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Instant Messaging   Collaborative Tool or Educator s nightmare!

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Abstract

Today s students have grown up with the computer; in fact many, if not most, are younger than the first microcomputer. Students are more technology literate and Internet savvy than ever, and they use technology in ways that weren t even thought of a decade ago. What impact does this have on educators today and for the future?

This paper begins by highlighting select current literature in the area of students   knowledge of communication technology with a focus on instant messaging. Instant messaging usages today and proposed future usages are looked at. While today s younger generation has adopted it with a frenzy, it appears that the corporate enterprise will be the next big player in the instant messaging arena. Corporate enterprise level (secure) instant messaging usages are discussed and several enterprise level software packages are identified. The advantages and disadvantages of both public and secure instant messaging are discussed.

A review of results from a student survey on technology usage and an in-class instant messaging trial are presented. In the student survey on technology usage, students rated their use of four technologies; email, browser, discussion forums, and instant messaging. The in-class instant messaging trail usage statistics were captured using an enterprise level (secure) instant messaging software.

In conclusion, this paper reviews some of the good, the bad, and the ugly about instant messaging and some of the benefits and drawbacks of instant messaging in educational settings.

Introduction

Instant Messaging (IM) allows for real-time communication with friends and colleagues. IM is rapidly growing as a primary communications technology among corporate, educational and home users. According to many sources, IM is currently used by more than 50 percent of the computing population (both home and corporate enterprise) and will exceed 75 percent within a year [HREF1].

Ken Orr (2001) [HREF2], a researcher with the Cutter Research Foundation, an information technology research group in Arlington, Massachusetts states that   Instant messaging is a technology that nobody planned on . So why has it become so popular with young people today and will this have an impact on our educational system and learning?

Instant Messaging

Instant Messaging (IM) is a technology that has been embraced by the information age younger generation   those who are entering post-secondary educational institutions now and in the near future.

With over 130 million IM users today, this is a technology that can   t be ignored. International Data Corporation (IDC) [HREF3] indicates that IM users will exceed 300 million users by 2005. Most personal users of IM utilize such software as; AOL Instant Messenger (AIM), ICQ (short for I See You), MSN Messenger, and Yahoo! Messenger.   These publicly accessible (free) IM clients provide access to the IM provider   s server   anyone connected to these proprietary services can contact anyone else on same IM service. Some IM client developers, such as Trillian [HREF4], provide interoperability between IM services   thus allowing IM users to communicate between different IM services.

IM   s ease of use and immediate response are viewed as its primary benefits, while privacy and security concerns along with its potential as a time waster are seen as its biggest drawbacks. Table 1 outlines the advantages and disadvantages of IM.

Advantages / Disadvantages of Instant Messaging

Advantages	*Disadvantages*
Easy to use	Security risks
Real Time Fast Instant Response	• Message interception • Virus via file transfer
Contact / Buddy List	(bypasses virus scanning)
• Controlled access • View availability online	Privacy concerns
	Can be distracting
	Lack administration
	Viewed as a Time Waster
Added Advantages of Secure IM	*Added Disadvantages of Secure IM*
Less intrusive	Software no longer free
• Only authorized users have access	Administration required
Saves money	User may have feelings of intrusion
• Cheaper than phone calls	User may lose access to personal contracts (non-organizations contacts)
Security	
• Added security • SSL based encryption • Authentication with corporate directory	

Table 1: Advantage / Disadvantages of Instant Messaging

While the majority of the usage of IM today is personal, many analysts   reports indicate that the fastest growing segment of IM usage is that of corporate users. Some analysts [HREF5] predict that by 2005, IM will surpass e-mail as the primary online communications tool. IDC [HREF6] predicts that corporate users of IM will climb from 18.3 million in

2001 to 229 million in 2005. Daniel McHugh of Gartner Inc. [HREF5] predicts that 70% of all enterprises will have some form of IM within its organization by 2003   whether they know it or not.

On the corporate usage side, IBM uses Lotus [HREF7] (an IBM Company) instant messaging and Web conferencing applications as ubiquitous productivity solutions. IBM reports that its 300,000 employees send over 3 million instant messages a day   thus speeding up the decision making process from days or week to minutes. IBM provides help desk support to 1000 of its largest customers via instant messaging. IBM reports that it has reduced telephone use by 4%, reduced the load on mail servers, increased responsiveness and collaboration, and improved employee productivity and teamwork.

The move by corporate and educational organizations to publicly accessible IM clients has raised many security concerns. The integration of IM client software into corporate and educational organizations may require additional features compared to that of the publicly accessible IM client. Table 1 outlined the added advantages and disadvantages of that enterprise level (secure) IM bring to organizations. Enterprise level or Secure IM allows organizations to tighten security, manage access privileges and options, monitor activities, and create archive logs. Daniel McHugh of Gartner Inc. [HREF5] states that by 2005, 50% of corporate organizations will be running enterprise (secure) versions of IM rather than publicly accessible (free) IM clients. Enterprise level IM applications are currently available from several vendors. Table 2 is a partial list of enterprise level (secure) IM software applications. While this list may not be complete, it does show the range of products available in this segment of IM. This list is expected to grow, including recent announcements from Microsoft that Windows Server 2003 will support real-time communications technologies [HREF8] and the introduction of MSN Messenger Connect for Enterprises [HREF9].

Enterprise Level / Secure IM Software		
Company	*Product*	*Website / Comments*
Bantu	Enterprise IM & Presence Platform	www.intraactive.com Bantu s software is currently being used at The George Washington University and Johns Hopkins University.
Datamate Global Communications	DataTel	www.data-mate.com Various levels of products that provide secure instant messaging solutions for corporate networks.
Endeavors Technology	Magi Secure IM	www.endeavors.com Magi Secure IM acts as a transparent desktop proxy to secure the most popular Instant Messaging environments within and outside an enterprise through user authentication, content encryption, and message auditing. Endeavors.com
IBM / Lotus	Sametime 3	www.lotus.com/products/lotussametime.nsf/wdocs/homepage with over 8 million users, is the market leading instant messaging and Web conferencing solution for business Lotus.com
IMici	IMici.BM (Business Messenger)	www.imici.com Secure Instant Messaging - Products available to meet business needs from small to large size organizations either using hosted or server based software.
Jabber	Enterprise IM	www.jabber.com

		Secure scalable Instant Messaging.
Premier TechCorps	CollegeIM (A Jabber Inc Partner)	http://www.businessim.com/edu/ Educational Instant Messaging by CollegeIM opens up a communication platform for Admissions, Information Technology and Alumni Offices to benefit from the growing popularity of Instant Messaging. BusinessIM.com
Yahoo	Yahoo! Messenger Enterprise Edition	enterprise.yahoo.com The instant messaging service used by more than 20 million people per month is now available in Enterprise-class strength. Yahoo.com

Table 2: Enterprise Level / Secure Instant Messaging Software Applications

What are today s students bringing with them

If students come to us with PDAs and cell phones in their bookbags and spend hours using Instant Messenger, we should use what they know as the starting place for their educational experience: set up subject-specific chat rooms; beam their PDAs with reminders about assignments; make Web sites more navigable and inviting.

Newton Smith, 2002 [HREF10]

The Media Awareness Network in its article titled   Are You Web Aware? - Instant Messaging , has compiled some interesting facts about IM usage among younger Canadians.

  Nearly half (45%) of young Canadians use instant messaging. One third of these use it every day.

  On average, kids say they have about 30 people on their IM list (this number is higher for high school students)

Media Awareness Network [HREF11]

A report from Pew Internet & American Life on   The instant-messaging generation   highlights the following finding

- 74% of online teens use instant messaging. In comparison, 44% of online adults have used IM.
- 69% of online teens use IM at least several times a week.
- 19% of online teens say they use IM most often to contact their friends when they are not with them; and 8% use email.
- 37% have used IM to write something that they would not have said in person.

Pew Internet & American Life [HREF12]

Information Age Mindset

Students today, who are entering university, are younger than the microcomputer or PC. Students entering university from high school are typically 18 or 19, while the first IBM PC is 22 years old and the first Apple is pushing the ripe old age of 27. As these students have grown up with computers, the technology has continued to evolve and enhance their lives. Computers are a small part of the technology used by the younger generation of today. PDA s (Personal Digital

Assistants), cell phones, video game stations, and the Internet all play a role in today s technology savvy student.

Most students entering our colleges and universities today are younger than the microcomputer, are more comfortable working on a keyboard than writing in a spiral notebook, and are happier reading from a computer screen than from paper in hand. For them, constant connectivity   being in touch with friends and family at any time and from any place - is of utmost importance.

Jason L. Frand (2000) [HREF13]

As this younger generation enters post secondary institutions their fluency with technology is not the question. It may be more their demand for its integration into their learning that is the bigger issue. This is especially important in the area of online learning as we approach the point where it has been reported that there will be in excess of one million students online.

The many new attributes of student behavior will have a profound impact on our educational institutions and educational system. Frand (2000) has identified 10 attributes which reflect the values and behaviors that make up   the information age mindset . Table 3 lists these attributes.

1.   Computers aren t technology.

2.   The Internet is better than TV.

3.   Reality is no longer real.

4.   Doing is more important than knowing.

5.   Nintendo (trial-and-error; experimentation) is preferable to logic.

6.   Multitasking is a way of life.

7.   Typing is preferable to handwriting.

8.   Staying connected is essential.

9.   There is zero tolerance for delays.

10.   The lines between consumer and creator are blurring.

Table 3: The Information Age Mindset, Jason L. Frand

Technology is changing at an ever increasing rate and so are our future students. Students are technology literate, Internet savvy and use instant messaging almost constantly. How is the educational system to keep pace? Eastman and Swift (2002) reinforces this by stating that students use what they know and they certainly know instant messaging.

Student s Technology Usage Survey

As part of the continuing evaluation of Mount Saint Vincent University s WebCT implementation project, which began in 2002, students were surveyed as to their technology usage. Students were asked to categorize their usage of email,

Internet browser, discussion forums, and IM. Categories included: daily use, weekly use, monthly use, and use only a few times.   Students were asked to base their answers on normal usage outside of class activities.

The survey results are based on 439 responses and show a significant usage of both email and browser, with 95% and 88% usage respectively. IM usage was next at 57% of respondents using it, followed by discussion forums at 21%. Figure 1 depicts these results.
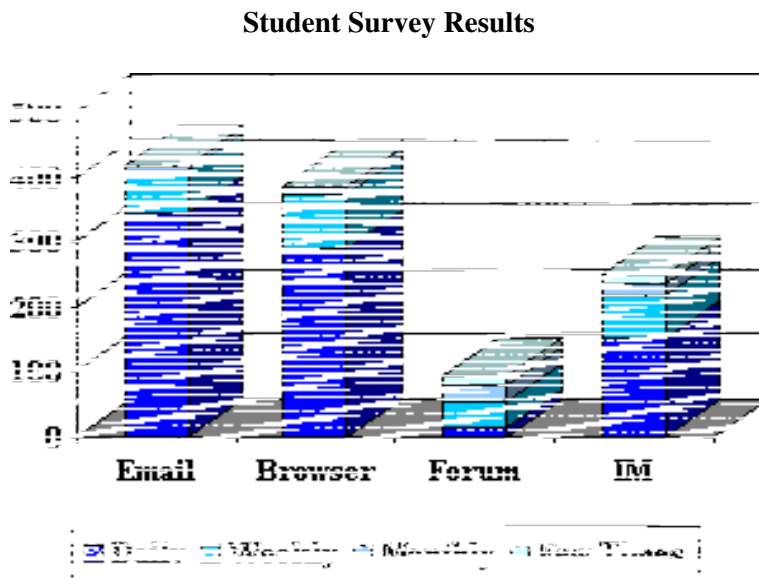
Student Survey Results

Figure 1: Student Technology Usage

Figure 2 displays the percentages of respondents that use these applications according to the categories; daily, weekly, monthly, and a few times. As one may expect email is the most used, with Internet browsing and IM not far behind.

Respondents that Use the Applications

	Daily	Weekly	Monthly	Few Times
Email	83%	15%	2%	1%
Browser	75%	22%	3%	0%
Forum	16%	41%	28%	15%
IM	61%	27%	7%	6%

Figure 2: Student Technology Usage   Frequency of Use

Figure 3 displays the cumulative percentage usages for each application. Of those that use these applications, and combining daily and weekly usage - virtually everyone uses email and Internet browsers, with the results being 98% and 97% respectively.   IM is not that far behind at 88% and discussion forums trails at only 57%.
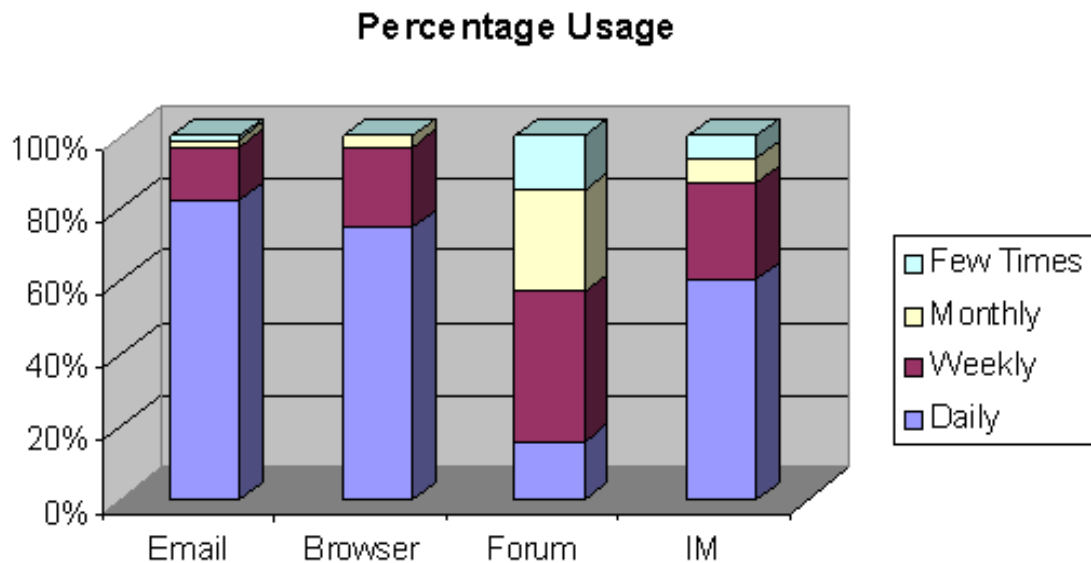
Percentage Usage

Figure 3: Student Technology   Cumulative Percentage Usage

These results illustrate the level of activity students have with these applications in their everyday lives. It highlights the high level of technology usage by students today and shows that usage of IM is strong. If industry reports are true, the growth in IM will soon make it as common place as email or internet browsing.

Instant Messaging Experiment

As part of a senior Information Technology course at Mount Saint Vincent University, I invited students to participate in a short IM experiment. The course, INTE 4425   Management of Information Technology is a required course for students in the Bachelor of Applied Arts - Information Technology. All students in this course are very computer literate and Internet savvy, yet the level of IM familiarity varied.

IMici s BM (Business Messenger) software was used for this experiment. IMici BM is a hosted secure instant messaging software application designed for business usage. The software allows for monitoring and logging of both the activity and the message content.

The experiment ran from March 10 to March 31, 2003. Ten students from the class accepted the invitation to participate in the experiment. During this time frame 405 IM sessions occurred. An IM session could include one message or several messages being sent back and forth. Figure 4 illustrates the exchange of messages based on sender / receiver. Student/student messaging was by far the largest segment of exchange.
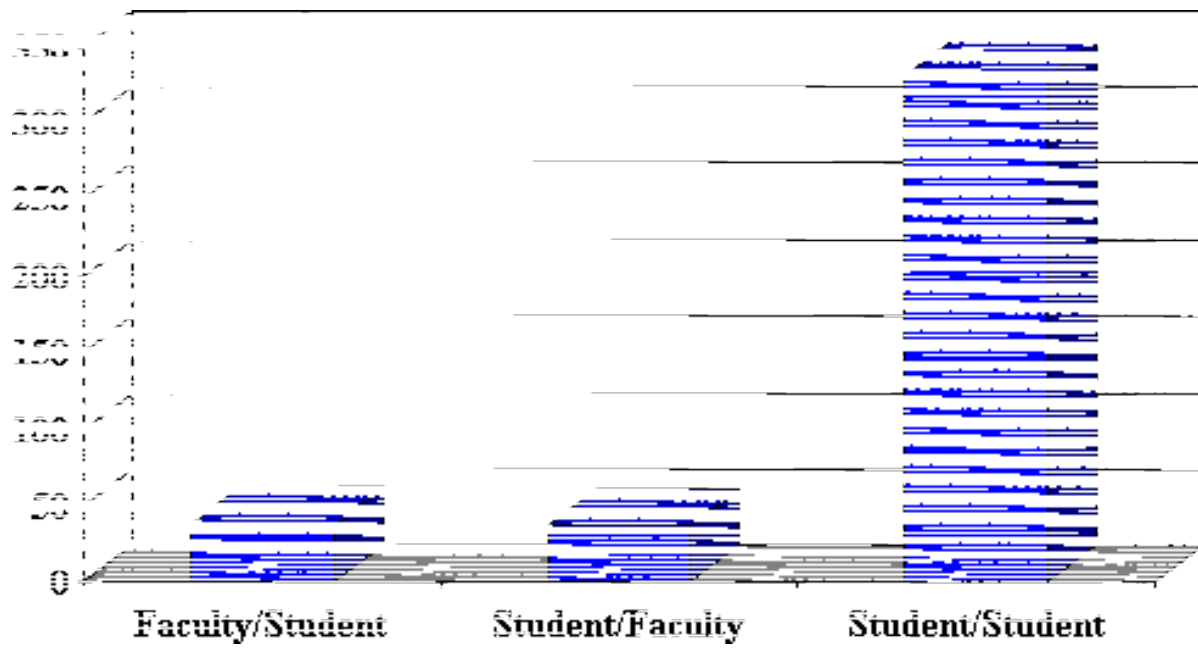
Instant Messaging Usage

Figure 4: 1: Instant Messaging Experience Results

These results highlight again the ease with which students today utilize the technology, especially IM.

The Good, the Bad and the Ugly

As is the case with any communication tool, especially an online one, there are good attributes   not so good attributes and some that are downright ugly. The following sections highlight the good, the bad and the ugly of IM today.

The Good

- You can communicate in real time with family and friends.
- Available wherever one can connect to the internet
- A safer environment than chat rooms
- You control who is in your   buddy   list
- IM can be a great communications tool if one is shy

The Bad

- If you aren t careful when you sign-up for the program, your account could be set up so that any one can contact you, not just your friends.
- Most IM software encourages you to create personal profiles that may include your name, age, e-mail address, home address, phone number, school and hobbies. This information is then made available to any IM user on the Internet.
- Some IM programs offer you the option to join in chat rooms with strangers.
- IM can encourage negative behavior in youth. Often used for gossiping and bullying.
- You may receive pornographic   spam   through your instant messaging program.
- You may receive computer viruses via file transfers that are not scanned by anti-virus software.

The Ugly

The following are some statistics from the Pew Internet & American Life and the Media Awareness Network that demonstrate the ugly side of IM.

- 37% of online teens have used IM to write something that they would not have said in person.
- 17% of instant messengers have used IM to ask someone out; 13% have used instant messaging to break up with someone.
- 57% have blocked messages from someone they did not want to hear from and 64% have refused to respond to instant messages from someone they were mad at.
- 22% of online teens who use instant messaging and email have shared their password with a friend.

The Instant-Message Generation , Pew Internet & American Life [HREF12]

- More than half of Canadian students say they   often   or   sometimes   talk in IM to people they ve never met in real life
- More than one in ten students say someone has tried to use their name or password in IM without their permission
- 14% of kids and teens who use IM say someone has threatened them while they were instant messaging; boys are more likely to say this has happened to them

Are You Web Aware? - Instant Messaging , Media Awareness Network [HREF11]

IM in Education

Today, IM in educational settings is relatively new and its usage is viewed as relatively low. Yet, as with corporate organizations   who is monitoring the usage of publicly accessible (free) IM clients. Few educational institutions have adopted IM standards or enterprise level (secure) IM software applications. While it may be difficult to truly determine the level of usage within educational settings, one can expect usage to grow as more and more students of the information age mindset enter colleges and universities.

IM as a Collaborative Tool

Communications is stressed as a common factor in both the use of the internet and within education and learning. It appears the blending of education and learning along with the Internet is a natural. Yet, for communication to be effective on the internet   connectivity is critical. Immediate and constant (24x7) connectivity is essential if communications is to

be truly useful within education.   Student usage of IM can be seen as supporting these requirements.

IM can be easily seen as matching many of Chickering and Gamson (1987) [HREF14],   Seven Principles for Good
Undergraduate Education. These seven principles and IM s match to them is depicted in table 4.

Matching IM to Seven Principles

Principle	*IM Matching*
1. Encourages contact between students and faculty	Yes
2. Develops reciprocity and cooperation among students	Yes
3. Encourages active learning	
4. Gives prompt feedback	Maybe
5. Emphasizes time on task	
6. Communicates high expectations	Yes
7. Respects diverse talents and ways of learning	
	Yes
	Maybe
	Somewhat

Table 4: Seven Principles for Good Undergraduate Education

IM usage in Education

While IM is relatively new to the educational environment, IM is seen as having many uses affording benefits to both
educators and students. IM in education is not without its drawbacks   this is where the potential   faculty nightmare
lies. The following lists address the uses of IM, its benefits and drawbacks.

Uses of IM within educational settings:

- Virtual Office Hours
- Remote Guest Speakers
- Collaborative Work Groups
- Class Discussions
- Lectures
- Mentoring/Buddies
- Recruiting and admissions
- Library consultations
- Other...

Benefits of IM in educational settings:

- Heightened   Social Presence   especially for distance/remote students
- Available and functional   actively used and accepted by millions
- Provides increased collaborative opportunities
- Connect from anywhere   home, office, mobile
- Tool address many of seven good practices in undergraduate education - Chickering and Gamson (1987)
  [HREF14]

Drawbacks of IM in educational settings:

- Introduces new layers to the learning environment
- Misuse of tool while online and face to face
- Connect from anywhere   home, office, mobile

The Potential Faculty Nightmare!

- Growing expectation of ubiquitous instructor access
- Adds more time to faculty workload
- Time Online!
- Time Consuming!
- Time Commitment!
- Time!!!

Conclusion

It is only a matter of time until IM becomes an obligatory communication modality for academic service providers.

Ellen R .Cohn (2002) [HREF15]

If the culture has moved to adopt technology in commerce, in industry, in recreation, and in daily life, higher education may be legitimately slow to react, but react it must.

Philip D. Long,(2002) [HREF16]

While IM is relatively new to the educational environment, it is raising many questions and concerns. Clearly students have embraced this technology, while faculty have not. Research into IM within education appears to be limited at present. I expect this to change in the next few years. Is there a future for IM as an educational collaborative tool or it the next looming faculty nightmare! Further research is required to determine IM s future in education.

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