

Electronic Note Passing: Enriching Online Learning with New Communications Tools

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Abstract

Online students are caught using unsanctioned communication tools in class. Faculty debate the implications and begin to note positive effects. The effects are listed with examples and commentary. Multichannel learning is also considered. Further research is needed to understand how new technologies are assimilated into existing online programs.

Keywords: Design of Learning Spaces, Learning Communities, Learning and Technology, Collaborative/Cooperative Learning

Introduction

It was a dark and stormy night several years ago. Inside by the fire, a few faculty members enjoyed dinner with students in a rare face-to-face meeting of an innovative online graduate program in educational technology. As the evening wore on, conversation became less guarded and then suddenly lightning flashed and the secret was out. Students had admitted to using Instant Messenger (IM) with each other at the same time that they were supposed to be in online class. It was as if they were caught red-handed passing notes on the back row.

The Dilemma and the Debate

The immediate faculty reaction was disbelief and a desire to gain control. After all, the discussions were well planned and deserved the full attention of all students. How would students get the full benefit of the interaction if they were distracted, effectively passing notes to one another electronically? The event started a great debate enjoined and enjoyed by faculty and students alike. And the debate brought the faculty face to face with progressive learning theorists such as John Dewey. They asked, "What would Dewey do?"

A brief recall of Dewey's traditional versus progressive education comparison gave the faculty pause. Being progressive requires the cultivation of individuality, free activity, learning through experience, and engaging in a changing world. Initial reactions mirrored traditional philosophy, including imposition, external discipline, and learning from teachers with static aims and materials. Indeed, "It is to a large extent the cultural product of societies that assumed the future would be much like the past, yet it is used as educational food in a society where change is the rule, not the exception." (Dewey, 1938, p. 19).

There was one more problem. In their open computing environment, back-row IM discussions were impossible to stop.

The Dance

In the *Evolution of Online Learning*, the authors argue that technology and learning theory inform each other in a rich dance that precipitates methodologies for learning (Sparks, Stern, & Tubbs, 2006). Behaviorist ideas mixed with mainframe computers yielded drill and practice formats for learning. Cognitive thinking combined with more versatile desktop computers created programmed learning, complete with branching based on understanding and appropriate feedback. Constructivist notions and graphical personal computers set the stage for interactive multimedia libraries. Social networking, distributed digital devices, and the Internet have enabled collaborative knowledge creation and learning communities.

This co-evolution of technology, theory, and learning methodology even shows up in popular culture. The classic *Jeopardy*, true to behaviorist influences, required contestants to know answers and repeat them on cue. More recent shows, benefiting from social networking ideas, allow contestants to phone a friend or poll the audience.

The Digital Student

According to the Pew Internet & American Life Project (2000), 81 million Americans use one of the many IM networks and more than 40% of Americans use IM on a regular basis. The project report also notes that usage is greatest among teens and young adults who are tomorrow's college students. Instant messaging is overtaking e-mail as the preferred way to communicate. Two-thirds of this demographic send more instant messages than e-mail. It is interesting to note that IM is banned in most K-12 environments.

The curious thing is that instant-messaging technologies only recently appeared in the program's online environment. While students were dutifully instructed at technology camp in the technologies to be used in online class (chat, newsgroups, and Web-page development tools), no instruction for instant messaging was ever delivered or even recommended as a means for collaboration. IM seemed to come automatically with the students as a backdrop to their everyday lives.

Further investigation made it clear that students were uncomfortable not having IM running in the background. Their seeming disrespect was just their normal multichannel operating procedure. And while students eventually admitted to a few secretly shared negative instructor comments, most found the additional IM channel to be stimulating and helpful. As it turns out, there are many learning theorists who argue in favor of multichannel learning (Clark & Paivio 1991, Hartman 1961).

Traditional educators in traditional settings can still impose quiet and silence communication between students. Not so in online learning environments. Many online instructors may not realize the likelihood that their students are in constant communication with their peers. Their students are also likely to be multitasking at any point in their course interactions. According to our students, this is just how tech-savvy college students interact in the world. While this situation might be untenable for instructors wishing to operate online in traditional ways, progressive leaders of learners will find rich opportunities. The authors found many benefits once they got around to listening to how students incorporate various technologies into their course work.

The Discovery

The authors discovered many positive uses for IM after reflecting on their own practice and interviewing many students in the online programs. Students were quick to relate stories showing the value of multiprocessing. Benefits ranged from simple clarification of terms to new ways of sharing space together.

For several years, Michael Schrage of MIT has been arguing, “The key element, the key ingredient, the key medium for successful and effective collaboration is the creation and maintenance of a shared space. You cannot create shared understandings without shared space. That is the real challenge” (Schrage, 1989, p. 94).

As online communication tools improve and are better understood, they start to feel more like spaces in which to interact and learn. Many articles illustrate the use and effects of instant messaging and other communication tools for business environments. Nardi, Whittaker, and Bradner (2000) describe the essential nature of interaction to enable collaboration:

Recent empirical work has shown the importance of informal workplace communication for effective collaboration. By informal we mean interactions that are generally impromptu, brief, context-rich and dyadic. These interactions support joint problem solving, coordination, social bonding, and social learning—all of which are essential for complex collaboration. (p. 83)

The ability to create robust shared environments for learning in distance education is just beginning to be explored and documented. There are exciting potential benefits to instant messaging within distance education programs that should be addressed.

Educators are becoming more interested in exploiting these environments. In this article, the authors illustrate the importance of listening to students and show how the integration of just one relatively new tool, instant messaging, into an existing online program has made a positive impact.

The Distinction

Having created a fairly robust online learning environment that includes synchronous as well as asynchronous tools, faculty wondered what made instant messaging so indispensable. Students reported to have developed online support systems using IM that were both social and educational in nature. Social, in that they allow peers to catch people online and check in with them. Unlike other tools, IM allows students to see who is online at any given moment. And seeing a person online often reminds students to contact each other.

Additionally, since students are at a distance, it provides a free way to communicate, unlike typical phone conversations that can be costly, particularly with international students. IM is ideal for working much more informally on group projects, homework, and discussing ideas for papers.

Several students commented on how comforting it was to be working on a paper and to just see other students online with their IM connection. Others cited instances of being calmed by other students as they frantically completed projects in the middle of the night. Simply checking in worked for some students, while others found a quick answer to a question, akin to yelling over a cubicle divider, made all the difference. Amazingly, a certain sense of community was often conveyed by IM without any interaction at all.

“I think the use of an ‘instant messaging’ software for an online class is essential. The chat sessions allow students to interact as if we were in a LIVE class environment.” (Student Comment)

The Deconstruction

Through observations and informal interviews, the authors have been able to identify a myriad of ways

that our students have used IM to enhance learning in an online setting. The uses range from simple digital notes to enjoying movies together at a distance and synchronous remote video viewing. These methods are described individually in the following section with examples where helpful.

Note passing. In many ways, IM takes the place of good old-fashioned note passing. In online classes, people can have separate simultaneous conversations independent of the official learning environment. This communication allows students to multitask, enriching social networking while keeping up with the class.

Clarification of content. IM can be used as a device to clarify information that is missed or unclear. Rather than having to wait until a presenter or professor has completed his or her presentation, a student can ask another student to clarify while the information is still in mind.

“IM gives students a way to ask quick questions about an assignment that will get immediate answers and if the answer sparks another question, it doesn’t take several days and e-mails to get the questions sorted out.” (Student Comment)

This helps foster collaboration, but more importantly, it helps those who are less comfortable participating in class to get the clarification that they may require.

Student 1: “Wait what did she say that reification meant? I heard the definition but I don’t understand it still.”

Student 2: “I think she’s talking about it being a type of artifact or unspoken rule. Hold on, let me look up Wenger’s site. Here is the link to it.”

Student 2: “Maybe there is a better explanation there that you can use.” (IM Transcript)

24/7 Peer Support. Because there is a range of technological experience within an online program and because students are often working on projects after technical support is closed, the ability to contact other students for assistance is critical. A typical conversation might be:

Student 1: I can’t get this program to work! HELP!!

Student 2: Calm down. Tell me what you see on the screen.

Student 1: Ok, it looks like this ...

Student 2: Cool. Now try this out. You can do it!

Group projects. Some students have found IM to be a good tool for group projects because of the accessibility. For example, tools such as chat and newsgroups may not be accessible through a firewall or places with technological limitations. Often IM is still accessible.

Sample group facilitation conversation (Note that students are talking about virtual space.)

Student 1: “Hey what are you guys doing down there? Did he say when we’re supposed to meet back in the room?”

Student 2: “I think people are funneling back here right now. Might be a good time to come on back.”

Student 1: “Okay. We’re just finishing up the last slide for our PowerPoint presentation. We’ll be down in a second!” (IM Transcript)

Social networking. IM can be used both within and outside of class to plan social outings. If people are in close proximity, they may meet and go out together outside of scheduled face-to-face session. This helps create cohesion among a subgroup of the class that is able to meet face to face more often, but may end up alienating those who cannot.

“I chatted with other classmates quite often. Got to know them on a personal basis. Got a chance to get help where I was having problems with a certain chapter.” (Student Comment)

Sample social networking conversation:

Student 1: "Hey, so did anyone have a thing planned for Saturday night after class?"

Student 2: "There was some talk about going out to dinner, but I don't know if anyone finalized anything. Let me check with Stephanie."

Student 1: "Okay, I just IM'd her and she said she thought someone was planning for us to go out to dinner but she wasn't positive!"

While this conversation is clearly social, the evening will almost certainly include discussion of course topics and strategy sessions for getting group work done.

Presentation support. For group presentations, IM can be used for last-minute details and instructions before presenting projects to the class. "Who is going to introduce us and give the overview?" is a common question that comes up in that situation. One student reported that she received simultaneous feedback from three separate IM conversations on a presentation that she was giving in a chat window to the whole group.

The authors also found that IM is often used as a supplement to chat rooms when doing group presentations. Often, users will have both the chat and IM windows open and will discuss the presentation with group members and ask questions while giving a presentation in the course virtual space, Tapped In (TI).

Homework. IM is particularly good for working out homework assignments. Those that involve reflection and interpretation lend themselves well to this medium. For instance, if a student is stuck on writing a paper, discussing ideas about the topic or the paper with someone else may help to unleash ideas.

"I use it to learn w/ other students, to exchange ideas with them." (Student Comment)

The notion of bouncing ideas off of someone and getting feedback in real time seems much more effective than the lag that occurs in simple e-mail transactions.

Social networking. Catching up and checking in is important in online environments. Because of the time-zone differences and geographic separation, calling people to catch up does not work out either financially or logistically. Many students use IM instead as a means to check in with each other.

"It helps to have a mental picture of other people in the class, so when they say something in a forum it means more." (Student Comment)

If a user is logged on, another student can typically feel out the situation and see if he or she is available to talk. Immediate interaction, relevant communication, and a sense of presence foster social aspects of learning. Students often reported seeing a fellow student online in IM when they were feeling down and lost in the middle of the night. After a quick chat and brief pep talk, their moods were elevated. The feeling that others are online passing in the virtual hallways has a strong psychological effect.

Synchronous remote video viewing. One instructor asked students to watch a movie that showcased various mentoring techniques. After the assignment was done and submitted, he realized that the students had invented yet another creative use of IM. Students had obtained the movie, synchronized the start of the movie and then watched it together to discuss the techniques in the movie in real time using IM.

Chat backup. Chat backup is an alternative to communication when Tapped In, the preferred software for synchronous chat, is down. There have been many occasions when this software has been unavailable. Oftentimes, it is the user's ISP that has problems, especially in more rural areas with lower bandwidth. Many students use IM to bridge with other students, or to inform the instructor that he or she is trying to make it to class.

Administrative support. Business articles point to the use of IM as a functional administrative tool. Professors use it for student/teacher conferences and virtual office hours for distance students. Many libraries have introduced IM-based reference desk assistant features at their campuses. This is especially valuable for distance students who may pay high costs to call in and ask for an extensive search for literature.

Online office hours. Some professors have mastered the ability to conduct multiple IM sessions at one time. This can actually increase productivity by holding several conversations at one time.

Faculty collaboration. Faculty members have also taken to IM as a way to collaborate with each other and seek help in real time.

Prof 1: Can I ask you a quick question?

Prof 2: Sure.

Prof 1: I'm in one of my online classes and wondered if I can sort participants.

Prof 2: I don't think so ...

The Disclaimer

Clearly, our students were the true educational innovators, even if unwittingly. They have taken a new communication tool and enriched their learning environment. Perhaps technology in the form of ubiquitous communication tools will render traditional education obsolete. Control of online learning environments has shifted to students.

There is more change ahead. Greater mobility with wireless hotspots and mesh networks will allow students to be in constant communication. More creative channels will support constant voice and video communication as well.

The stormy evening wake-up call brought awareness of IM to the faculty working online. The authors' investigation brought acceptance and incorporation into their online program. And the faculty's commitment to progressive learning keeps their eyes open to even greater possibilities.

The increasing use of online communication tools and the need to support them in learning environments begs additional research. How are new tools adopted by students? What attributes make the tools useful in educational settings? How do we evaluate their effectiveness? The field holds many possibilities for ongoing research.

References

- Clark, J.M., & Paivio, A. (1991). Dual coding theory and education. *Educational Psychology Review*, 53(2), 445–449.
- Dewey, J. (1938). *Experience and education*. New York: Macmillan.
- Hartman, F.R. (1961). Dual coding theory and education. *Educational Psychology Review*, 3, 149–210.
- Mergel, B. (1998). *Instructional design and learning theory*. Retrieved March 12, 2004, from <http://www.usask.ca/education/coursework/802papers/mergel/brenda.htm>
- Nardi, B., Whittaker, S., & Bradner, E. (2000). Interaction and outercation: Instant messaging in action. *Proceedings of the Association for Computing Machinery Conference on Computer-Supported Cooperative Work, USA*, 79-88.

The Pew Internet & American Life Project. (2000). Retrieved March 14, 2004 from <http://www.pewinternet.org/reports/toc.asp?Report=19>

Schrage, M. (1989). *No more teams! Mastering the dynamics of creative collaboration*. New York: Currency/Doubleday.

Sparks, P., Stern, P., & Tubbs, M. (2006). The evolution of online learning environments. *Scholar and Educator*, 27(2), 118–134.

Turkle, S. (1995). *Life on the screen: Identity in the age of the Internet*. New York: Simon and Schuster.

Wenger, E. (1998). *Communities of practice. Learning, meaning and identity*. Cambridge, UK: Cambridge University Press.

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