

Building Student Communities with Social Media

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ABSTRACT

The purpose of this study is to explore the use of Facebook, a popular social media platform, in an educational setting. It seeks to delineate potential uses of the tool for delivery of content, information sharing, and strengthening of students' sense of community membership.

Categories and Subject Descriptors

K.3.1 Computer Uses in Education

General Terms

Human Factors

Keywords

Social media, student engagement.

1 INTRODUCTION

Across the tertiary sector education providers are under pressure to improve academic and economic performance (MOE, 2011). Within this changing education landscape, educators are examining all aspects of the educational experience to develop strategies which better meet learner needs. Researchers have identified the importance of student engagement as a critical factor in improving key indicators such as retention and completion rates. (Coates 2006, Zepke and Leach 2010, Ramsden 1992). In this manuscript we discuss a pilot study exploring the use of the popular social media tool 'Facebook' as part of a wider strategy to increase student engagement at the Otago Polytechnic School of ICT.

The information technology degree programme at Otago Polytechnic has approximately 150 students (105 EFTS) - 93% full-time and 7% part-time.. The average age is in the mid 20's, with school leavers balanced by midlife career-changing students with a variety of educational and professional backgrounds. Males outnumber females by twenty to one, Maori students make up ten per cent of the group and International students (Chinese, Korean and Saudi Arabian) another 7-8 per cent. The programme is successful in terms of graduate placements, but like many computing programmes, retention and completions are poor, particularly in first year.

In first year, all classes are compulsory. Students take papers in programming, professional practice, hardware and mathematics. Prior to 2011, all courses had low completion rates with programming and professional practice posing significant

challenges for some. Careful internal review of the academic content and presentation of these papers led to some changes, but it was suggested that the more critical need was for an improved system of pastoral care. We noted that some first year students tended to 'drop away' from class attendance and participation, even when not necessarily experiencing unusual academic difficulties. To address this, we introduced a number of policies focussing on building a greater sense of community and belonging within the School, providing more effective communication channels between staff and students, and enhancing general engagement with the programme.

Changes introduced over 2011 and 2012 included the introduction of a new role, First Year Coordinator, funded as a 0.3FTE position to engage with first year students. Orientation and student support were revamped with an emphasis on engaging and retaining students. Considerable energy was invested in attendance monitoring – a whole school effort to track missing students through class rolls, with follow-up through First Year Coordinator and centralized Student Support Services.

By the end of 2011, completion rates in first year had risen dramatically. Attendance was good and student feedback was excellent. From that point on, the challenge was to maintain and embed these outcomes into best practice.

One of our goals was to strengthen the communication between first year students and senior students to help establish a greater sense of community and belonging across the school. It was clear that first year students had little awareness of the realities of the path ahead of them, including second and third year course offerings, internship programmes, and third year projects, and we felt that this sense of uncertainty could be alleviated by improving connections between junior and senior students. Some changes to the physical layout of the School were made to encourage cross-class communication: We established a student common room, a student kitchen and added internal windows into the previously 'secret' senior student project work area. Students were pleased with these changes, but we were still interested in finding better ways to get conversations going.

We had observed that our students were enthusiastic Facebook users, and that the Facebook social media platform was surpassing email and instant messaging as the preferred communication tool. We thus decided to introduce a departmental Facebook page to see if it could serve as an effective information conduit between students, and between students and staff.

In this initial exploration, we wished to observe the impact of using Facebook as naturally as possible. Thus we did not impose

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any sort of formal research protocol on the study. For example, we did not gather from the students any formal permission to use their Facebook data for publication. We felt that to do so could adversely affect uptake and participation and limit the value of what could be a potentially important component of our strategy to improve the student experience. Students have thus granted no permissions beyond that which is implicit in the ordinary use of a public social media platform (i.e. everyone can see what you write). The analyses presented in this manuscript, therefore, contain only broad summaries, with no exploration of individual use, or any attempt to correlate personal demographic data with patterns of interaction. This decision was noted on a Category B Ethics Approval process. With the Facebook page now an established part of our departmental culture, we will, in future studies, explore what more detailed permissions our students are willing to give.

2 LITERATURE REVIEW

“Student engagement” encompasses the extent to which a student feels involved in and connected to their studies and their academic department. It has frequently been suggested that a high-degree of student engagement produces a more enjoyable and more effective learning experience (Radloff, 2011). Large-scale studies of student engagement, such as the National Survey of Student Engagement in the United States (NSSE, 2003) and the AUSSE survey in Australia have collated student surveys since 1999 in an attempt to identify those factors which maximise student engagement in tertiary education (Coates, 2008). Good practices considered indicative of engagement are defined in the NSSE study as

- Level of academic challenge
- Active and collaborative learning
- Student-faculty interaction
- Enriching educational experiences
- Supportive campus environment. (NSSE; pg. 30)

Radloff’s summary report on the 2010 New Zealand ITP AUSSE pilot survey argues that student engagement is increasingly seen as essential to good student outcomes and in fact extends the definition of engagement to include factors outside the student’s classroom and own department such as wider institutional support policies (Radloff, 2011).

One of the scales AUSSE uses to measure effective engagement is “Supportive Learning Environment” which is variously defined as students’ “feelings of support within the ITP community” and “feelings of legitimation within an institution’s learning community” (Radloff, 2011, p 3).

The concept includes:

- Relationships with other students
- Relationships with teaching staff
- Relationships with administrative personnel and services

- Institution provides support to succeed academically
- Institution helps cope with non-academic responsibilities
- Institution provides support to socialize

(Radloff, 2011, p 31).

Thus contemporary conceptualisations of student engagement extend far beyond the construction of interesting classroom materials, and includes the broad spectrum of relationships between a student and the people he encounters during tertiary study. Such relationships are considered to be of critical value to a successful educational experience. Unfortunately, evidence indicates that student engagement levels may be low, particularly in Information Technology. As described by Coates (2008), results of the 2007 AUSSE survey reveal that “relationships vary across scales, but in general students in the Education and Health fields have the highest levels of engagement, and students in the Information Technology field report the lowest levels of engagement” (p viii). In the face of typically low retention rates in IT, we therefore are highly motivated to find additional methods to boost student engagement.

A number of researchers have explored the potential for online tools to create and improve student engagement in unfamiliar situations, such as entering tertiary study. Madge, Meek, Wellens and Hooley (2009) found that in a study of first year students at one UK university “Facebook was certainly an important part of the ‘social glue’ that helped students settle into university life, created a sense of community and aided communication (especially about social events)” (p 148).

Coleman (1988, in Ellison, 2007) describes the relationships discussed above and, specifically, the resources accumulated through the relationships as “social capital” as among people. Favourably linked to positive social outcomes, social capital provides a source of support to students dealing with the challenges of tertiary life. Ellison (2007) notes that Facebook, and other social networks provide a modern alternative route to the building of social capital, allowing students convenient access to a wide range of people with whom they can expect to share common values and interests.(Ellison, 2007, p 1147).

The use of social networking sites in education has been explored by a number of researchers with mixed results. Madge *et al* (2009) note that students can feel that Facebook is ‘theirs’ for social interaction, and may object to it being used for academic purposes. They recommend that the implicit rules of social networking be observed, and that aggressive marketing, discipline or pastoral interventions are not appropriate. As we discuss below, we found that neither staff nor students had difficulty making the distinction between their own personal Facebook space and the more formal context of the School’s page. When the accepted ‘rules’ of Facebook are observed, students did not appear to find the School’s use of Facebook to be an intrusion on their private social space.

3 METHODOLOGY

3.1 Facebook page

In February 2012, at the start of the autumn semester, the School of IT constructed a Facebook page for students and staff. Students were informed of the page’s existence in their classes, and were encouraged to join the group. The page was presented as a place to discuss issues related to life in the School of ICT, but no formal rules or restrictions were placed on the use of the page.

The content of the main school page has been captured each day to enable detailed observation of traffic, type of content, amount of discussion and various other potentially informative metrics.

4 FINDINGS

Facebook provides a rich JavaScript API that allows programmatic inspection of page activity. Using the API you can extract information such as number of page members, history of posts and frequency of “likes”. This tool was used to extract data about the activity on the School of ICT Facebook page between February and June 2012. A summary of the results is presented in this section.

Uptake: The membership of the page grew very rapidly. Students who joined the page first quickly added their friends to the group. Several staff who were already Facebook users joined the group and were “friended” by the students there. The Facebook API does not provide access to the date an individual joins a group, but we were able to take ‘snapshots’ of group membership at various points during the term, as shown in Table 1.

Table 1: Uptake of Facebook group

Date	Number of members	Comment
Week 1	1	Head of School creates Facebook page “BIT2012”
Week 3	52	
Week 16	99	Membership includes 7 staff (out of 12 total)
Week 18	143	Mid-year intake students quickly joined the list. Group size actually larger than the number of students as some students have included friends from outside the school.

Frequency of use: Figure 1 shows the number of posts by date for the first semester of 2012. Since its inception the page has been steadily active, with peaks and troughs of activity corresponding to external events such as term break (posting frequency falls) and assignment due dates (posting frequency rises).

There were a total of 420 posts made to the group during the test period.. Initial posts were made by staff with the first student post on 16 February. The first joke was posted by a student on 21 February “Did you hear about the wooden car? It wooden go!” One early post was a request for English tutoring from an

International student (in exchange for maths tutoring).By the end of February, students were posting regularly with a range of topics – from requests for technical help or text books to geek jokes.

Distribution of Posting Activity: Figure 2 shows the frequency distribution of posts by user. 60 of the 143 group members posted during the test period. Posters included both students and staff. As shown in Figure 2, the frequency of posting varies greatly among group members. Some students post very frequently while others have never posted. We assume, but cannot verify, that these non-posting students are “lurking”. That is, they read the page, but choose not to contribute their own posts. While the bulk of users posted a few times – on average once every two weeks -- Figure 2 shows clearly the presence of three outliers, members who posted many more times than the group average. This skewed distribution of posting frequency highlights a potential concern about the use of a Facebook page for student engagement. It is possible for a few frequent users to dominate the page traffic and perhaps impact negatively the sense of community. As we discuss below, our group demonstrated some self-management behaviours that helped to mitigate this problem.

Distribution of Commenting Activity: In addition to making posts, Facebook users can comment on posts made by others. Comments are nearly always short and informal, and people who might not choose to generate an entire post may feel more comfortable making a comment. Figure 3 shows the distribution of comment counts by user. Eighty-two individuals commented during the analysis period (as expected, therefore, there were users who commented but who did not post). The average number of comments per user was 13.77, considerably higher than the average number of posts (mean number of posts = 7.00), as expected, since a single post often attracts multiple comments. The distribution again shows clear outliers, with the top two commenters accounting together for 23% of the total comments. As all data are anonymised (see discussion above) we are unable to state whether the frequent posters and the frequent commenters are the same individual. Regardless, this pattern again highlights the need to be on the watch for individual users dominating the conversation. If such behaviour was deemed to be inappropriate, a staff member or other moderator might need to take some advisory action, like speaking in private with a student who was monopolising the group. In the present study, because of our desire to observe the natural behaviour of the group, no such intervention was made.

Self-Policing Behaviour: The unusually high frequency of posts and comments by a few individuals became an issue for some students, prompting feedback on the page. In early May, one student made a post asking how to hide posts from a specific user, without actually naming the individual in question. This post prompted heated discussion both online and offline including some speculation about the identity of the poster who was to be blocked.. The final effect of this incident was to reduce postings by a number of high-frequency posters.

Further evidence of self-management occurred when, the content of some postings was deemed inappropriate by the students (off topic rather than offensive). Critical comments were made and posts were removed promptly.

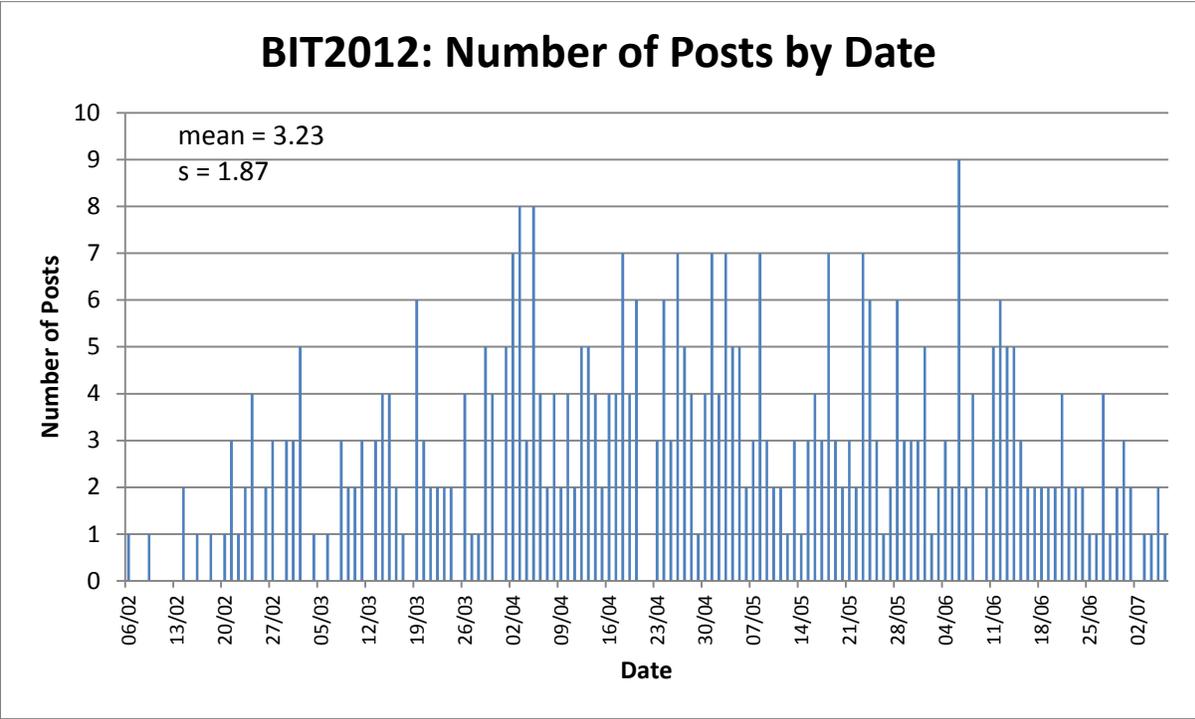


Figure 1: Number of posts by date

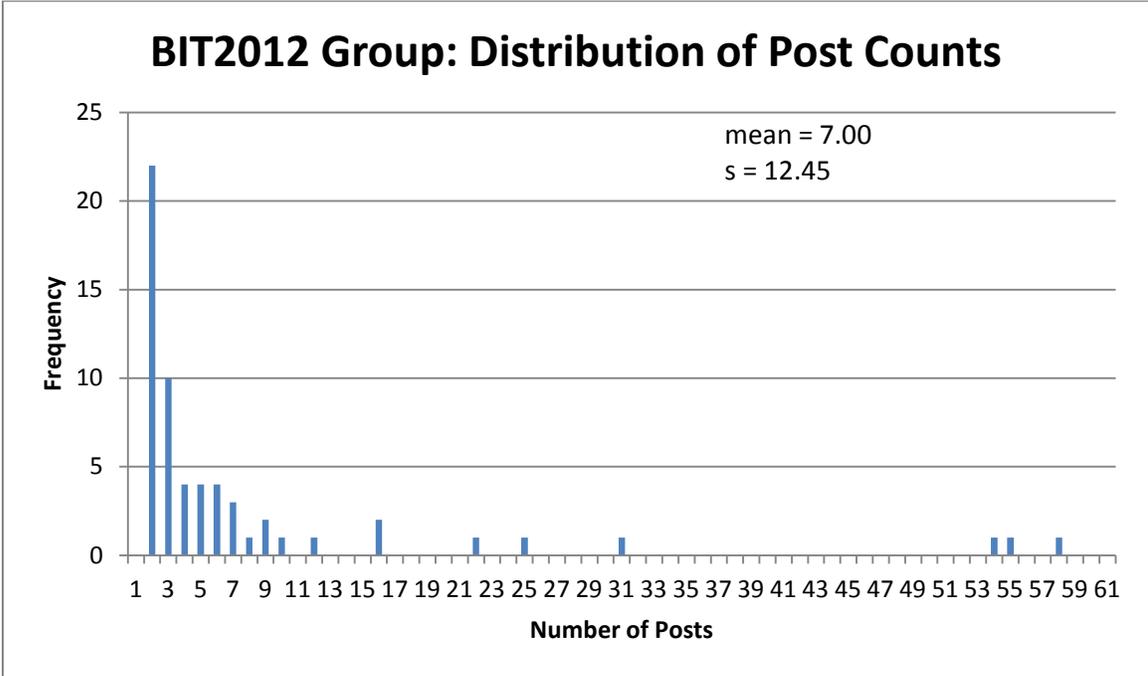


Figure 2: Distribution of Post Count

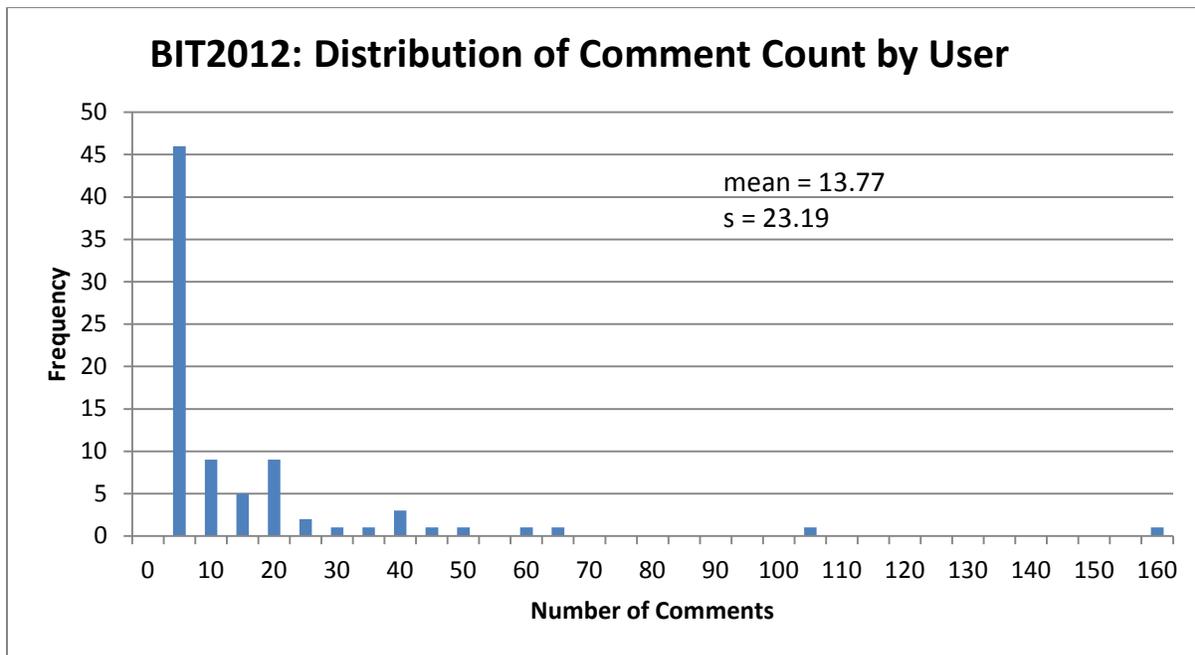


Figure 3: Distribution of Comment Count by User

Response Interval: While some posts to the page were informational (e.g. links to an interesting IT blog post), many were specific questions or requests for help. In these interactions one of the greatest strengths of face book as a communication tool was displayed, as questions posted to the page tended to be answered *extremely* quickly, often within minutes.

Figure 4 shows the distribution of intervals between the appearance of a post on the Facebook page and the first response to that post. Figure 5 shows the cumulative frequency distribution of these response intervals. As shown, 64% of all first responses occurred within one hour . Figure 6 shows a further breakdown of those responses. Note the large number of these responses which were made less than five minutes after the original post appeared on the page. Assuming that there is some correlation between urgency and response, we can see that students who posted important queries to the page received answers much more quickly than they would have using email or tracking down a staff member. Many of these quick response posts were simple requests for clarification about assignment due dates or requirements. Rapid feedback in these cases would have allowed a student to continue working effectively without delay. Other quick response queries were for mechanical difficulties such a server malfunctions. These problems were referred rapidly to our technician (who was also, of course, on Facebook) for resolution.

Teaching staff's *a priori* expectations of the Facebook page were mixed. Based on prior unsuccessful attempts to use online tools such as Moodle discussion boards, there were concerns that

uptake would be low. Yang, Li, Tan and Teo (2007) have noted that low uptake can, in fact, be a problem with online learning tools. We found, however, that uptake of the Facebook page was very high. Presumably the difference between this attempt and our previous ones was that, in this case, we were employing a system that students were already using voluntarily, rather than insisting that they use something of our own choosing. Some staff are not users of social networks and had no desire to engage with students in this medium. The question of whether staff should engage with students in social networking sites has been researched widely and early cautionary messages are noted (Miller and Jensen 2007). Recent research (Teclhaimanot and Hickman, 2011) concludes that there is no inherent danger in students and staff communicating via Facebook. Obviously, professional standards must be maintained at all times, but this is really no different from the expected code of conduct when communicating with students via email or face to face. It should be noted that “friending” a student on a group page does give a staff member access to the student’s profile page and postings. However, these pages are in no sense private (i.e. they can be viewed by any of the students’ Facebook friends) and students who use Facebook will certainly be aware of this consequence of joining the group, as it is a well-known feature of Facebook’s social network mechanics. In practice, neither teaching staff, the Head of School or the Programme Manager have received any statements of concern from students about the social proximity to staff engendered by being members of the School’s Facebook group.

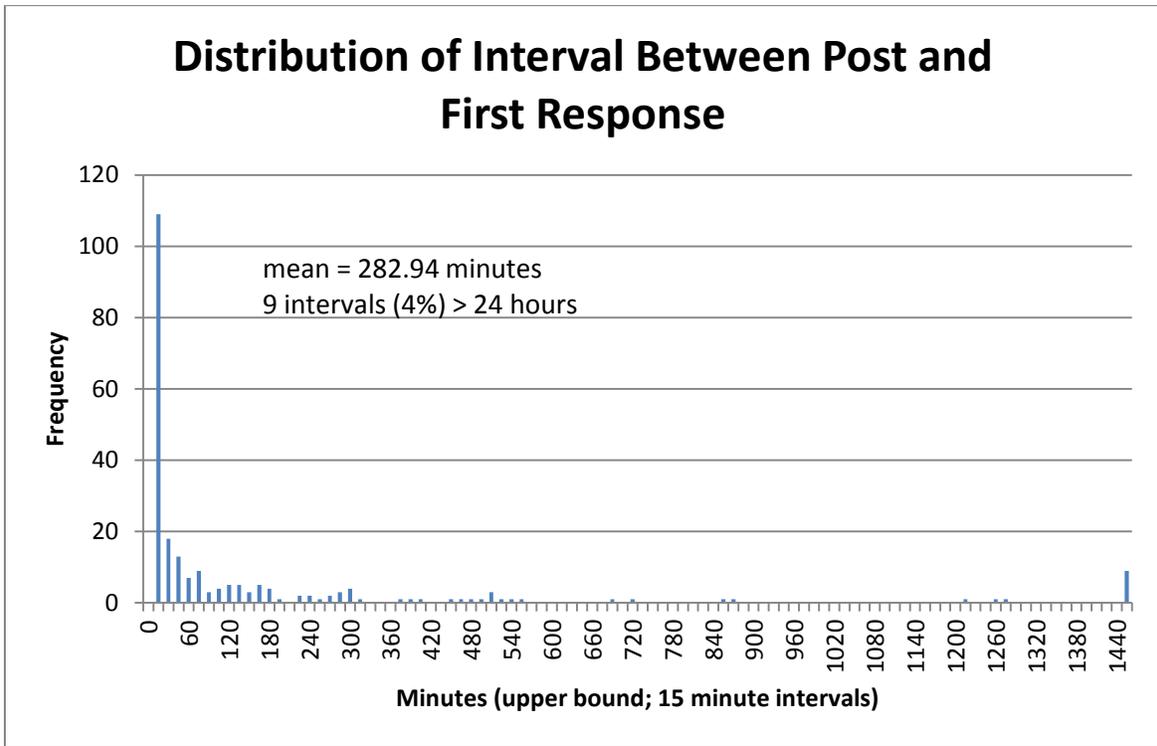


Figure 4: Distribution of Interval between responses

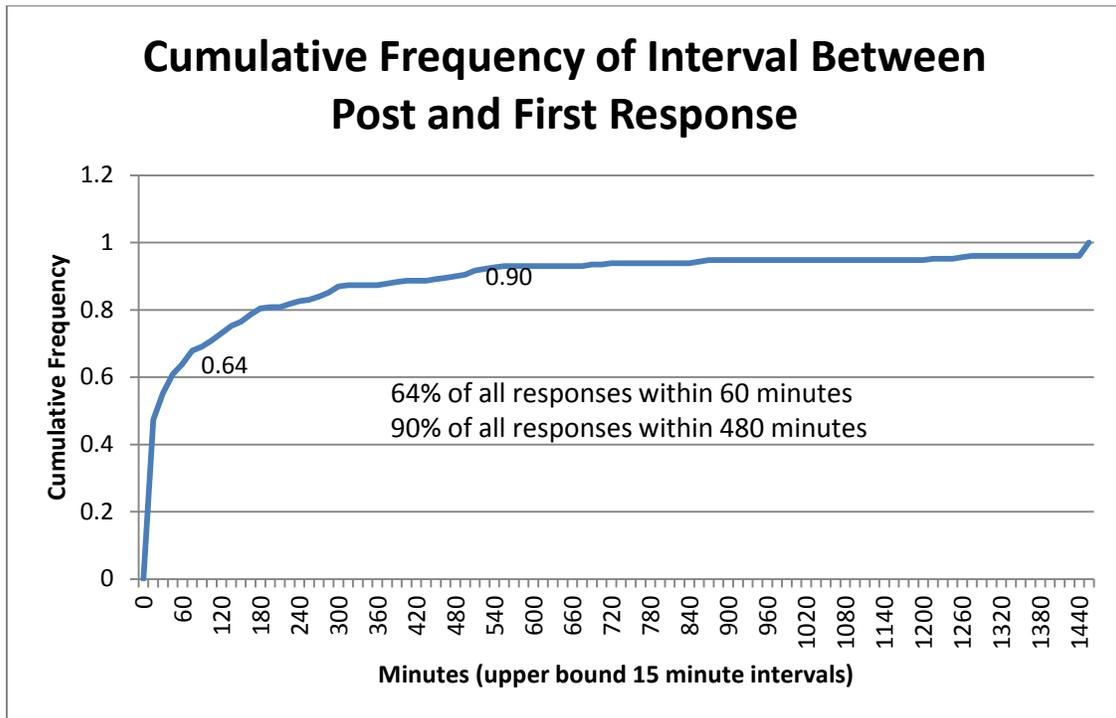


Figure 5: Cumulative frequency of interval between post and first response

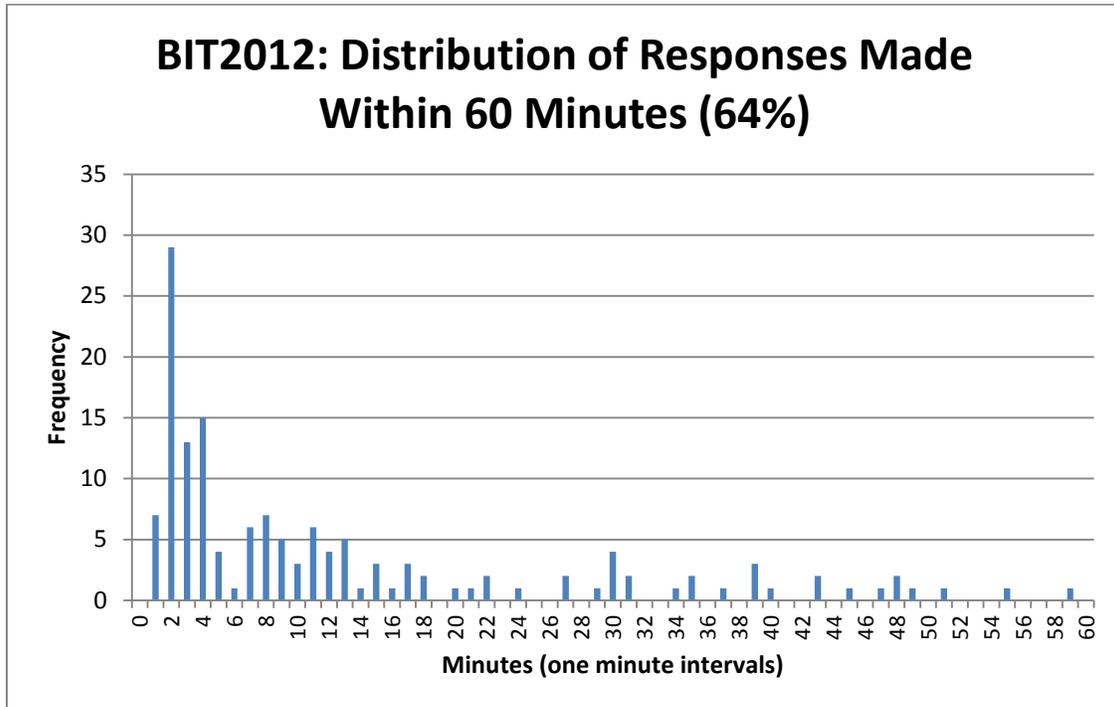


Figure 6: Distribution of responses made within 60 minutes

On the basis of this initial pilot exploration, we see a wide variety of potential benefits to the use of Facebook as a communication tool.

It is currently the most reliable channel for the school, given that the majority of students appear to check student email accounts only intermittently. Previous communication methods such as face to face Student Forum meetings would attract only a handful of students. Now, a broad selection of students contributes, to varying degrees, to discussion of school issues on the Facebook page. Urgent messages such as class cancellations, while duplicated in traditional media, are transmitted most effectively through Facebook. Use of the Facebook events tool is particularly efficient and effective.

The ability of the Facebook group to provide a relatively nonthreatening channel for making new acquaintances suggests an opportunity to introduce the page to applicants prior to enrolment. This could provide an ideal bridging into an unfamiliar environment for incoming students.

4.1 Content of posts

While no statistical analysis has been completed on the content of posts and comments, personal observation indicates a strong academic slant. Students discussed assignment content and due dates, and made study arrangements for after hours. One poster

asked direct questions on assignments but was gently admonished by his peers and ceased to do so. This was an interesting event, as staff had not placed any restrictions on using the page to ask for help with homework. It was the participating students who established and enforced this protocol.

Students often posted links to relevant or helpful sites, reference material for assignment work or new developments. Students and staff posted photographs of course related events, whiteboard diagrams and code snippets for comment. Occasionally there were joke postings, but discussion on the site made it clear that these should be IT related. There were very few posts on social events unless they were internal to the school, such as end of term class functions.

Students who were members of the group continued to post personal information on their personal pages. It was clear that most students had no difficulty with the boundary between study space and personal space on Facebook.

Further qualitative analysis on content is planned after the end of the academic year.

4.2 Cross cohort posting

Also not analysed at this stage is the extent of postings between the year cohorts. By observation second and third year students

do respond to first year student requests for help. In general, students appear to respond if they can provide the relevant expertise, regardless of cohort.

5 CONCLUSION

End of year student outcomes will be one measure of the success of the initiatives put in place in the school in 2012. Standard student evaluations and focus group discussions, including Facebook discussions will be used to learn more about the first year student experience, including the impact of the Facebook page. Early indications are that students are happy in the school and well engaged in their studies.

No specific student feedback has been sought on the Facebook experience. As the academic years progress, the cohorts will blur and graduates are likely to retain their membership of the group. As a social experiment, the page has raised some interesting issues around the use of social media in an education setting. The extent of self-moderation has been impressive and might be a feature of this student cohort.

We consider the page to be a success. It provides an efficient communication channel for staff, and appears to be encouraging the development of social relationships and a sense of community among students. We will continue to use the page and to introduce it to incoming students and applicants.

We hope, with the students clearly informed consent, to be able to look more closely at exactly who is using Facebook page and exactly how they are using it. We would like to know, for example, if mature students are less likely to use the page, due to their lower likelihood of personal Facebook membership. We would like to collect direct feedback from the students about how they feel the page is working, and how they might like to see it used in the future. With careful exploration, we believe that Facebook, and other social media platforms, can become useful components of a broad School policy directed to maximising student engagement.

6 ACKNOWLEDGMENTS

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