

INSTANT MESSAGING

in On-Site and Online Classes in Higher Education

*A study of student
IM usage reveals
many advantages
and some
obstacles to using
IM as a classroom
communication
tool*

By **Wooseob Jeong**

In the past, instant messaging (IM) was considered “a teen thing”¹ rather than a serious tool for education. As teenagers who rely on IM as a communication tool arrive on college campuses, however, IM usage will become more prevalent in higher education.

IM has generated increasing awareness of its value for educational purposes despite its slow adoption in educational settings. Cohn² urged universities and faculty members to adopt IM and train themselves in using it, as IM use by prospective and current college students has become pervasive. Walther, meanwhile, expressed some pessimism about the readiness of adults, including faculty, to use IM.³

Schools can use IM for emergency communication needs, as well. For example, IM was used with other online learning tools in the course of school closings in Asia due to severe acute respiratory syndrome (SARS) in 2003.⁴

Research on IM in educational settings is growing. Based on a study of 30 students, Nicholson⁵ reported that students who used IM services found it easier to communicate, felt a stronger sense

of community, and had more venues for informal and social communication about class material, the school, and their common degree program. Farmer⁶ briefly addressed IM’s benefits and drawbacks in educational settings. Benefits include a heightened “social presence” for distance-education students and a growth in collaborative opportunities, due to its millions of users everywhere. Drawbacks include adding additional layers to the learning environment, a growing expectation among students of unlimited access to instructors, and the related time issues for faculty. Farmer went so far as to describe the drawbacks as a “potential faculty nightmare.”

This article presents my findings from a study of IM use in both local and distance courses, focusing on student-instructor interactions.⁷ Surveyed students appreciated not having to wait for answers to questions and the more informal context of IM conversations. They felt that the potential for IM to be useful in the distance-learning environment was high.

While previous studies of IM in educational settings offer general overviews of

IM usage in education, particularly with quantitative data collected through surveys, few provide the in-depth “story” of students and instructors using IM. Understanding these interactions is very important to creating the optimal environment for using IM in educational settings.

Purpose of the Study

The study used feedback from students who participated in IM communication in a class setting to identify the technology’s potential, obstacles to its use, and ideal conditions for its use.

Research Method

I collected data from the summer of 2001 through the spring of 2004 in 19 classes I taught. I asked the students to use IM during each semester-long class and to complete a survey at the end of the semester (see the sidebar).

Two hundred forty-seven students submitted completed surveys; 51

respondents did not engage in IM activities but provided comments. The quantitative analysis is based on 196 responses from those who participated in IM activities, while the qualitative analysis includes comments from those who did not participate. Class topics were both technical (Visual Basic, multimedia, HTML, JavaScript, and XML) and nontechnical (human-computer interaction and a senior capstone experience). The research included undergraduate and graduate-level courses in both the on-site and online environments. Beginning with the summer of 2003, I required students to use IM as part of class participation (it had been optional previously). Table 1 displays the data set.

Quantitative Analysis

The average rating of my IM communication as instructor was 7.17 on a 9-point Likert scale (with 1 being the lowest and 9 the highest degree of

satisfaction). I believe this high rating results from my ready availability during the courses, as I was online over 12 hours per day. For the question concerning the potential of IM in a traditional (face-to-face) class setting, the mean was 6.48. Finally, the mean was the highest concerning the potential of IM in an online setting, at 7.49. IM understandably received the highest satisfaction rating within a distance-learning setting, but it is notable that even in the traditional class setting, students found IM quite useful.

The collected data set includes potential dependent variables for inferential statistics for the ratings: student level (graduate versus undergraduate), aspect (nontechnical versus technical), mode of delivery (online versus face-to-face), and participation characteristics (optional versus required). A multivariate SPSS analysis, however, showed no significant difference for any of these factors.

Qualitative Analysis

Data-to-concept is the usual method for grounded-theory research, as it is considered best for this kind of “story-telling” qualitative study, particularly in behavioral research. I used the method to derive three aspects of IM usage in classes:

- the positive aspects of using IM,
- the negative aspects of using IM, and
- resistance to participating in IM activities in classes.

Positive Aspects of IM

- The positive aspects of IM are that it
- encourages instant communication,
 - expands the student comfort zone, and
 - facilitates flexible office hours.

Encourages Instant Communication.

The first question on the survey asked what students liked best about using IM in their class. Comments mostly concerned the availability of IM and the

Student Survey on Instant Messaging in Class

Students were asked to complete the following survey after taking a course using IM. Those students who did not use IM were asked to explain why. Some of their responses appear in the body of this article.

1. What do you like best about IM in this class?
2. What do you like least about IM in this class?
3. Please rate the interaction by IM.
Least Satisfied Most Satisfied
1 2 3 4 5 6 7 8 9
4. Please rate the potentials of IM in the traditional class setting (face to face).
Least Satisfied Most Satisfied
1 2 3 4 5 6 7 8 9
5. Please rate the potentials of IM in the distance-learning setting.
Least Satisfied Most Satisfied
1 2 3 4 5 6 7 8 9
6. Please provide any other comments on this interaction. (The more, the better!)

Table 1

Data Set

Semester/Year	Course Content	Course Format	Course Level	Respondents	
				P**	N/P***
Summer 2001	Visual Basic	On campus	Graduate	5	1
Spring 2002	Capstone	On campus	Undergraduate	8	1
Summer 2002	Multimedia	On campus	Graduate	5	1
Summer 2002	HTML/JavaScript	On campus	Undergraduate	11	1
Fall 2002	HCI	On campus	Undergraduate	23	6
Fall 2002	HCI	Online	Undergraduate	5	1
Spring 2003	XML	Online	Graduate	20	5
Spring 2003	HCI	On campus	Undergraduate	15	11
Summer 2003	XML	Online	Graduate	4	1
Summer 2003	HCI	On campus	Undergraduate	11	1
Fall 2003*	HCI	On campus	Undergraduate	13	2
Fall 2003*	HCI	Online	Undergraduate	7	3
Fall 2003*	HTML/JavaScript	On campus	Undergraduate	12	2
Spring 2004*	HCI	On campus	Undergraduate	21	4
Spring 2004*	HTML/JavaScript	On campus	Undergraduate	7	3
Spring 2004*	XML	Online	Graduate	11	1
Fall 2004*	HCI	On campus	Undergraduate	11	5
Fall 2004*	HCI	Online	Undergraduate	7	2
Total	196	51			

* = required, ** P = participated, ***N/P = did not participate but responded

instant responses it enables. Students felt that I could respond to questions and the need for clarification in a timely manner. IM was viewed as a better tool for communicating with the instructor than e-mail or the telephone. Students could ascertain whether I was online and proceed accordingly. Distant-education students were pleased with IM's efficiency in asking questions, and on-site students enjoyed the rapid responses they received. This timeliness factor was especially appreciated when students were working on a deadline and had questions about a class assignment or project. Student comments note these benefits:

I appreciated the IM option because it offered real-time answers to questions, and the professor was available when I needed to ask a question. (online class, IM required)

Both the student and the instructor can freely contact each other, without limitations due to distance and/or geographical barriers, without lengthy waiting for e-mails or phone calls. (online class, IM not required)

IM should be used more and by more instructors. As e-mail is a step up from snail mail, IM is a step up from e-mail and telephones in the educational and business setting. Instant communication is essential in the fast-paced world of technology. (online class, IM not required)

To a student having problems with an assignment or technical issues with something required for the class, IM can help resolve potentially confusing problems (that would be all the more confusing if explained

via e-mail) in a timely manner. (online class, IM required)

Expands Students' Comfort Zone.

In addition to helping clarify areas of confusion, IM fostered a more intimate student-instructor relationship. IM made it easier for students to approach me, which helped ease their anxiety about the course work. Distance-education students especially valued this aspect of IM communication. IM fostered a rapport that can be difficult to establish in a distance-education setting by making me readily available to the students and vice versa. Rather than feeling isolated, students using IM felt connected with me, the class, and the university. When students were confused about class lectures or assignments, they knew I was available through IM to support them. Many felt that the IM was more personal than voice mail, e-mail, and chat rooms,

which also increased their comfort level with me and with the class. Student comments included the following:

It has been great all semester knowing the professor was just a click away. It really gave me a sense of feeling connected to the professor, and even to the department and the college. (online class, IM required)

With online courses, IM is an important avenue for contacting the instructor; when a student is able to “talk” directly with the instructor, it adds a more personal feel to the course—it is no longer just a student in front of a PC, struggling through coursework, wondering if he or she is on the right path. (online class, IM not required)

Fear—several students that I have spoken with state that taking an online course would be much too intimidating; they believe that they will be “alone” in the course, needing to “muddle through it” by themselves. IM lets the student sign on to the IM service, and “see” that the instructor is signed on as well, giving the online student a sense of security that he or she is not alone and that the instructor is there if needed, regardless of the student having a question at the time of log in. (online class, IM not required)

I had never done IM before this, so it was a good learning experience to go through. I think IM as a part of a distance-learning setting is invaluable to both the students and the instructor. It is a good way to personalize an otherwise impersonal setting, which can make learning harder. (online class, IM required)

Facilitates Flexible Office Hours. Since IM is available at any time and anywhere, the instructor and the student need not be in the same place at the same time to communicate. IM may replace traditional faculty office hours and allow students better access to their instructors outside class. Distance-education

students in particular benefited from my online office hours, but time-pressed on-site students also valued the scheduling convenience IM affords:

When a question or situation for the course arises, it is extremely convenient to sign in to the IM service, leave a message for the instructor, or “talk” to the instructor directly. This is the online equivalent to walking into the instructor’s office to ask a question. Realistically, IM is much more convenient.... IM eliminates “phone tag” and waiting for e-mail. (online class, IM not required)

This is the first online course that I have taken that incorporated IM; I have taken 11 online courses in the past few semesters—none offered an IM option. Most offered “online office hours”—times when the instructor would reply to e-mails. This was inconvenient and inefficient; there were times when I waited for more than three days for an e-mail reply—often by then, the answer was too late to apply to an assignment. (online class, IM not required)

IM does not limit an instructor’s contact hours the way a traditional office setting does. This does not mean that an instructor needs to be logged in 24 hours a day—it merely means that an instructor who readily utilizes IM will receive messages posted by students at the time of log in, perhaps allowing for a faster response to the student versus other options such as e-mail. (online class, IM not required)

Negative Aspects of IM

- The negative aspects of IM include
- the potential for miscommunication due to lack of verbal and visual cues,
 - privacy and intrusiveness issues, and
 - instructor availability and the informality of the medium.

Potential for Miscommunication. One survey question asked students

what they liked least about using IM in class. Many students were concerned with miscommunication that may result from the lack of visual interaction during IM sessions. People are increasingly using Web cams with IM to get around this hurdle, but none of the students used one during the data-collection period.

The absence of visual and verbal cues can lead to misinterpretation and awkwardness. For example, during an IM session, I responded to a student’s question by typing “NO!” The student thought I was yelling at her, even though that was not my intention. The situation was resolved without negative consequences, but not without embarrassment. Students noted miscommunication and distraction as drawbacks of IM:

I find it hard to read people’s emotions with electronic communications. Without knowing the person, it is hard to know if they are annoyed or they are just trying to say what has to be said. Without the face-to-face interaction you have no frame of reference or body language to read more into the words. (online class, IM required)

It works well if both parties are not distracted.... However, that happens on the phone too. The disadvantages of IM are that you lose nonverbal cues, you can be misinterpreted or misinterpret someone else, the other person may not be online, the other person may be slow to respond or not respond at all. (online class, IM not required)

It was hard to really express [yourself] because the reader may take the response a different way. (on-campus class, IM not required)

Privacy and Intrusiveness Issues. Students were quite cautious about using IM because they did not want to interrupt me or be interrupted by other students. Although there are ways to “hide” while online, students were concerned about the visibility and privacy aspects

of IM use. Not wanting to interrupt others sometimes discouraged them from using IM for class communication, and they expressed concern about privacy:

I wish it was possible to have different status with different people. For example, I use IM at work and at home. When I'm at home on a vacation day, I do not necessarily want to communicate with work...but I might want to IM a classmate, friend, or family member. I know that on MSN Messenger, you can appear offline when in fact you are really online. (online class, IM required)

It felt odd to think that someone else could see that I was on my computer at any given time. I found myself tinkering with the settings to provide a little more feeling of privacy. (online class, IM not required)

I'm not very fond of IM, or chatting. It's just that I'm too busy to spend time chatting, and I don't like to be in the middle of doing something on the computer and my IM pops up with a message that I don't plan on responding to at the current time. (online class, IM not required)

I feel I cannot interrupt you [Professor Jeong] to IM. I enjoy asynchronous communication because it lets each party participate at their leisure. When I use IM, I usually expect an instant response, and that somehow seems unfair since you have so many students and so many classes. (online class, IM required)

Instructor Availability and Informality. Students expressed anxiety about whether I would be available and frustration with having to log on to IM to find out. Their anxiety and frustration increased if I was not online, and some students had a hard time telling if I was online. If students had to wait too long for an IM reply, they feared their question would not be answered.

Other students worried about the informality of IM. They were uncomfortable using a form of communication

generally reserved for casual conversations with friends to contact a professor. Their comments reflect their concerns:

Sometimes it was hard to tell if Dr. Jeong was actually at his computer or not—it takes some time for IM programs to display you as inactive. I also had to identify myself by name and which class I was in so that he knew who I was as opposed to when I ask him questions in person in class—he knows exactly who I am and which class I am in. (on-campus class, IM not required)

I am not always online, and the only thing I did not like was that I might miss the professor when he was online. The flexibility is double-sided, and there is no assurance he/she will come online. (on-campus class, IM not required)

The least thing I like about IM is when a person does not respond, it leaves you sort of in limbo. You have no idea why they did not respond. Did they not respond because they did not want to? Are they busy? Are they ill? You have no confirmation as to why they did not respond. (online class, IM not required)

It was also very odd to have a professor on my buddy list because I mainly use IM programs for personal and not academic communication. Sometimes, it was odd putting silly “away” messages regarding my friends when I knew that Dr. Jeong could read them. (on-campus class, IM not required)

At first I thought, “This is weird.” But then after I talked to you a few times [through IM], I felt like I went to your “office” and you could help me right away. (online class, IM required)

IM Use with Classmates. Nicholson's research demonstrated that IM can provide a “virtual hall” for online students, but my experience with inactive IM students makes me doubt its effectiveness.

Students may not have the time to be online as much as the instructor is, or they may not be willing to IM with their classmates. Some students did express a desire to increase IM communication with classmates:

Maybe each class member should have access to the class's IM addresses. (online class, IM required)

My only real complaint is that more students didn't use the IM option for communication—particularly when it came to doing group projects. (online class, IM not required)

I didn't communicate with anyone but the instructor on IM. It would have been very useful on final projects to have the ability to speak with group members. Most didn't have IM IDs. (online class, IM not required)

Software and IM Service Issues. Probably the most cumbersome thing in IM communication is that a particular IM service cannot communicate with another one (for example, Yahoo users cannot IM AOL users). Several third-party programs let users communicate across different IM services, but the options are still fairly limited. In many cases, students had to install a new program on their computers, and this was met with much resistance. As a result, some students chose not to participate in IM activities.

Environmental factors prevented some students from installing IM software on the computers they used. Schools and workplaces often will not let computer users install software on their computers because of security concerns. Obtaining the administrator's approval to override this ban presents yet another hurdle. In addition, some students felt that IM services adversely affect computer performance. Such environmental restrictions belie IM's claims of convenience. Students expressed frustration with installing and learning a new service:

I think IM on different services can be confusing, and I didn't like hav-

ing to install a different message system (Yahoo). (on-campus class, IM required)

I use AOL for my instant messaging. Since you did not have an AOL account, I simply never took the time to set up another. I have too many e-mails and usernames as it is; I don't need one more. (on-line class, IM required)

The reason that I choose not to sign up for Yahoo Messenger is that I would never use it again, except for this class. I also do not see how you can require this. On the note of using MSN Messenger, I feel that it loads on a computer whenever it wants to. It slows down computers; thus, I have uninstalled [it] from my computer for a reason. There is no reason for the MSN service to be running in the background. (on-campus class, IM required)

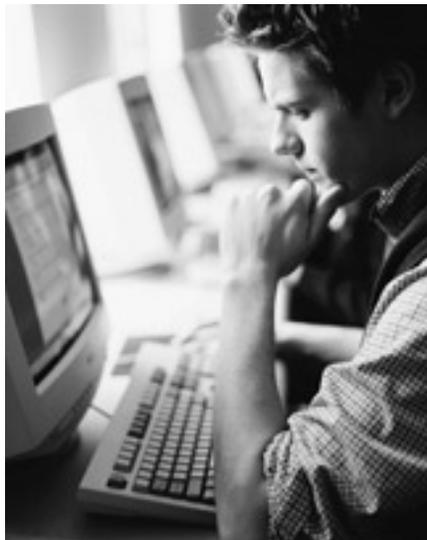
I really wanted to participate, but I couldn't really because I don't have administrative privilege to install Yahoo IM on school computers. I did register with Yahoo, but I could not install. (on-campus class, IM required)

I do not do IM during the school year because I don't have a computer, and most campus labs have it disabled. (on-campus class, IM required)

Usability and Interface Issues. Although new features are constantly being added to IM services, there is room for improvement in terms of usability. Complaints ranged from lack of spell check to frustrations with the time spent learning how to use the IM programs. Some students were unclear about the various features available with IM and failed to fully utilize the service as a result:

I hate remembering the screen names. (on-campus class, IM required)

It delayed my start and restart, and Yahoo wanted to load a mess of stuff



I didn't want. (on-campus class, IM required)

I had never used IM before, so it took me awhile to figure out how to use it effectively. The time lag made me feel like I was behind the rest of the class. (online class, IM required)

Resistance or Refusal to Use IM in Classes

Data was collected from students who did not participate in IM activities to learn more about why they did not participate, even when participation was required. Regardless of whether the reasons stated were valid or merely excuses, it is worthwhile to investigate nonparticipants' comments. The following comment was the most striking one I received, since it seemed to contrast with the general perception of IM's convenience:

I do not see how this is applicable to the class. Professors have office hours, e-mail, and a phone just like everyone else. I feel that it is an inconvenience to the students to have to use IM to communicate with an instructor, regardless of whether the class is a face-to-face or a distance-learning setting. (on-campus class, IM required)

Self-Sufficient Students

Several students explicitly mentioned that they did not need an additional

channel for help. For these students, more is not always better. Online students, however, are likely to be more motivated to use asynchronous forms of communication than their on-campus peers, and this do-it-yourself attitude must be considered in efforts to create an effective online learning environment:

I did not participate via IM for several reasons. First of all, I never really felt the need. Except for one or two minor issues, I found everything I needed to know via the Web or the textbooks. Perhaps it is simply my personality, but I prefer to try and solve problems on my own. (online class, IM not required)

My only potential problem is that IM use is required. If I were a student who did not require assistance and could get through everything smoothly, I may have had some problem with being required to participate via IM. (online class, IM required)

Since I did not have any questions during the course of the semester, I did not elect to sign up for, download, and install a new instant messaging service simply to send you a message saying hello or something similar. (online class, IM required)

Lack of Time or Access

Surprisingly, some students explained that they did not use IM due to time constraints, even though it is recommended as a time-saving tool. With IM, students need not make an appointment to speak to the instructor, and it is available nearly always, anywhere. The following responses indicate that some students did not agree with the ease of IM use, however. Others mentioned accessibility problems, including not owning a computer or not being able to access IM services on campus computers:

I have some issues with my finances at UWM, and this keeps my schedule full. I have classes every day of

the week (mornings) and I work every night. I also work weekends (Sundays), and this leaves very little time for instant messaging on the computer. (on-campus class, IM required)

I did not participate in the IM portion of this course because I do not have access to instant messaging or the Internet from home and am not at school long enough to mess around with instant messaging software that is installed on the lab machines. I was unable to do this requirement because of the lack of time and the difficulty of accessing the information. (on-campus class, IM required)

Prefer Other Modes of Communication

Some students felt there were enough avenues for communication with the instructor without IM. Their needs were met through e-mailing, posting to the discussion board, or meeting in person:

I really didn't see much that I could do with IM that I couldn't do with e-mail, with the exception of getting very specific technical help from the professor that required back-and-forth in real time to see if the problem was being resolved. (online class, IM not required)

IM isn't necessarily good for thinking through an issue in depth. For that I preferred posting to the discussion board. I also didn't like it if my problem required a lengthy explanation—I preferred e-mail so that I could go back and make sure what I had written was clear and my word use was accurate. (online class, IM not required)

Conclusion

Many factors play into the success of IM communication between students and instructors. The most important factor is the availability of the instructor. Instructors who are not readily available may experience less success with this form of

communication. The instructor's comfort level with using IM influences students' attitudes: faculty with more formal styles of communication may not be comfortable using IM and their students may be hesitant to use it as a result. Students' rating of IM interaction also depends on their perception of the instructor's availability:

Even in a traditional classroom setting, IM would be useful. However, most professors are probably not so willing to be available as often as are you. It would depend greatly on the topic and the instructor. (online class, IM required)

IM has many positive aspects when used in educational settings, both for on-site and online courses. Despite some resistance to using IM in classes, many students welcome this new method of communication in educational settings:

I think all teachers should be required to have IM available along with their class hours. It doesn't make sense to come to campus to ask a question about an assignment length or to verify a piece of information. I think the IM service is a valuable educational tool. (on-campus class, IM required)

I'm hopeful that the use of IM will expand into the future, as the use of e-mail has. Communication is an essential element to instruction. (on-campus course, IM required)

Educating students about IM's intended role will also help ensure its success. They should understand that it is a tool to improve communication by making it more immediate, efficient, and timely. A brief training session may help eliminate the stress and discomfort students feel when using a new application. It could instruct them to keep IM communication simple and straightforward and alert them to the potential for miscommunication due to lack of visual and verbal cues.

Establishing online office hours is another effective strategy. This ensures the instructor's availability to

address students' questions and also alleviates their fear of imposing on the instructor.

My research demonstrated that most students in my classes using IM welcomed this new method of communication in both on-site and online courses. Given some resistance to IM, however, it is important to make clear to students that IM is simply a tool to improve their communication with the instructor. As IM adoption in higher education continues to grow, future studies should investigate faculty perceptions of IM use in their classes. *e*

Endnotes

1. K. Thomas, "Instant Messaging: It's a Teen Thing," *USA Today*, June 21, 2001, <<http://www.usatoday.com/tech/news/2001-06-21-teens-im-main.htm>> (accessed December 4, 2006).
2. E. R. Cohn, "Instant Messaging in Higher Education: A New Faculty Development Challenge," proceedings of the 2002 Teaching Online in Higher Education Online Conference, November 12–14, 2002, <<http://www.ipfw.edu/as/tohe/2002/Papers/cohn2.htm>> (accessed December 4, 2006).
3. Thomas, op. cit.
4. R. R. Borja, "Online Learning Fills Void in Nations Coping with SARS," *Education Week*, May 21, 2003, by subscription only at <http://www.edweek.org/ew/ew_printstory.cfm?slug=37sars.h22> (accessed December 4, 2006).
5. S. Nicholson, "Socialization in the 'Virtual Hallway': Instant Messaging in the Asynchronous Web-Based Distance Education Classroom," *The Internet and Higher Education*, Vol. 5, 2002, pp. 363–372.
6. R. Farmer, "Instant Messaging—Collaborative Tool or Educator's Nightmare!" proceedings of the Annual Conference on Web-Based Teaching and Learning, October 18–21, 2003, New Brunswick, Canada, <<http://www.unb.ca/naweb/proceedings/2003/PaperFarmer.html>> (accessed December 4, 2006).
7. W. Jeong, "The Impact of Instant Messenger Services in Class Settings, Including Distance Learning," paper presented at 2002 ALISE Annual Conference, New Orleans, Louisiana, January 15–18, 2002.

Wooseob Jeong (wj8612@uwm.edu) is Assistant Professor in the School of Information Studies at the University of Wisconsin–Milwaukee.