerge from the literature reviews that are of relevance to this study. The emerging threads are presented in Table 2.

<table>
<thead>
<tr>
<th>Student Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Learning Theory</td>
</tr>
<tr>
<td>Social Communication in an Education Setting</td>
</tr>
<tr>
<td>Use of Social Technologies in the Wake of Crisis Events (in Education) to enable emotional support</td>
</tr>
<tr>
<td>Social Technologies Promoting Collaborative Learning in Higher Education</td>
</tr>
<tr>
<td>Social Technologies to Facilitate Communication and Exchange of Information in Higher Education</td>
</tr>
<tr>
<td>Using Social Technologies to Replace Course Management Systems</td>
</tr>
<tr>
<td>Privacy and Internet Security</td>
</tr>
<tr>
<td>Creation of Distractions</td>
</tr>
</tbody>
</table>

*Table 2 - Threads Emerging from the Literature*
The focus of this study is on student engagement, and in particular cognitive engagement (Fredricks et al., 2004). The concepts of Social Learning Theory (Vygotsky 1978), social communication in education settings (Nesbit & Martin, 2011; Hemmi et al., 2009) and exploring the use of social media or PPSCTS (Nesbit & Martin, 2011) are relevant to this study.

The use of social media such as Facebook has the potential to become very valuable in a higher education setting, provided there is awareness of some of the risks and challenges in the use of social media in an educational setting (Nesbit, 2011; Sobiah et al., 2016).

Social Technologies have been used successfully in a number of studies to promote collaborative learning (Bosch, 2009; Ivala & Gachago, 2012; Selwyn, 2009; Rambe, 2012; DiVall & Kirwan, 2012; Arnold & Paulus, 2010; Grosseck et al., 2011; Andrews et al., 2011; Buzzetto-More, 2012; Mazman & Usluel, 2010; Sanchez et al., 2014; Perez et al., 2013; Milosevic et al., 2015).

The use of social technologies to enable the communication and exchange of information has been commented on in a number of studies (Bosch, 2009; Ivala & Gachago, 2012; Selwyn, 2009; Rambe, 2012; Irwin et al., 2012, Ball, Desbrow & Leveritt, 2012; DiVall & Kirwan, 2012; Brady at al., 2010; Manca & Ranieri, 2016; Ahern et al., 2016; Perez et al., 2013).

The use of social technologies to provide emotional support in an educational setting in the wake of a crisis has also been commented on by many (Bosch 2009; Selwyn, 2009; Madge et al., 2009; Egan & Moreno, 2011; Shelton, 2009; Dougherty & Andercheck, 2014; Sheldon, 2008; Mastrodicasa, 2008; English & Duncan-Howell, 2008). It has also been shown that the use of social media is very valuable (Palen, 2008), and this coupled with the high potential for use of social media in an education setting suggests that this is a very advantageous approach to dealing with students in a higher education setting in the wake of a crisis (Nesbit & Martin,
2011; Ramadan, 2017) and can become quite a significant source of support not just in an education setting (Veer, 2012).

When it comes to issues and risks related to the use of social technologies in a higher education context it has also been highlighted that:

- Social technologies should not be used to replace formal course management systems (Buzzetto-More, 2012; Wang et al., 2012; Sclater, 2008; Irwin et al., 2012; Staines & Lauchs, 2013; Lee & Chong, 2017; Cooke, 2017)

- There are privacy and internet security issues to contend with (Wang et al., 2012; Hewitt & Forte, 2006; Gray et al., 2010; Balakrishnan, 2017; Cheng, Chan, Kong & Leung, 2016; Foogoa & Ferdinand-James, 2017; Miron & Ravid, 2015; Smith, 2016; Stanley, 2017)

- The use of social media can cause distractions to students (Gray et al., 2010; Purvis et al., 2016)

3. THE SURVEY

3.1 The Population Surveyed and Introductory Questions

The survey was made available via the Moodle (the Learning Management System used at the University of Canterbury) for the students in the course offerings shown in Table 3. Note that for the purposes of this paper INFOXX3 refers to either INFO123 or INFO243.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Year</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFO123</td>
<td>Information Systems and Technology</td>
<td>2011</td>
<td>One</td>
</tr>
<tr>
<td>INFO123</td>
<td>Information Systems and Technology</td>
<td>2011</td>
<td>Two</td>
</tr>
<tr>
<td>INFO243</td>
<td>Accounting Information Systems</td>
<td>2011</td>
<td>Two</td>
</tr>
</tbody>
</table>

*Table 3 - Courses Surveyed*

The students were asked to respond to a number of categories in the demographic section of the survey including their gender; age at the start of the semester;
frequency of use of Facebook prior to the semester starting; whether they joined the Facebook group and their reasons for joining or not joining the Facebook group.

### 3.2 Perceptions of the Course Facebook Group

The students were asked to rate each of the statements shown in Table 4 on the following 5 point Likert scale from strongly agree to strongly disagree.

<table>
<thead>
<tr>
<th>Having the Facebook group made it easier to ask questions and have them answered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Having the Facebook group helped me feel part of the INFOXX3 class</td>
</tr>
<tr>
<td>INFOXX3 should have a Facebook group created every semester</td>
</tr>
<tr>
<td>All students in INFOXX3 should be required to join the Facebook group</td>
</tr>
</tbody>
</table>

*Table 4 - Statements the Students Were Asked to Rate*

The students were also asked three open ended questions that are reproduced in Table 5.

| What do you think was the biggest advantage of having the Facebook group for INFOXX3 in this particular semester? |
| Do you think there were any risks in having the Facebook group for INFOXX3 this semester and if so, what were they? |
| Are there any other social media tools (eg Twitter, bebo, yahoo messenger etc) that you would have preferred to use instead of Facebook? |

*Table 5 - Open Ended Questions Students Asked To Respond To*

### 4. RESULTS

Prior to analysing the result from the survey, students who had been enrolled in semester one in INFO123 were removed from the responses from the semester two courses so that their responses were not counted twice.

#### 4.1 Enrolments and Response Rates

The number of students enrolled in each of the courses and the numbers that responded to the survey are shown in Table 6.
<table>
<thead>
<tr>
<th>Course</th>
<th>Enrolled</th>
<th>Responses</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFO123 Sem One</td>
<td>278</td>
<td>69</td>
<td>24.8%</td>
</tr>
<tr>
<td>INFO123 Sem Two</td>
<td>491</td>
<td>78</td>
<td>15.9%</td>
</tr>
<tr>
<td>INFO243 Sem Two</td>
<td>167</td>
<td>64</td>
<td>38.3%</td>
</tr>
<tr>
<td>Total</td>
<td>936</td>
<td>211</td>
<td>22.5%</td>
</tr>
</tbody>
</table>

Table 6 - Open Ended Questions Students Asked To Respond To

4.2 Responses to Closed Ended Questions

The responses to the statement “Having the Facebook group made it easier to ask questions and have them answered” are shown in Table 7. This shows a very high level of agreement across all three course offerings that the use of the Facebook group with 169 of the 211 total respondents (80.1%) either strongly agreeing or agreeing with the statement.

<table>
<thead>
<tr>
<th>Course</th>
<th>Total</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>I didn’t join</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFO123 Sem One</td>
<td>69</td>
<td>40</td>
<td>16</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>INFO123 Sem Two</td>
<td>78</td>
<td>34</td>
<td>31</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>INFO243 Sem Two</td>
<td>64</td>
<td>29</td>
<td>19</td>
<td>6</td>
<td>0</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>211</strong></td>
<td><strong>103</strong></td>
<td><strong>66</strong></td>
<td><strong>17</strong></td>
<td><strong>0</strong></td>
<td><strong>1</strong></td>
<td><strong>24</strong></td>
</tr>
<tr>
<td>% of all respondents</td>
<td></td>
<td><strong>48.8%</strong></td>
<td><strong>31.3%</strong></td>
<td><strong>8.1%</strong></td>
<td><strong>0.0%</strong></td>
<td><strong>0.5%</strong></td>
<td><strong>11.4%</strong></td>
</tr>
<tr>
<td>% of those joining</td>
<td></td>
<td><strong>55.1%</strong></td>
<td><strong>35.3%</strong></td>
<td><strong>9.1%</strong></td>
<td><strong>0.0%</strong></td>
<td><strong>0.5%</strong></td>
<td></td>
</tr>
</tbody>
</table>

Table 7 - Responses to “Having the Facebook group made it easier to ask questions and have them answered”

The responses to the statement “Having the Facebook group helped me feel part of the class” are shown in Table 8. This shows a reasonably high level of agreement with the statement, with 129 of the 211 respondents (61.1%) either agreeing or strongly agreeing with the statement and a further 47 respondents (22.3%) being neutral.
Table 8 - Responses to “Having the Facebook group helped me feel part of the class”

The responses to the statement “INFOXX3 should have a Facebook group created every semester” are shown in Table 9. This shows a very high level of agreement with 185 of the 211 respondents (87.6%) either agreeing or strongly agreeing with the statement.

Table 9 - Responses to “INFOXX3 should have a Facebook group created every semester”

The responses to the statement “All students in INFOXX3 should be required to join the Facebook group” are shown in Table 10. This shows a much lower level of agreement than the other statements with only 29 of the 211 respondents (23.2%) agreeing or strongly agreeing with the statement and a total of 81 of the 211 respondents (38.4%) either disagreeing or strongly disagreeing with the statement.

Table 10 - Responses to “All students in INFOXX3 should be required to join the Facebook group”
4.3 Students Reasons for Joining or Not Joining the Facebook Group

The students were asked to describe their reasons for joining the facebook group. Table 11 shows an analysis of the main reasons that were given. This shows that the three most cited reasons were all communication related. Note: Some students gave more than one reason whilst other students gave no reasons.

<table>
<thead>
<tr>
<th>Reasons</th>
<th>INFO123 Sem One</th>
<th>INFO123 Sem Two</th>
<th>INFO243 Sem Two</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to information and updates</td>
<td>33</td>
<td>29</td>
<td>25</td>
<td>87</td>
</tr>
<tr>
<td>Easier to communicate</td>
<td>19</td>
<td>8</td>
<td>15</td>
<td>42</td>
</tr>
<tr>
<td>Getting answers to questions</td>
<td>8</td>
<td>19</td>
<td>11</td>
<td>38</td>
</tr>
<tr>
<td><strong>Total Number of Students Giving</strong></td>
<td>55</td>
<td>53</td>
<td>47</td>
<td>155</td>
</tr>
</tbody>
</table>

*Table 11 – Main Reasons for Students Joining Facebook Group by Course*

The students were asked to describe their reasons for joining the facebook group. Table 12 shows an analysis of the main reasons that were given. This shows that the three most cited reasons were all communication related. Of the reasons shown, less than one third were related to the students having found that other ways of accessing information was sufficient. Note: Some students gave more than one reason whilst other students gave no reasons.

<table>
<thead>
<tr>
<th>Reasons</th>
<th>INFO123 Sem 1</th>
<th>INFO123 Sem 2</th>
<th>INFO243 Sem 2</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moodle was sufficient for requirements</td>
<td>6</td>
<td>-</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Didn’t know it existed</td>
<td>-</td>
<td>4</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>Don’t use Facebook (much)</td>
<td>-</td>
<td>2</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Couldn’t find it</td>
<td>2</td>
<td>1</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Forgot to or didn’t get around to it</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total Number of Students Giving Reasons</strong></td>
<td>8</td>
<td>9</td>
<td>9</td>
<td>26</td>
</tr>
</tbody>
</table>

*Table 12 – Reasons for Students Not Joining Facebook Group by Course*
4.4 Biggest advantage of having the Facebook group

As shown in Table 13, of the students who responded to the survey 155 out of 211 (73.5%) responded to the question asking what they saw as being the advantage of having the Facebook group for the courses, and 139 of the 211 (65.9%) responded to the questions asking what they saw as being the risks associated with having the Facebook groups.

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester</th>
<th>Enrolled</th>
<th>Responses to Survey</th>
<th>Responses to Advantage Question</th>
<th>Responses to Risks Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFO123 - Information Systems &amp; Technology</td>
<td>Semester One 2011</td>
<td>278</td>
<td>69</td>
<td>61</td>
<td>55</td>
</tr>
<tr>
<td>INFO123 - Information Systems &amp; Technology</td>
<td>Semester Two 2011</td>
<td>491</td>
<td>78</td>
<td>52</td>
<td>41</td>
</tr>
<tr>
<td>INFO243 - Accounting Information Systems</td>
<td>Semester Two 2011</td>
<td>167</td>
<td>64</td>
<td>42</td>
<td>43</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>936</strong></td>
<td><strong>211</strong></td>
<td><strong>155</strong></td>
<td><strong>139</strong></td>
<td></td>
</tr>
</tbody>
</table>

*Table 13 – Responses to the Survey*

The responses relating to the advantages of having the Facebook group for the courses were analysed and there were a number of themes identified in the responses. These themes are shown in Table 14 along with the number of times each theme appeared in the comments.

<table>
<thead>
<tr>
<th>Perceived Advantage</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information – ease of access to information</td>
<td>89</td>
</tr>
<tr>
<td>Easier Communication – an easier platform to use than the Learning Management System</td>
<td>74</td>
</tr>
<tr>
<td>Timely – faster access to information and answers to questions</td>
<td>47</td>
</tr>
</tbody>
</table>
Lecturer Contact – easier to make contact with the lecturer 37
Feeling Connected – feeling more connected with the course and the university 23
Earthquake – specific mentions of the impact of the earthquakes 18
Prevailing Technology – a technology that is used by most people 10
Snow – specific mention of the disruptions caused by snow storms in the second semester 10
Assessments - finding out information about assessments 8
Mobile Phone – specific mention of being able to access facebook from mobile phones for no cost 3

<table>
<thead>
<tr>
<th>Themes Relating to Perceived Advantages of Having the Facebook Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecturer Contact – easier to make contact with the lecturer</td>
</tr>
<tr>
<td>Feeling Connected – feeling more connected with the course and the university</td>
</tr>
<tr>
<td>Earthquake – specific mentions of the impact of the earthquakes</td>
</tr>
<tr>
<td>Prevailing Technology – a technology that is used by most people</td>
</tr>
<tr>
<td>Snow – specific mention of the disruptions caused by snow storms in the second semester</td>
</tr>
<tr>
<td>Assessments - finding out information about assessments</td>
</tr>
<tr>
<td>Mobile Phone – specific mention of being able to access facebook from mobile phones for no cost</td>
</tr>
</tbody>
</table>

4.5 Risks in having the Facebook group

The responses relating the risks of having the Facebook group for the courses were analysed and there were a number of themes identified in the responses. These themes are shown in Table 15 along with the number of times each theme appeared in the comments.

<table>
<thead>
<tr>
<th>Perceived Risks</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>No risks (explicitly stated)</td>
<td>51</td>
</tr>
<tr>
<td>Comparing answers and seeking help with assessments</td>
<td>34</td>
</tr>
<tr>
<td>Irrelevant postings</td>
<td>25</td>
</tr>
<tr>
<td>Not everyone has facebook or checks it regularly, or has internet or computer access</td>
<td>15</td>
</tr>
<tr>
<td>Incorrect postings</td>
<td>11</td>
</tr>
<tr>
<td>Possible risks were dealt with by the lecturers responding quickly</td>
<td>8</td>
</tr>
<tr>
<td>Privacy</td>
<td>7</td>
</tr>
<tr>
<td>Distraction from study</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Themes Relating to Perceived Risks of Having the Facebook Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Risks</td>
</tr>
<tr>
<td>No risks (explicitly stated)</td>
</tr>
<tr>
<td>Comparing answers and seeking help with assessments</td>
</tr>
<tr>
<td>Irrelevant postings</td>
</tr>
<tr>
<td>Not everyone has facebook or checks it regularly, or has internet or computer access</td>
</tr>
<tr>
<td>Incorrect postings</td>
</tr>
<tr>
<td>Possible risks were dealt with by the lecturers responding quickly</td>
</tr>
<tr>
<td>Privacy</td>
</tr>
<tr>
<td>Distraction from study</td>
</tr>
</tbody>
</table>

4.6 Other social media tools that would have been preferred

The responses (that mentioned other social tools) to the question of what other social media tools would have been preferred are shown in Table 16. Note that the 14 responses shown are the only ones that mentioned other social media tools,
with this being 6.6% of the 211 respondents. (Note that the responses are recorded here are exactly as they were made by the students).

<table>
<thead>
<tr>
<th>Google+</th>
</tr>
</thead>
<tbody>
<tr>
<td>I also use hotmail messager to contact my friends and families in China online.</td>
</tr>
<tr>
<td>If they were to implement it better on learn, therefore by logging in, learn you log into a social/informal connection to students across different subjects.</td>
</tr>
<tr>
<td>in the future, depends on what the carriers give on for free... if there's such thing as 0.twitter.com for mobiles, then give twitter a go. :)</td>
</tr>
<tr>
<td>It is easier to use messenger Skype or yahoo, but it doesn't make a big difference.</td>
</tr>
<tr>
<td>As a side note though I think it would be useful for other courses at Canterbury to have a similar group on Facebook to this one</td>
</tr>
<tr>
<td>Nope, for me having the facebook group was most helpful, although a lot of my friends are using Twitter, and it seems to be an increasing trend, so perhaps in future twitter and facebook? :)</td>
</tr>
<tr>
<td>Nope, perhaps Google + if that takes off in the future. ..</td>
</tr>
<tr>
<td>one is enough and easy for lecturer to look after.</td>
</tr>
<tr>
<td>Some people might like Twitter, which, depending on intentions it could be better</td>
</tr>
<tr>
<td>Twitter could be useful but facebook is the best medium for interactivity.</td>
</tr>
<tr>
<td>Twitter would be good too. Youtube?</td>
</tr>
<tr>
<td>Twitter would be interesting.</td>
</tr>
<tr>
<td>twitter.</td>
</tr>
</tbody>
</table>

Table 16 – Responses Mentioning Other Tools Relating to What Other Social Media Tools Would be Preferred

5. ANALYSIS AND DISCUSSION

The high level of agreement to the statement “Having the Facebook group made it easier to ask questions and have them answered” as shown in Table 7 is consistent with a number of the representative comments about why the students joined the Facebook groups that were created for the courses (see Table 11). This connects quite strongly to the thread identified in the literature review that related to the use of social technologies to promote collaborative learning (Bosch, 2009; Ivala & Gachago, 2012; Selwyn, 2009; Rambe, 2012; DiVall & Kirwan, 2012; Arnold & Paulus, 2010; Grosseck et al., 2011; Andrews et al., 2011; Buzzetto-More, 2012; Mazman & Usluel, 2010).
The responses to the statement “Having the Facebook group helped me feel part of the class” (see Table 8) did not have as high a level of agreement as the statement regarding the ease of asking questions and having them answered, but still had more than half of the students agreeing with it and less than 6% of students disagreeing with it. This pattern of responses is connected to the thread identified in the literature that is related to the use of social media in the wake of crisis events to enable emotional support (Bosch, 2009; Selwyn, 2009; Madge et al., 2009; Egan & Moreno, 2011; Shelton, 2009; Dougherty & Andercheck, 2014; Sheldon, 2008; Mastrodicasa, 2008; English & Duncan-Howell, 2008).

A combination of the responses to the statement relating to where the courses should have a Facebook group every semester (Table 9) and whether all students should be required to join the Facebook group (Table 10) reveals a significant difference in responses to the statements. 87.6% of the students agree or strongly agree with the statement that there should be a Facebook group created every semester whereas only 23.2% agreed or strongly agreed with the statement that students should be required to join the Facebook groups. The comparison of responses is shown in Table 17.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Facebook groups should be created every semester</td>
<td>114</td>
<td>71</td>
<td>21</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Students should be required to join the Facebook groups</td>
<td>15</td>
<td>34</td>
<td>81</td>
<td>55</td>
<td>26</td>
</tr>
</tbody>
</table>

*Table 17 – Comparing Whether the Facebook Groups Should be Created with Whether Students Have to Join the Groups*

Conducting a Mann-Whitney test to determine the significance of the difference in the responses to the two questions produced a U-value of 5915.5, and a corresponding Z-score of -13.05 which indicates that the difference between the two sets of responses is very significant at P < 0.01.
This result is connected to the thread emerging from the literature relating to privacy and internet security in that people don’t want to be forced to engage in the use of social technologies because of these types of concerns.

This particular aspect is quite important for the future as INFO123 is a compulsory course for the Bachelor of Commerce and INFO243 being a required course for entry to a number of professional accounting bodies. This required nature of both courses could create issues if use of any social technologies were enforced.

The reasons for students choosing to join the Facebook groups (see Table 11) appear to be consistent with the reasons for the Facebook groups being created in the first place. The reasons for students not joining the Facebook groups (see Table 12) reinforces the potential issue(s) of making membership of the Facebook groups compulsory, with many of these issues being connected to the thread from the literature of privacy and internet security.

The advantages of having the Facebook groups (see Table 14) are consistent with why the groups were created and the risks in having the Facebook groups (see Table 15) are consistent with some of the risks identified (Nesbit, 2011) and are also consistent with idea that membership of the groups should not be mandatory. These advantages and risks are consistent with the threads in the literature relating to the use of social technologies to promote collaborative learning; enable emotional support in the wake of a crisis; and to facilitate communication and the exchange of information.

That the most frequently cited themes relating to the advantages of having the Facebook groups were to do with accessing information; communication and timeliness (Table 14). This is consistent with the thread in the literature relating to the use of social technologies to facilitate communication and exchange of information. This is not a surprise given the nature of what social media is all about and are consistent with the responses to the first statement in the summary of results from the first phase of the study where 80% of the respondents had agreed
with the statement “Having the Facebook group made it easier to ask questions and have them answered” (Table 7). The next most cited themes were related to feeling connected and contact with lecturers (Table 14), with this being consistent with the responses to the second statement in the summary of the results from the first phase of the study where 61.1% of the respondents agreed with the statement “Having the Facebook group helped me feel part of the class” (Figure B) and is also consistent with the thread in the literature relating to the use of social technologies to enable emotional support.

The responses to the question about the perceived risks of having the Facebook group were of interest in that of the 139 students who responded to the question, 51 (36.7%) responded saying that there were no risks in having the Facebook pages (Table 15). This shows that while the literature pointed to the use of social media having the potential to become very valuable in a higher education setting, providing there is awareness of some of the risks and challenges in the use of social media in an educational setting (REDACTED), that over one third of this particular group of student respondents did not identify any risks in having the Facebook groups. Some of the risks identified related to a thread that was identified in the literature of not using social technologies to replace formal course management systems.

That some students were using the Facebook group to seek what appeared to be “too much” help with assessments was identified by most students as being a risk, along with irrelevant postings and that not everybody has access to Facebook through either not having a Facebook account, internet access or access to a computer (see Table 15). The issue of seeking too much help with assessments was elaborated on with some of the comments with some indicating that “at least the lecturers could see who was getting too much help”. The issue of irrelevant postings was commented on by some who indicated that many of these were deleted by the lecturers reasonably quickly highlighting the need for lecturer
involvement. The issue of not everybody having access to the Facebook group is problematic if this approach was to be made a requirement for the courses, particularly as the two courses involved in the study are mandatory for some groups of students.

Many of the advantages identified by the respondents are likely to be shaped by the context of the earthquakes that caused the initial disruptions and that continued throughout the year, and to a lesser extent the snowstorm that caused disruptions in the second semester. That more than a third of the students perceived there was no risk associated with having the Facebook groups may be due to the risks being very minimal compared to the benefits in what was a very difficult time with this being related to the idea of social technologies being used for emotional support that was identified in the literature. This suggests that a study relating to the use of social media in higher education in similar ways to this study, but without the context of natural disasters, may highlight some differences to the findings of this study, some of which may be due to changing patterns in the use of social media in general.

A number of students mentioned that the Facebook groups were particularly useful in the wake of earthquake and snow events that took place during the semesters under review with this again being connected a number of threads that were identified in the literature. While it might be tempting to only create groups such of these when a crisis event occurs, having the group already available makes it easier to utilise when the crisis events take place. As a consequence of this, creating the groups at the start of a semester would in essence be a form of disaster recovery planning.

With less than 7% of the students specifically mentioning other social media tools when asked which other tools would have been preferred, the decision to have used Facebook for these courses appears to have been justified.
The extent that students used Facebook for an alternative communication channel, and their reasons for doing so indicated a high level of cognitive engagement (Fredricks et al., 2004), while a smaller number of the reasons given for joining the Facebook groups indicated some level of behavioural engagement and emotional engagement (Fredricks et al., 2004).

Social Technologies have been used successfully in a number of studies to promote collaborative learning (Bosch, 2009; Ivala & Gachago, 2012; Selwyn, 2009; Rambe, 2012; DiVall & Kirwan, 2012; Arnold & Paulus, 2010; Grosseck et al., 2011; Andrews et al., 2011; Buzzetto-More, 2012; Mazman & Usluel, 2010) with these responses from the students in this scenario being consistent with this.

The use of social technologies to enable the communication and exchange of information has been commented on in a number of other studies (Bosch, 2009; Ivala & Gachago, 2012; Selwyn, 2009; Rambe, 2012; Irwin et al., 2012; DiVall & Kirwan, 2012; Brady at al., 2010), with the findings from this scenario being consistent with these comments.

The use of social technologies to provide emotional support in an educational setting in the wake of a crisis has also been commented on by many (Bosch, 2009; Selwyn, 2009; Madge et al., 2009; Egan & Moreno, 2011; Shelton, 2009; Dougherty & Andercheck, 2014; Sheldon, 2008; Mastrodicasa, 2008; English & Duncan-Howell, 2008) with these comments being consistent with the findings from this scenario. It has also been shown that the use of social media is very valuable (Palen, 2008), and this coupled with the high potential for use of social media in an education setting suggests that this is a very advantageous approach to dealing with students in a higher education setting in the wake of a crisis (Nesbit & Martin, 2011) and can become quite a significant source of support not just in an education setting (Veer, 2012).
6. CONCLUSIONS

The decision to use a social media tool in these courses as an additional communication channel appears to be well justified from a student perspective, provided that it is not made a mandatory requirement for all students in these courses (partly as consequence of the compulsory nature of these courses and also due to privacy and internet security concerns).

The decision for the social media tool to be Facebook appears to be justified from the student perspective, mainly due to (a) it being a highly used tool amongst the students and (b) very few students suggesting other possibilities.

The use of Facebook across the course served to increase the level of student engagement, with a particular emphasis on cognitive engagement, and served to promote collaborative learning; enable communication and exchange of information, and provide emotional support in the wake of a crisis.

Issues identified with the use of social media in this way included that it may be unwise for social media to replace formal learning management systems, that privacy and internet security factors needed to be considered, and that the use of social media can create a distraction for students.

Further research is needed to see if these findings can be generalised into a context that is not in the wake of a crisis event. This could take the form of a survey of students about their willingness to engage in a similar way that was not in the wake of a crisis event to ascertain what the impact of the crisis event was, and whether this crisis event context outweighed the notion that some students do not want their education to mix with their social environment (Sclater, 2008).

7. REFERENCES


http://openlibrary.org/publishers/Falmer_Press