

Exploring the use of text and instant messaging in higher education classrooms

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This article examined how higher education students used text and instant messaging for academic purposes with their peers and faculty. Specifically, comfort level, frequency of use, usefulness, reasons for messaging and differences between peer-to-peer and peer-to-instructor interactions were examined. Students noted that they were very comfortable with using both text and instant messaging. Text messaging was used weekly with instructors and daily with peers. Instant messaging was used rarely with instructors but weekly with peers. Students rated text messaging as very useful and instant messaging as moderately useful for academic purposes. Key reasons cited for using both text and instant messaging included saving time, resolving administrative issues, convenience and ease of use. Text messaging appears to be the preferred mode of communication for students with respect to communicating with both peers and instructors. It is concluded that both text and instant messaging are useful and viable tools for augmenting student's communication among peers and faculty in higher education.

Keywords: text messaging; instant messaging; student–faculty interaction; peer-to-peer interaction

Overview

Text messaging and instant messaging are two types of mobile communication that are used extensively in college and university campuses. “Text messaging” or “texting” refers to the sending short, typed messages between mobile phones using short message service (SMS) (Kasesniemi and Rautiainen 2002, p. 170). Instant messaging involves sending brief, typed messages over the Internet, directly from one computer to another. The use of both kinds of messages by faculty and peers are analysed in this article.

Both text and instant messaging are used pervasively among students (Johnson 2007; Kennedy *et al.* 2008; Smith, Salaway, and Caruso 2009).

Furthermore, students are willing to use both text and instant messaging for educational purposes (Jeong 2007; Kennedy *et al.* 2008). Given the popularity of text and instant messaging, together with students' willingness to use such technologies for academic purposes, the opportunity exists for university instructors to incorporate such technologies into the teaching and learning environment.

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The purpose of this article is to assess students' attitudes towards the usefulness of text and instant messaging in facilitating education-based communication in higher education.

Literature review

Text and instant messaging in educational environments

Motiwalla (2007) suggests that the popularity and support of mobile devices within the student population is so great that, "it would be foolish to ignore them in any learning environment" (p. 584). Similarly, Litchfield *et al.* (2007) found that students are positive about using mobile devices in education and therefore suggest that researchers begin investigating how mobile learning can be best utilised in teaching and learning. Finally, Farmer (2003), who initially pitched caution in adopting this communication tool, later suggested that it was "ideal for educational and learning environments" (Farmer 2005).

The willingness to adopt text and instant messaging for educational purposes involves a shift in perception on the part of most students who use these platforms primarily for social purposes. Students' use of text and instant messaging for social purposes is well-documented (Contreras-Castillo, Perez-Fragoso, and Favela 2007; Harley *et al.* 2007; Reid and Reid 2004).

However, social interaction based on text and instant messaging can serve to build student-faculty and student-student relationships in educational settings. Rau, Gao, and Wu (2008) suggest that when students receive text messages from an instructor, they feel more bonded with and think more positively about the instructor and classroom activities. Jeong (2007) also found that using instant messaging facilitated a more intimate student-instructor relationship. Holley and Dobson (2008) added that students also bond; text messaging morphed groups that had been formed originally for academic purposes into longer lasting "friendship groups."

There is some evidence to suggest that students are willing to use text and instant messages for academic purposes including communicating with their tutors (Hill, Hill, and Sherman 2007) and asking questions on field placement (Young *et al.* 2010).

Faculty must also be willing to engage in either sending and/or receiving text and/or instant messages. However, this method of communication may not be as pervasive in the instructor's communication repertoire (Jones, Edwards, and Reid 2009) and consequently requires additional time commitments (Jeong 2007).

Benefits of using text and instant messaging

Immediate

Jones, Edwards, and Reid (2009) found that students check for text messages on their mobile phones frequently and always respond to the arrival tone. Therefore, a significant feature of text messaging is the immediate capture of the recipient's attention. Such attention-getting may lead to an improvement in students' focus and motivation (Martinez-Torres *et al.* 2007) and result in an enhanced learning experience. Allen, Witt, and Wheelless (2006) found that an immediate response from the instructor increased students' motivation and the cognitive mastery of material.

Ubiquitous

Text messaging is also an advantage because mobile devices are nearly always turned on and owned by the majority of students (Shih and Mills 2007). On the other hand, instant messaging requires signing in (usually on a computer rather than a mobile phone) to engage in an online conversation. Students in Bullen, Morgan, and Qayyam's (2011) student reported that if someone to whom they wish to send instant messages is not signed in, they would phone them and tell them to go online.

Better than email

It is notable that text messaging is perceived by students to be more "instant" than email and is the dominant mode of e-communication among students (Harley *et al.* 2007). Given its role as a primary communication channel, text messaging has been identified as preferable to email in building both social and academic relationships. For example, Longmate and Baber (2002) found that text messaging helped to consolidate relationships among students, while email was rarely used for student-student communication. Rau, Gao, and Wu (2008) noted that students in email and online forums did not report feeling positively about or bonded with their instructor, though students using text messaging did report such phenomena. Naismith's (2007) study suggested that text messaging is more beneficial than email because email requires access to computers, but students "look at their phones constantly" (p. 166). While the use of email is advantageous in higher education (Lauricella and Kay 2010), increased immediacy and ubiquity of communication via text messaging and/or instant messaging may be even more beneficial.

Administration

Text messaging is helpful for supporting brief or time-sensitive administrative issues. For example, students can be reminded of upcoming due dates for library books (Anderson and Blackwood 2004) or to contact librarians for assistance with research (Hill, Hill, and Sherman 2007). Jeong (2007) adds that instant messaging can be used for virtual office hours, thus transcending geographical challenges on the part of both students and faculty. Text messaging can also be used for emergencies such as class cancellations (Brown, Vetter, and Saunders-White 2008; Smith, Salaway, and Caruso 2009).

Time management

Because of its immediacy and ubiquity, text messaging is particularly well suited to providing time-management assistance to students. Text messaging has been suggested as a means of reminding students of assignment or application due dates, and timetable or procedural changes (Keegan 2005; Naismith 2007), although administrative staff members have been slow to incorporate text messaging with students or colleagues (Pirani and Sheehan 2009). Jones, Edwards, and Reid (2009) suggest that text messaging reminders from faculty can help students to develop a time-management strategy. Similarly, Harley *et al.* (2007) found that text messaging reminders of when assignments are due can be of particular benefit to helping first-year students adjust to academic life. Finally, instant messaging is also used for receiving immediate responses

to students' questions or concerns, and facilitating a two-way conversation between students and faculty (Yao 2011).

Academic activities

While limited research has been conducted on the use of text and instant messaging for specific educational activities, some academic benefits have been observed including using text and instant messaging involving students who are not physically present in class (Muirhead 2005), engaging in simulations of decision-making scenarios (Cornelius and Marston 2009), collecting field data (Patten, Sanchez, and Tangney 2006) or learning new vocabulary words in a learned language (Cavus and Ibrahim 2009). Use of text and instant messaging can be further expanded to incorporate new social networking tools, which are increasingly used in higher education such as Facebook or Twitter (Grosbeck and Holotescu 2008; Hosterman 2009).

Challenges in using text and instant messaging

Short messages

Given that a single-text messages is limited to 140 characters, faculty and students may be challenged by the short message length and brevity of language required (Hill, Hill, and Sherman 2007).

Divided attention

When students respond to the arrival tone of new text messages, their attention is drawn away from the current task in which they are engaged. This can be a significant distraction when text messaging is used in class (Markett *et al.* 2006). Similar problems exist for instant messaging conversations. Junco and Cotton (2011) observed that instant messaging is detrimental to learning because it requires students to split their attention in an academic setting.

User fees

Until free services to the education market are provided, cost could be a factor in adopting text messaging for academic purposes (Litchfield *et al.* 2007; Markett *et al.* 2006; Peters 2007). The same challenge does not exist for instant messaging, as nearly all services are available for free. However, the unique challenge to instant messaging is that the user has to be signed in to a computer in order to participate.

Personal space

While text and instant messaging can serve to increase familiarity between students and faculty, students were seen to resent such communication when it was used for academic purposes. Students considered their mobile phones a personal technology, and in some cases, disliked receiving text messages from faculty or tutors because it encroached into their personal space (Brett, 2011). Instant messaging is also considered a private, peer-to-peer communication tool, and students do not always want to appear visible to their instructor or to other students (Jeong 2007).

Purpose of the study

Given the near ubiquity of mobile phone use, together with frequent use of instant messaging applications on the part of students, it is important to consider not only how and why students use such applications, but also to better understand how these tools can be incorporated into the educational experience. Direct focus on the educational impact of these communication tools has not been examined in previous research. This study investigates student comfort level with mobile phones and instant messaging, and considers how often and why students use mobile phones and instant messaging to communicate with both their instructor and with their peers for academic purposes. This study also considers how students rate the usefulness of and differences between mobile phones and instant messaging when they are used to communicate with their instructor and with their peers. To date, this comparison has not been examined. In addition, this study is unique in that it invites new communication channels – text and instant messaging – to the students' experience as an alternative and not a requirement; the opportunity was opened for students to communicate with their instructor by using their mobile phone or instant messaging programmes. Furthermore, unlike previous studies, two-way interactions were examined between students and the instructor. The instructor sends messages such as reminders or requests directly to individuals or groups of students, and students also send messages to the instructor with questions. Finally, both student–student and student–instructor interactions were examined, thereby broadening the focus of previous research. The purpose of this study is to examine how comfortable students were with text and instant messaging, frequency of messages sent, usefulness of messages, reasons for messaging, differences between text and instant messaging, and differences between messages sent to peers vs. instructors.

Method

Sample

The sample was selected from a small university in a large metropolitan area of over 3 million people. All students leased a laptop and had ubiquitous wireless access to the Internet inside and outside their classrooms. Seventy-five students (30 males, 45 females), in their first ($n = 32$), second ($n = 40$), third ($n = 2$) or fourth year ($n = 1$) participated in the study. Data were collected from three separate classes including Advanced Professional Writing ($n = 39$), Foundations of Professional Writing ($n = 16$) or Public Speaking ($n = 20$). The majority of students reported average course grades of 70–79% ($n = 19$) or 80–90% ($n = 36$). The total enrolment for all three courses was 101 students, resulting in a response rate of 74%.

Use of communication technology tools

All students were provided with the instructor's mobile phone number and MSN address for instant messaging. Students were invited to send text messages via mobile phones or instant message via their laptops to ask questions or to obtain information relative to the course. The instructor invited (but not required) students to provide their mobile phone numbers who wish to receive information through this medium. Students also had the option to send a message to the instructor via MSN to share

their own contact information. Students could also use mobile phones and instant messaging to communicate with their peers.

Procedure

At the end of the final class meeting, students were invited to fill in an online survey about the use of text messaging devices (mobile phones and instant messaging). Participation was voluntary and anonymous. The data were not accessed until all marks for the courses were submitted. It took, on average, 10–15 minutes for students to finish the survey.

Data sources

Descriptive data

All students were asked to provide their age, gender, year of study and the course in which they were enrolled while using the messaging tools. They were also asked to rate their comfort level with using mobile phones and instant messaging based on a four-point Likert scale (see question 5, Lauricella and Kay 2011a).

Frequency of communication tool use

Students were prompted to estimate how often they used mobile phones and instant messaging with their instructor (see question 6, Lauricella and Kay 2011a) and with their peers (see question 10, Lauricella and Kay 2011a). Six choices were available: never, monthly, 2–3 times per month, weekly, 2–3 times per week and daily.

Usefulness of communication tools

Students were asked to rate the usefulness of mobile phones and instant messaging with their instructor (see question 7, Lauricella and Kay 2011a) and with their peers (see question 11, Lauricella and Kay 2011a). Students were also presented with open-ended questions about why they did or did not use mobile phones and instant messaging with their instructor (see questions 8 and 9, Lauricella and Kay 2011a) and with their peers (see questions 12 and 13, Lauricella and Kay 2011a).

A content analysis was conducted on open-ended questions asking why text messaging was used and a number of categories and subcategories were identified (see Lauricella and Kay 2011b for a detailed presentation of the coding scheme). Two raters independently assigned content category and subcategory labels based on the coding scheme (Lauricella and Kay 2011b). Items where categories and subcategories were not the same were reviewed, discussed and rated a second time. Final inter-rater reliability estimates were 97% (mobile phones with instructors), 100% (mobile phones with peers), 98% (instant messaging with instructors) and 100% (instant messaging with peers).

Purpose and research questions

The purpose of this study is to explore the use of two text messaging tools (mobile phones and instant messaging) in higher education classrooms. Six research questions were addressed:

- (1) How comfortable are students with using mobile phones or instant messaging?
- (2) How often do students use mobile phones and instant messaging to communicate with their instructor or peers?
- (3) How do students rate the usefulness of mobile phones and instant messaging for communicating with their instructor or peers for academic purposes?
- (4) Why do students use mobile phones or instant messaging to communicate with their instructor and peers?
- (5) Are there differences between text messaging with mobile phones and instant messaging?
- (6) Are there differences between the use of mobile phones with instructors vs. peers?

Results

Comfort level with text messaging tools

Students rated their comfort level with two different text messaging tools (mobile phones and instant messaging) using on a four-point Likert scale (see question 5, Lauricella and Kay 2011a). Students reported being comfortable (18%) or very comfortable (78%) with using mobile phones (M = 3.7, SD = 0.53). Ratings were similar for instant messaging, with the majority of students being comfortable (17%) or very comfortable (73%) with using this technology (M = 3.6, SD = 0.73).

Frequency of using text messaging tools

Mobile phones

Mobile phones were used with the instructor 2–3 times per month (22%), weekly (46%) or 2–3 times per week (11%), by the majority of students. The mean frequency score (M = 3.6, SD = 1.2) suggested that, on average, students sent messages to or received messages from their instructor almost once a week throughout the four-month term (see Table 1).

Mobile phones were even more popular as a communication tool for academic purposes among peers. Most students used this tool either 2–3 times per week (15%) or daily (58%) with their peers. The mean frequency score (M = 4.8, SD = 1.7) suggests that texting peers for academic benefit is an everyday occurrence for most students (see Table 1).

Table 1. Student’s use of text messaging tools with instructors and peers (n = 73).

Tool	Instructor		Peers		t	Cohen’s D
	M	SD	M	SD		
Mobile phones ¹	3.6	(1.2)	4.8	(1.7)	−7.36*	0.88
Instant messaging ¹	1.7	(1.3)	4.7	(1.7)	−13.79*	1.94

¹Likert scale: 1, never; 2, monthly; 3, 2–3 times per month; 4, weekly; 5, 2–3 times per week; 6, daily.
*p < 0.001.

Instant messaging

Students used instant messaging infrequently to communicate with their instructor with 66% of students never using it and 14% using it monthly. The mean frequency score ($M = 1.7$, $SD = 1.3$) indicates that instant messaging is not a tool that most students use to communicate with their instructor (see Table 1).

In contrast, students regularly used instant messaging for academic purposes with their peers. Many students used this tool either 2–3 times per week (15%) or daily (51%) for sending messages to their peers. The mean frequency score ($M = 4.8$, $SD = 1.7$) intimates that instant messaging for academic reasons is a daily activity for many students (see Table 1).

Perceived usefulness of text messaging tools

Mobile phones

All but one student rated mobile phones as either useful (19%) or very useful (80%) for communicating with their instructor. This pattern was mirrored when using mobile phones to communicate with peers: 19% of students rated them as useful and 75% rated them as very useful. Mean usefulness with instructors ($M = 3.8$, $SD = 0.5$) and peers ($M = 3.7$, $SD = 0.6$) was high (maximum score was 4) (see Table 2).

Instant messaging

Students perceived instant messages as somewhat to moderately useful ($M = 2.6$, $SD = 1.2$) for communicating with their instructor; however, response varied considerably. The perception of usefulness shifted markedly when instant messaging was used to communicate with peers for academic purposes. Most students rated peer use as either useful (16%) or very useful (73%) with a mean usefulness score of 3.6 ($SD = 0.7$) on a four-point Likert scale.

Why use text messaging tools

Mobile phones

Students offered a total of 97 comments about using mobile phones with their instructors. Four main reasons for using this mode of communication were cited including time (40% of comments), specific purpose (26%), convenience (23%) and ease of use (9%). With respect to time, students liked that sending text messages was instant, especially when they had an urgent message for the instructor. Regarding purpose, most students appreciated the reminders they received from the instructor

Table 2. Perceived usefulness of text messaging tools with instructors and peers ($n = 72$).

Tool	Instructor		Peers		<i>t</i>	Cohen's <i>D</i>
	M	SD	M	SD		
Mobile phones ¹	3.8	(0.5)	3.7	(0.6)	-1.35	-
Instant messaging ¹	2.6	(1.2)	3.6	(0.8)	-6.63*	0.97

¹Likert scale: 1, not at all useful; 2, somewhat useful; 3, useful; 4, very useful.

* $p < 0.001$.

about due dates, assignments and last-minute requests to bring items or information to class. Students also felt that texting with mobile phones was convenient because they did not need a computer, and their phones, which most students owned, were always on. Students also noted that sending mobile phone text messages was easy and efficient (Table 3).

Students provided 65 comments about using mobile phones with their peers for academic support. The reasons for using this device with peers mirrored those cited for use with instructors, namely, time and the instant speed of transactions (34% of messages), a specific academic purpose (25%), convenience (22%) and ease of use (15%). Note that the academic purposes for using a mobile phone with peers were different from those cited for instructors. Students primarily sent text messages when they wanted to work in groups or when they needed academic help from their friends. The main convenience of using mobile phones with peers was that everyone one owned them and they were always on (see Table 4).

Instant messaging

There were 58 comments from students about the use of instant messaging with the instructor; over 50% of the comments cited barriers to using this form of communication. Resistance to use was predicated on having better options available with email or mobile phones, instant messaging being too personal and the limitation of the instructor having to be signed in to receive messages. Students who did use instant messaging with the professor liked the instant speed (31% of comments) and ease of use (14% of comments) (Table 5).

Table 3. Sample student comments about using mobile phones with the instructor (n = 97).

Category	Subcategory	Number	%	Sample comment
Time (40%)	Instant	31	32	It allows us to get in touch with our teacher right away.
	Urgency	8	8	If you have an urgent question it is nice to be able to text or call your teacher right away and get answers.
Purpose (25%)	Reminders	21	22	It was great to be able to get quick updates and reminders delivered straight to my phone.
	Rapport	3	3	It's friendly and makes the professor more approachable.
Convenience (22%)	Do not need computer	12	12	It allows fast responses without having to be at my computer.
	Always on	9	9	I find it is useful because I always have my phone on me (or someone who I am with will have their phone) and I always get the message.
	General	2	2	It's convenient.
Easy (11%)	General	9	9	It is very easy communicating using the cell phone.
Miscellaneous (2%)		2	2	I can always re-read the message at any time which is always useful. Reliability of establishing contact.

Table 4. Sample student comments about using mobile phones with peers ($n = 65$).

Category	Subcategory	Number	%	Sample comment
Time (34%)	Instant	22	34	You're almost guaranteed an immediate response since everyone's always on their phone.
Purpose (25%)	Groups	10	15	Mobile phone allows us to get into contact for meetings.
	Help	6	9	Allows you to get help on assignments through peer-to-peer help instead of student to teacher.
Convenience (25%)	Always on/have	15	23	My peers always have their phones on them.
	Don't need computer	1	2	If they are not at a computer they can still contact you.
Easy (15%)	General	10	15	Allows me to connect with people quickly and simply.
Barriers (2%)		1	2	I don't have a mobile phone.

The use of instant messaging for academic reasons was very different with peers than with the instructor. Students cited a number of clear and specific reasons why instant messaging with peers was effective including obtaining quick information, such as links to helpful websites, organising group activities, sending files, discussing issues, multi-tasking (35% of comments). Other reasons for using instant messaging, similar to those cited previously, were the convenience of most students being signed in (16%) and ease of use (11%). Several students commented that using instant messaging was very natural – almost part of their culture. One student observed that

Table 5. Sample student comments about using instant messaging with the instructor ($n = 58$).

Category	Subcategory	Number	%	Sample comment
Barriers (52%)	Don't need/use	13	22	I don't think it is necessary when you can use e-mailing for more detailed responses and [mobile phones] for shorter, more urgent notifications.
	Too personal	11	19	It is more of a personal communication method, which is not appropriate for school. Instant messaging is okay for talking one to one with a friend or something, but I prefer dealing with "official" matters over e-mail rather than instant messaging.
	Need to be signed in	6	10	The only thing problem is if the prof is not [signed in] when I want to talk.
Time (31%)	Instant	18	31	It's instant, so that's important.
Easy (16%)	General	9	14	Easy and efficient.
Miscellaneous (2%)		1	3	Instant messaging and texting are fairly similar.

instant messaging could be a distraction in class, and two students noted that they simply chose not to use it (see Table 6).

Instructors vs. peers

Frequency of use

Students used mobile phones significantly more often with their peers than their instructor ($p < 0.001$, see Table 1) with a large effect size according to Cohen (1988, 1992). With each other, students used mobile phones to send text messages, on average, two to three times per week, whereas with the instructor they texted on a weekly basis.

Students used instant messaging significantly more often with their peers than with their instructor ($p < 0.005$, see Table 1) with a large effect size according to Cohen (1988, 1992). Frequency of instant messaging among peers, on average, was 2–3 times per week, substantially more than the monthly use with the instructor.

Perceived usefulness

There was no significant difference between student ratings of mobile phone usefulness with their instructor vs. peers. On the other hand, students rated instant messaging as significantly more useful when communicating with their peers ($p < 0.001$, see Table 2) with a large effect size according to Cohen (1988, 1992). Instant messaging

Table 6. Sample student comments about using instant messaging with peers ($n = 62$).

Category	Subcategory	Number	%	Sample comment
Purpose (35%)	Help	8	13	Is especially useful to share quick links to websites that are useful for the course.
	Groups	6	10	I know it would be easy to get my group members to meet in an online chat.
	Sending files	4	6	Instant messaging is useful because also allows file transfer making it much easier to talk and work [with] the other person.
	Discussion	2	3	Good, allows us to discuss things back and fourth quickly (phones and email does not allow that).
	Multi-tasking	2	3	Instant messaging is useful because it allows . . . multiple chat sessions.
Time (27%)	Instant	17	27	It is useful because you can have a conversation with your peer quickly.
Convenience (16%)	Always signed in	10	16	Everyone is on msn all the time.
Easy (11%)	General	7	11	[It is] less formal and awkward than other [methods].
Miscellaneous (6%)		4	6	Since we are students, it is appropriate for us to communicate in this way. A distraction in class.
Barriers (3%)	Didn't use	2	3	I do not use instant messaging.

with peers was rated as very useful, on average, but only somewhat useful when used with the instructor.

Reasons for using text messaging devices

The reasons cited for using mobile phones with the instructor versus peers were very similar in content and frequency: saving time, specific academic purposes, convenience and ease of use. One main difference involved the overall purpose of using text messaging. Aside from emergency situations, students passively received reminders from the instructor (e.g. “It was great to be able to get quick updates and reminders delivered straight to my phone”) but actively used mobile phones to form groups and seek help from their peers (e.g. “Mobile phone allows us to get into contact for meetings” or “Allows you to get help on assignments through peer-to-peer help”).

Students agreed that instant messaging with the instructor or peers was efficient, convenient and easy to use. However, most students did not use instant messaging with their instructor (see Table 5), believing that alternative communication tools were more efficient because the instructor was not always logged into an instant messaging forum. A number of students also noted that instant messaging was too familiar or personal to use with the instructor (see Table 5). On the other hand, students actively used instant messaging with their peers for a wide variety of tasks including getting help, working in groups, having discussions and sending files (see Table 6).

Discussion

The purpose of this study is to examine the use of instant and text messaging tools in a higher education environment. Six aspects of messaging were examined including comfort level in using the tools, frequency of use, perceived usefulness as an academic aid, reasons cited for using messaging, differences between text and instant messaging, and differences between the use of messaging with peers and the instructor.

Comfort level

Nearly all students reported being either comfortable or very comfortable with text and instant messaging. These results are consistent with Hill, Hill, and Sherman (2007) findings, which suggested that students are willing to use mobile phone technologies to communicate with their instructor, and Kennedy *et al.*'s (2008) study which identified that students wanted to incorporate social tools such as instant messaging and texting into their academic studies. Given the high student comfort level with mobile phones and instant messaging, it is not surprising that students are willing to use these technologies in the academic setting.

Frequency of use

Most students used text messaging for academic purposes with their peers daily and their instructor weekly. Text messaging was therefore a medium with which students not only felt comfortable, but also one which they used often with their peers and the

instructor. Instant messaging was also used daily with peers but almost never with the instructor. These results suggest that instant messaging is a medium which students either prefer to use with peers only or that there are particular barriers to use this medium with the instructor. More research is needed, perhaps in the form of interviews or focus groups, to understand potential barriers to use instant messaging with an instructor. Examining different kinds of instant messaging (i.e. MSN, Skype instant messaging, Facebook chat) might be helpful in better understanding the kind of tools that students are willing and not willing to use with their instructor.

Usefulness of messaging

Students appreciated the convenience and ease of communicating via text and instant messaging with both peers and their instructor. Given that text messaging is a medium with which almost all students in the study were already comfortable, it is not surprising that they used it to communicate with peers for academic purposes, and that they valued the new opportunity to use it with the instructor. Students appreciated the importance of being able to communicate with the instructor via text message because “It allows us to get in touch with our teacher right away.” In this case, academic questions or concerns, which previously would have been considered “emergency” situations, could be quickly and easily resolved by a text messaging conversation with the instructor. Similar reasons were evident for reasons to use text messaging with peers. Students noted the immediate nature of text messaging: “You’re almost guaranteed an immediate response [from a peer] since everyone’s always on their phone.” These results are in line with Naismith’s (2007) study, which argues that students “look at their phones constantly” (p. 166).

Despite its nomenclature as “instant,” instant messaging was less useful between students and the instructor; students reported that there were more effective and comfortable mediums (such as email and text messaging). Instant messaging, when used between peers, was reported as useful for group meetings (“I know it would be easy to get my group members to meet in an online chat”) or for exchange of files (“Instant messaging is useful because [it] allows [for] file transfer”). Interestingly, students reported text messaging being more useful for “instant” receipt of messaging than instant messaging. With the capability to incorporate instant messaging applications (i.e. WhatsApp, BlackBerry Messenger, iMessage) directly on a mobile phone, it would be interesting to examine the student comfort level with and usefulness of these applications in the academic setting.

Purpose of use

Both text messaging and instant messaging were perceived to be convenient, easy, saved time, and offered a channel to communicate quickly about a specific administrative purpose. This is consistent with Young *et al.*’s (2010) study which demonstrated the success of using text messaging for quick, simple questions without arranging a one-to-one meeting. However, students reported that within the framework of academic purposes, the reasons for using text messaging were different. Students used text messaging with the instructor to communicate quickly about a particular issue and to receive passive reminders for due dates or changes in course information, as was also shown in Anderson and Blackwood’s (2004) study on using text messaging for administrative purposes. With peers, however, text messaging for

academic purposes was primarily used to communicate about group work and for arranging meeting times.

Instant messaging, like text messaging, was used with the instructor to communicate about a specific issue directly and quickly, though it was used less frequently with the instructor than text messaging. In contrast, instant messaging was used among students more frequently, and when used for academic purposes, was employed to send files, arrange group work and send links to useful websites. In this manner, instant messaging was used by the students to extend classroom participation and engage in learning by “conversation” rather than “lecture” (Bruns *et al.* 2007). It may therefore not be perceived as a negative outcome that students participated among themselves more often with instant messaging than with the instructor. By using instant messaging, students extended classroom communication by sharing information and by participating in synchronous conversations for course-related purposes.

Differences between mediums

The higher proportion of students using text messaging rather than instant messaging with the instructor can be partly explained by student perception of the usefulness of mobile phone technologies. Nearly all students reported mobile phones as being useful or very useful when used with both the instructor and peers. However, students considered instant messaging to be more useful to communicate with peers than with the instructor. One of the challenges of instant message communication is that in order to communicate, both parties must be logged into the instant messaging application on a computer at the same time. Although students in Bullen, Morgan, and Qayyam’s (2011) study reported that if they wanted to engage in instant messaging with a peer, they would phone to ask them to log in to the application, it is unlikely that students would approach the instructor with the same request. In this project, the instructor provided students with specific times during which she would be available via instant messaging. Having distinct start and end times for instant messaging is a recommended practice, such that students have clear expectations for when they may contact the instructor, and also so that the instructor does not become overwhelmed with instant messaging conversations (Jeong 2007).

Differences in communication mediums with instructor and peers

Students also reported that instant message exchange with the instructor and peers was easy and convenient. However, students used instant messaging more often with peers than with the instructor. In addition to the barrier that the instructor was not logged into instant messaging at all times, students in this study, in line with the results of Brett’s (2011) research, considered instant messaging to be a personal communication medium and preferred not to use it with the instructor. For this medium, students using instant messaging with peers for academic purposes used it for tasks such as group work and exchange of files.

Although the instructor provided an instant messaging address, approximately two thirds of the students never utilised this medium with the instructor. Rather, students used instant messaging with their peers, and did so for academic purposes on a daily or weekly basis. Although instant messaging is used more frequently in a student–student than a student–faculty relationship, academic use of instant

messaging is another natural extension of a communication tool used frequently among students.

Caveats and future research

This study is a first thorough attempt to examine the use of text messaging and instant messaging for academic purposes in higher education. There are several areas in which the methodology and analysis could be improved to guide future research. First, the sample size, while acceptable at 75, was composed of communication students in the Faculty of Social Science and Humanities. Subsequent research on text messaging and instant messaging could focus on a wider variety of programmes, in which the use of communication tools with the instructor and among students may be different. Second, the study employed self-reported frequency of use on the part of students, and the definitive quantity of text and instant messages was not determined by this work. Future research could quantify the frequency, time of day and time of semester in which messages were exchanged, thus providing a deeper understanding of how and when both faculty and students may expect more (or less) frequency of exchange. Finally, the study did not collect information from faculty. Additional research in this area could consider the perception of both text and instant message use on the part of faculty in order to determine potential opportunities or barriers to this medium of exchange in an educational setting.

Conclusion

This research examined how and why students use text messaging and instant messaging for academic purposes with both an instructor and with peers, together with an analysis of student comfort level with such communication mediums. The results showed that when students were given the opportunity, they used text messaging via mobile phones with their instructor, though with less frequency than they did with their peers. Benefits of exchanging text messages with the instructor included resolving urgent issues, dealing with administrative questions and receiving a quick response to academic questions. Amongst peers, text messaging was used for arranging group meetings or giving/receiving academic assistance. Text messaging is therefore an instant, convenient and pervasive means by which both students and faculty can resolve and address issues requiring immediate attention.

Instant messaging, however, was perceived as less “instant” than text messaging, and while it was used among peers for organising group activities, sharing files and discussing academic issues, it was less helpful when used with the instructor. This study suggests that given the near ubiquity of mobile phone and instant messaging use, together with a demonstrated comfort level with such mediums, text messaging via mobile devices and the use of instant messaging applications can be effectively incorporated into both peer-to-peer and student–faculty learning experiences.

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