

Study-MATE

Using text messaging to support student transition to university study

Students are most likely to drop out of university when first attending. This article analyses the use of technology in supporting the transition process of ‘first time’ university students enrolled in a second-year accounting course. Study-MATE, a study skills program utilising the university’s learning management system (LMS) – Blackboard, Google Calendar and text messaging – was introduced at the beginning of first semester. At the end of the semester, 77 students completed an online evaluation form. The research results reveal that 60% of these students thought the program had raised their awareness of the university’s study skills services, but only 33% found this program helped improve their study skills. Overall, the research results highlight several challenges and necessary considerations in the implementation of study skills programs.

by Jayde Cahir,
Elaine Huber,
Boris Handal,
Justin Dutch &
Mark Nixon

Universities today are confronted with the challenge of managing students’ transition to university studies, whether it is from secondary school or from the workplace. Student transition is often referred to by many academics as the “first year experience”, or FYE, and in most universities there is an abundance of available services to assist with this transition process. Support services, in most cases, are wide ranging, including induction courses, various study skills workshops or peer mentoring programs. The FYE has received ample academic attention (Kift 2004; Krause & Duchesne 2000; Chow & Healey 2008); however, this research does not extend to first-time university students who enter second-year courses through “university pathway” programs. Essentially, it is a “first year experience” for these students, but the second-year courses are not necessarily designed to cater for their first-time introduction to university studies. Consequently, a number of these students are now considered “at risk” of dropping out.

Research studies on at-risk students conclude that adjustments to large classes, the requirement of independent study, feelings of isolation and financial issues are among the most common reasons for students abandoning university studies (Tinto 1987; Astin 1999; Beasley & Pearson 1999; Nelson-Field & Goodman 2005; Ali & Lockstone 2006). These research studies generally agree that attrition rates are decreased when attempts are made to engage

and counsel at-risk students (Tinto 1987; Astin 1999; Beasley & Pearson 1999; Nelson-Field & Goodman 2005; Ali & Lockstone 2006). They also confirm that the integration of student support services is a key factor in their effectiveness. Many at-risk students are not aware of the available student support services, as they are often separate from, rather than integrated with, learning management systems (Beasley & Pearson 1999; Nelson-Field & Goodman 2005; Ali & Lockstone 2006).

Technology-centred study skills programs: a literature review

In recent years, technology-centred student programs at universities have been conducted in various ways with varying levels of success. These research studies can be split into two distinct groups – those that are conducted by university lecturers and those that are managed at an institutional level.

This categorisation is not only based on scale but also on the significant differences between these two groups with regard to research aims and outcomes. University lecturers rely on text messaging to promote mobile learning both in and out of the classroom (Cheung 2004; Thornton & Houser 2004; Markett 2006; Horstmanshof 2007; Moura & Carvalho 2010), whereas the use of text messaging at an institutional level primarily focuses on administration of student learning experiences (Harley et al. 2007; Naismith 2007; Nix, Russell & Keegan 2007). Research studies on the use of Google Calendar or other programs designed for comparable online planning are limited.

University lecturers have utilised text messaging in diverse ways. One research study reported how effective this technology can be when used to facilitate classroom experiments (Cheung 2004). According to this study, paper-based designs for experiments are prevalent even though they are "cumbersome" and "time consuming to conduct" (Cheung 2004, p.180). Consequently, this university lecturer replaced paper with text messaging, which facilitated a communication medium to give responses as well as to receive feedback. Cheung

(2004) claims text messaging can be used to overcome the limitations of paper experiments without incurring the cost of networked experiments; furthermore, the use of this technology economises on both class time and lecturers' time and it can be implemented in large classes.

The use of text messaging to facilitate classroom experiments is one practice, although the potential use of this mobile technology can be extended and simply employed to stimulate classroom interactivity. The 'PLS TXT UR Thoughts' project applied text messaging to create another form of interaction in the classroom (Markett et al. 2006). While Markett et al. (2006) assert that using text messaging in the classroom created an active learning environment and increased student motivation, there were also limitations. The study outlined how some students did not bring their mobile phones to class, others did not have enough credit to send a text message and, in addition, several students were distracted from the lecture while sending a text message (Markett et al. 2006). Student diversion from classroom activities when composing and sending a text message is undoubtedly a negative aspect, which is perhaps why some university lecturers have employed the technology as a learning tool to be utilised outside the classroom (Thornton & Houser 2004; Horstmanshof 2007; Moura & Carvalho 2010).

Research studies have reported the effectiveness of using text messaging to develop foreign language skills outside the classroom (Thornton & Houser 2004; Moura & Carvalho 2010). In Japan, students studying English at university were sent, three times a day, new vocabulary and the use of each word in multiple contexts. These "mini-lessons" were evaluated through a questionnaire completed by 44 students. The results indicated a constructive learning outcome as 93% responded positively when asked if it was a valuable teaching method and 89% wished to continue learning via the mobile phone (Thornton & Houser 2004). Considering that the technology is commonly used in everyday life, introducing it into the classroom does not require technical learning for students (Moura & Carvalho 2010). A

Text messaging is an effective way to introduce small language-learning exercises.

research study at a university in Portugal incorporated text messaging to encourage language learning inside and outside the classroom in Portuguese and French (Moura & Carvalho 2010). The results of the study show that text messaging is an effective way to introduce small language-learning exercises. Receiving information broken into small digestible exercises had positive learning outcomes for these university students (Moura & Carvalho 2010). The asynchronous discourse of text messaging provides students with an opportunity to reflect on any learning exercises they are sent. This combined with the mostly uncontested claim that most mobile phones are kept "at hand" provides not only immediacy but accessibility to students outside the classroom. For those students who choose to engage with text messages, like the mini-lessons study above, it demonstrates the potential of this technology to be an invaluable learning tool.

Learning challenges for first-time university students extend beyond the classroom. The transition process includes a perceived "sense of belonging", which includes peer and faculty support and "classroom comfort" (Tinto 1988; Hoffman et al. 2003). A recent research study analysed the use of text messaging between university lecturers and students outside the classroom and 74% of students stated that it was not a common practice to send a text message to their university lecturers or tutors (Horstmanshof 2007). This indicates there is still a transition period as text messaging, in most cases, is predominantly used for interpersonal communication (Kasesniemi 2003; Ling 2004, 2008). There are, of course, exceptions to this. Text messaging has been adopted as a communication tool for reminders and alerts by health services, religions and environmental protection authorities which use it as a point-to-multi-point service (Downer, Meara & Da Costa 2005; Bell 2006; McGinley, Turk & Bennett 2006). These investigations emphasise the benefits of the capacity of text messaging to send one message to mobile phone users on a large scale.

Universities have also recognised the advantages of using text messaging as a point-

to-multi-point service (Harley et al. 2007; Nix, Russell & Keegan 2007; Naismith 2007). Research studies have established the need for instant communication with students, for example in regard to timetable changes, cancellation of lectures or other urgent administrative details (Harley et al. 2007; Nix, Russell & Keegan 2007; Naismith 2007). One research study found that "students welcome text messages that are perceived as timely, appropriate and personalised" (Naismith 2007, p.156). An example of such a message is supplied by Nix, Russell & Keegan (2007) who refer to a university in Northern Ireland which sent messages like "Sorry we missed you today" (p.2). Initially, the university feared that this message could be intrusive but the research results showed otherwise. This information was well received, in fact, there was a request by the students for this service to expand into other areas such as assessment deadlines (Nix, Russell & Keegan 2007, p.2). However, one research study warned that if text messaging is used excessively by universities this may cause "spam-style deletion" of messages (Naismith 2007, p.158). This warning carries weight as there are many general assumptions made about developing efficient uses of information and communication technologies (ICTs) and how to communicate effectively with students.

Study-MATE: a technology-centred study skills program

The aim of this research project was to investigate whether the use of particular information and communication technologies (ICTs) can assist in supporting student study skills and increase students' awareness of the university's learning services. The student sample group was a second-year accounting course with 1,200 enrolments. The university identified this particular course as having a particularly high attrition rate. A high percentage of this student cohort enrol in this second-year accounting course from "university pathway" programs, and an equally high percentage of these students are from non-English-speaking backgrounds. This course includes many first-time university students from both Australia and overseas.

To ensure academic success, support for these students is critical.

A combination of two technologies, text messaging and Google Calendar, was trialled. These technologies were used to introduce the university's learning services, engage students in their course work as well as to promote the pattern of planning for assessments and study. Text messages contained notices, reminders and encouragement whereas Google Calendar was recommended as a tool to establish and support habitual study throughout the semester. Previous research studies recommended the integration of student support services with online and communication technology such as the institution's learning management system (LMS) (Pearson & Beasley 1999; Nelson-Field & Goodman 2005; Ali & Lockstone 2006). The two technologies were therefore integrated into Blackboard (the university's LMS) through a study skills program.

This study skills program was developed to ensure that support was embedded within the context and content of the university course rather than exterior to it. Google Calendar was situated inside the assigned Blackboard unit to ensure accessibility for all students. Google Calendar was specifically

chosen because the Blackboard calendar does not have the functionality to send notifications to students; therefore, the university's LMS efficacy was extended through the use of Google technology. This study skills program comprised two levels of support: Google Calendar to map and manage study as well as assessment tasks, and text message reminders through the "Redcoal.com SMS Service" to provide notifications including information for preparing assignments, class presentations and exams. Previous research studies have identified critical time periods as after semester break and before exams (Harley et al. 2007); however, this project had seven strategically positioned message reminders that were calculated on the basis of the course structure. Informal language was chosen in an attempt to personalise the Study-MATE service and to compress as much information as possible into a single text message (160 characters).

Study-MATE was introduced to the students in the second-year accounting course at the beginning of first semester during their first lecture. This introduction included a training session on how to use Google Calendar inside the Blackboard unit. Google Calendar was set up with a generic

FIGURE 1 List of the seven text messages sent throughout the semester.

Week 2	Hi, Study-MATE here! Do u know about the tests in wk 5 & 6? I've got some advice 4 u – login to Blackboard & I'll show u, or go here: http://tiny.cc/Studymate
Week 4	Heya, me again, was wondering how ya goin? Did ya get my tips? Check em? This week I got some more - hint: exam prep!!!! Plus one-on-one HELPPPPP. Check Blackboard or click here http://tiny.cc/Studymate
Week 6	So glad da break is here! Was starting 2 stress :0 Latest tips for success are here http://tiny.cc/Studymate or BBoard Study-MATE
Mid-semester break	Heya! not relaxin r u ;) ? I caught up with HEAPS of work and I am SO ready 4 the next assignments. Visit B-board to c my plan! :) Study-MATE
Week 8	Hey, how was ur break? Feelin the heat yet? :o Guess what? U can score TEN marks by participating! Check my tips on BB or http://tiny.cc/Studymate . Later, StudyMATE
Week 10	Its nrly ova! U prepping 4 exams yet? I've alrdy started my revision. Check my tips on BBoard.
Week 13	Hey! My last msg 2 u. Good luck with study 4 exams. Tips on Bboard or http://tiny.cc/Studymate

study plan and set of tasks. All students in this course had access to Google Calendar (and Google Gmail) through the student portal; thus reminders in the calendar, including study skills hints, tips and action lists, could be automatically sent to them via their student email account. There was also an option for students to set up their own email or text message reminders in Google Calendar. At the beginning of semester, students were sent a message detailing the support services that were available. Students could reply to the text message or the email notification to opt out of this study skills program, and four students chose to do so. At the end of the semester the student cohort was asked to complete a voluntary online evaluation form based on their experiences of this study skills program. A total of 77 students responded. The research findings highlight several challenges in the implementation of study skills programs such as the level of assumed knowledge in relation to digital environments (Lovell & Baker 2009) and the general limitations of "bolt-on" study skills programs (Wingate 2006). Nevertheless, this research study did raise awareness of the university's study skills services by 60%, which is aligned with other research studies in Australia and overseas.

Study-MATE: research results and discussion

Google Calendar

Google Calendar, with an embedded generic study plan and set of tasks, was situated inside the designated Blackboard unit to ensure accessibility for all students. However, the online student evaluations indicated that 81% of students did not utilise this online tool. The few students who did use Google Calendar in Blackboard questioned its "useability". One student said:

Maybe the Google Calendar can be made as a toolbar, so it can remind students even without opening blackboard or student portal.

Google Calendar is used widely and deemed to be an intuitive program,

although this student's suggestion indicates accessibility to the application in Blackboard could be improved upon. On the surface, it appears that Google Calendar failed to capture students' attention as a useful planning tool, although research studies indicate:

... there is significant variation in the competency and usage of ICTs amongst young people ... [which] challenge the popular notion that young people born after 1990 are "digital natives" (Lovell & Baker 2009, p.54).

"Digital natives" is a term coined by Marc Prensky (2001) that refers to young people's relationship to digital technology and their understanding of and competencies in regard to everything digital as innate. This is a misplaced assumption, as not all young people have an identical background or equal access to a range of digital technologies (Lovell & Baker 2009). Google Calendar's potential to efficiently map and manage assessment task deadlines was not explored by a majority of students surveyed, which implies that providing access and some basic training is not sufficient to encourage the use of this online time-management tool. It is also possible that these students did not want to learn how to utilise all the tools available in the university's LMS, that the process of transitioning to university life, and academic expectations in general, provided enough of a challenge.

Study-MATE messaging

While only a small percentage of students used all facets of Study-MATE, their evaluations revealed some enthusiasm for this study skills program, as one student said:

I love study-mate, it reminds me to organize my study plan well, thanks for it.

This student's comment is aligned with the positive student responses that other research studies have received (Harley et al. 2007; Nix, Russell & Keegan 2007; Naismith 2007). This comment also signifies potential use of Google Calendar, as the student stated he or she had received ample reminders through both email and text messages which consequently assisted in planning study. There were also a

few students who were eager for this program to continue:

Offer it to all students [and] automatically include it in the student email package or blackboard for all subjects.

Students' enthusiastic approval of study skills programs is not unique to this research; comparable requests were made by university students in Northern Ireland (Nix, Russell & Keegan 2007, pp. 2-4). Similarly, another student said:

It's really useful for me to be aware of coming due day of assignments ... I hope this program is spread over all units.

During the period of transition, students must have support from their institution (Harley et al. 2007 p.237) and the support that this study skills program provided was recognised and appreciated by some students. However, if a study skills program is to succeed using mobile phones as a conduit for information, students need to be open to text messaging being used in this way by their university. Not all students in this research study were.

Many research studies have demonstrated how text messaging is predominantly used for interpersonal communications (Kasesniemi 2003; Ling 2004, 2008). If this is challenged, students can become defiant against the change, as one student stated:

SMSs were quite annoying. I never really used the calendar.

The student did not elaborate on why the text messages were annoying, thus it is difficult to understand exactly what caused the irritation. The frustration could have been caused by the university's appropriation of text messaging, which many see and use as a medium for communication between friends and intimates (Kasesniemi 2003; Ling 2004, 2008). A recent research study on the appropriation of social networking sites such as Facebook for civic engagement revealed a similar reaction among some research participants (Bakardjieva 2010). For example, Facebook was described by one of the participants as "a personal thing" (Bakardjieva 2010, p.142), similarly,

text messaging is also used for the micro-coordination of family and friends in everyday life (Kasesniemi 2003; Ling 2004, 2008). Alternatively, the annoyance could have been caused by the language or content as other students explicitly stated.

The most common response in the student evaluations was complaints about the language used in the seven text messages. "Text speak" was understood by the research team to be an acceptable use of the English language in a text message. This decision was made because the aim was to personalise the Study-MATE service, as well as provide the necessary information in a single text message. Considering the general acceptance of this shortened version of English words in mobile and internet discourse, the research team did not foresee any issues in using "text speak" (Grinter & Eldridge 2003; Crystal 2009). Yet the student evaluations clearly demonstrated that many students expect communications with the university to be written using only formal English. As these three student comments below stipulate:

The English in the text messages was very broken, should be using proper English not internet talk.

The writing in the text messages was horrible and unprofessional, the use of slang and jargon made it seem more trivial than uni related ... [and] at times [it was] hard to understand.

The slang and typos in the SMSs made it seem like spam.

It is clear from these student comments that the use of "text speak" was considered to be an inappropriate language choice. A linguistic analysis of internet and "text speak" revealed that abbreviations accounted for less than 20% of the overall message content (Thurlow 2003). This research finding "... runs counter to popular ideas about the ... highly abbreviated "code" of young people's text messages" (Thurlow 2003, p.7). Any abbreviated "code" language needs to be commonly understood, and even though only abbreviations frequently used in mobile and internet communication were contained

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in the text messages, these were obviously not recognisable to all students. One reason for this could be that English is a second language for a high percentage of students in this accounting course. Another potential reason is abbreviated “code” language is often used within friendship circles thus the language can reflect the familiarity or intimacy in a relationship (Kasesniemi 2003; Ling 2004, 2008). While one of the aims in using informal language or “text speak” was to personalise the service it backfired by alienating some students through either misinterpretation or misrepresentation of the “suitable” relationship between students and the institution. “Text message repertoires”, a term used by Kasesniemi (2003, pp.208-10) denotes how the content of messages will be written using a range of styles, which is dependent upon the receiver of the message. For example, a text message sent by a student to a lecturer will not be the same as one sent to their parent or a friend. Text messages sent within friendship groups, as Kasesniemi explains, “... include wordplays in slang ... and are often filled with puns and insider vocabulary” (2003, p.209). Complaints about the language reveal students’ clear expectation for how information should be communicated by the university, which differs significantly from how digitally written language is chosen and used in friendship groups. Moreover, several student evaluations demonstrate that there are boundaries around what is considered to be adequate content by students (Naismith 2007).

A research study in the United Kingdom defined the requirements for institutional text messages as involving “time sensitive”, “relevant”, “selective” and “unambiguous” information (Naismith 2007, p.162). All information should be directly relevant to the student’s activities. Text messages should indicate clear instructions and be selective, not only in the content but also the volume of messages sent (Naismith 2007, p.162). A few students commented that the text messages did not meet their requirements:

[I'd] prefer study-mate reminding us what assignment need to be done ... rather

than reminding us what time we should start studying.

Two-day-before reminders for excel assignments and online quizzes would've been helpful. Get rid of the ridiculous wording. Use proper English in SMSs.

These two student evaluations state preferences for other services such as sending alerts for assignments and online exams. Reminders were sent for the end-of-semester exams but not the smaller assessment items. The study skills program was designed to support habitual study throughout the semester rather than micro-managing deadlines. However, these evaluations raise the importance of what is considered to be “relevant” information for students transitioning to university academic demands. Certainly, if any potentially “at risk” students are adjusting to the university requirement of independent study, as other research studies have found (Tinto 1987; Astin 1999; Beasley & Pearson 1999; Nelson-Field & Goodman 2005; Ali & Lockstone 2006), then weekly or fortnightly reminders would be “relevant” information in the context of this adjustment.

Conclusion and recommendations

Study-MATE did increase students’ awareness of study skills services; however, only a third of the students who completed the evaluation believed this study skills program improved their planning and preparation for assignments and exam study. This result reveals the limitations of using ICTs like Google Calendar and text messaging in an effort to improve skills associated with planning and creating effective study habits. Nevertheless, the use of text messaging may be the reason for the 60% increase in students’ awareness of study skills, considering the popular and wide-ranging use of messaging as a conduit for broadcasting messages, especially reminders and alerts (Downer, Meara & Da Costa 2005, p.366; Bell 2006, p.147; McGinley, Turk & Bennett 2006, p.161). Conversely, to ensure the successful implementation of text messaging to broadcast reminders and alerts,

careful consideration needs to be given to language, frequency and the content of the message. To communicate with students effectively through text messaging, this study recommends the use of formal English and mindful attention to what students consider to be important information. Text messaging is widely considered as an effective means for broadcasting information; however, if it is adopted to enhance study skills programs, careful consideration of other ICTs that might compliment the program is required. The appropriation of ICTs to develop desirable study practices may be met with resistance from students. However, alternative uses of technologies such as text messaging, which is predominantly used by young people with intimates or within their friendship groups (Kasesniemi 2003; Ling 2004, 2008), require time to become established in the context of higher education.

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AUTHORS

Jayne Cahir works across several research projects at the Learning and Teaching Centre, Macquarie University. Over the past six years, she has researched the everyday use of mobile phones and text messaging. Her doctoral dissertation is entitled 'Traces of trust: A study of text messaging in everyday life'.

Elaine Huber is Head of Educational Design and Support at the Learning and Teaching Centre, Macquarie University.

Her research interests are centred on effective integration of learning technologies into teaching practices in higher education.

Boris Handal has taught in schools and universities for over 25 years in Australia, Asia and Latin America. He is a senior lecturer in Information and Communication Technology in Education at the University of Notre Dame and has written extensively on a variety of educational issues.

Justin Dutch is the Director of the First Year Experience Unit, Macquarie University. He has been an educator for nearly 20 years, and has worked in schools, TAFE and university settings.

Mark Nixon works in the areas of systems development and timetabling within the Faculty of Business and Economics.