E-mail as a Teaching Tool: More Perks than Problems

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Abstract

Faculty in the last few years have expanded their teaching capabilities to include the latest advances in technological tools, some of which are time consuming to learn and problematical to use. This paper describes e-mail as a relatively low-tech, effective way to enhance the teaching function. Drawing from my trial-and-error experience, I discuss practical methods for enjoying the perks of using e-mail as a teaching tool, techniques to eliminate a few minor problems, and recommendations to faculty from an informal survey of 31 engineering students.

Introduction

Engineering professors recently have used various forms and combinations of electronic communication to teach their classes and help students outside of class.[1-5] Some of these methods include using the Internet, class Web pages, e-mail, and message boards. Increasingly, it is becoming easier for faculty to "e-teach."

One software program recently available to my faculty, called Prometheus, seems to be quite useful. It allows faculty without HTML knowledge to create a Web page by answering a series of questions. They can then post handouts, syllabi, reading material, and problem solutions, restricting viewing to only their classes. Students can post questions and responses to a message board and can submit assignments as files to be reviewed and/or graded.

Prometheus, however, requires some faculty training and is not problem-free. Training requires faculty to attend several workshops. Students report technical problems with downloading files and being bumped offline, necessitating multiple log-ins during one transaction. Sometimes a student has trouble understanding the status of a message on the message board, whether it is a new thought or a response to a previous message.[6]

In contrast, using e-mail as a teaching tool to supplement classroom teaching is a simple, low-tech but effective way to enhance student learning. Whereas six years ago, some faculty still refused to use e-mail,[7] now most use it to communicate with colleagues, students, publishers, and grant-funding agencies. Most engineering faculty are familiar with at least one type of e-mail software, so training is unnecessary.

In no way should professors limit themselves to e-mail or think of e-mail as a strategy to rival more sophisticated technological advances. However, sometimes in the rush to try new technological possibilities, one may overlook a simple but effective strategy. Teaching with e-mail requires little effort but produces a big pay-off.

Uses for E-mail

Teaching with e-mail means sending messages both to individual students and to an entire class. Sending e-mail to an entire class works well to accomplish these goals:
- to emphasize major points made in class
- to give tips for doing well on an upcoming assignment
- to alert for problem areas (for example, when the professor knows from past experience what errors are most likely to occur)
- to answer questions about assignments (sometimes sending a message to the whole class when several students ask the same question)
- to add points and helpful details inadvertently omitted in class
- to correct possible misunderstandings the professor did not think of during class
- to give changes in assignment requirements or the syllabus
- to notify about unexpected absence or cancellation
- to remind about changes announced in class, such as room changes

Benefits

Using e-mail to extend the teaching function offers many benefits:
- It helps students learn because of its immediacy and impact. Repeating an important point in an e-mail message works when repeating it in class does not.
- It is simple and easy to use.
- It is versatile enough to be used alone without a Web page or a message board.
- It is asynchronous, providing students with the opportunity to ask questions or send files at two o'clock in the morning.
- It individualizes instruction because students ask for the information they need when they need it, a sort of "Just-in-Time" arrangement.
- It allows flexibility for excused late papers and rough drafts to be sent outside of class and office hours. In this way, students may be granted a few extra hours to correct errors spotted at the last minute. They can still submit the paper on the due date even after the professor has left campus. ("Just e-mail it by 7:00 p.m.")
- It increases the instructor's availability, thus strengthening the student/instructor relationship.
- It changes the instructor's role to a "guide by the side" rather than a "sage on the stage" by increasing individual attention.
- It increases student interaction with the professor. For example, students who are quiet and shy in class may feel more comfortable communicating by e-mail.
- It allows students to correct the professor's false impressions of their classroom behavior, such as when they seem unprepared or disinterested in class discussion but are actually sleep-deprived or ill. [8]
- It clearly indicates, unlike a message board, who is responding to what message. (In addition, each recipient has the power to delete.)
- It allows last minute changes.
- It helps the professor understand what students do not understand and thus better prepare for the next class.

- It allows less class time to be spent on clarifying assignments and more time for active learning tasks.

One e-mail perk is providing fun moments that help the professor see a different aspect of the student. I enjoy some of the humorous usernames, such as "inthewater.jones," "ter-bear," "boomhauer," and "big-daddy-z." I also like reading their interesting or funny sayings/quotations in their signatures. These are not only enjoyable; they tell me something about these students. Here are a few examples:

- "Do one thing each day that scares you." (from an international student)
- "Sleep? Isn't that a totally inadequate substitute for caffeine?"

And then there are those priceless responses, such as one sent after a student had overslept and totally missed his oral presentation. Upon arriving back at my office, I found an e-mail message with this subject line: "Omigod, what have I done?!!" Creating humorous moments is one way e-mail helps build relationships.

Drawbacks

The drawbacks of teaching with e-mail are minor compared to the benefits. As with any use of technology, students must have computer access. Two main drawbacks to using e-mail are the following:

- It does not provide a message board, listserv, or chat function. However, students can send a message to the entire class and so can the professor.
- It does not allow for common viewing of files, such as an updated syllabus or problem solutions, as a Web page does. For syllabus changes, I must send an attached file of the revised syllabus.

Here are minor drawbacks and ways to avoid them:

1. Problem: Receiving a virus in an e-mail attachment
   Solution: Virus protection software can be set to automatically check and clean incoming file attachments.

2. Problem: Trouble sending file attachments
   Solutions: a) If this is a text document in Word or WordPerfect, saving the attachment as a Rich Text File (.RTF) may be all that is needed. b) If the sender's version of Word or WordPerfect is a more recent version than the recipient's version (Word 2000 vs. Word 95), then saving the file in the older version and re-sending it should work. c) In my outdated version of Eudora Light, sending a file to one person received as an attachment from another requires first saving the original attachment to the hard drive and attaching the saved file to the forwarded message. d) If the Mime option is not selected in the e-mail options category, then selecting it may solve the problem. e) I have not yet solved a problem sending files to AOL customers; it may be that the recipient's version of AOL only allows attached files sent between AOL users.

3. Problem: Difficulty dialing in to the university connection from off-campus during peak use
    Solution: Either setting the e-mail client to repeat dial, trying at intervals, revising the dialing schedule, or getting another non-university connection could work.

4. Problem: Student complaining that a file is too big to send
    Solution: Questioning the student may show that the file is not too big. For example, I have successfully received as many as 25 PowerPoint visuals with pictures on my home computer after a student told me it could not be done.

Practical Operating Tips

Teaching with e-mail does not require a major time commitment or sending numerous class messages, especially for small classes and a total semester student load of 100 students or less. The instructor can devise a system appropriate for him or her and let students know what to expect. The exception may be using e-mail for teaching a large number of students, but even then the professor can devise a workable system with less frequent individual e-mail.

Different classes will have different e-mail time requirements. For example, my two sections of technical communication, meeting three times a week and requiring numerous and various types of assignments, demand more e-mail time than the unit operations lab. The lab, co-taught with a chemical engineering professor, meets with me once a week and does not require as much variety of assignments. This semester the maximum number of messages I have sent for the most demanding course is about one e-mail message a week sent jointly to two sections. Of course, I answer individual messages every weekday and usually on Sunday night, but these number from one to six per day.

My students like receiving tips on and asking questions about an assignment the day before it is due since many of them are working the night before the due date. Until they actually start working on assignments, they do not always know what to ask.

Most e-mail clients, such as Eudora, allow the user to set up an "alias" or nickname file containing students' e-mail addresses. Then sending a message to all students is as simple as clicking on the filename. One can enter the names manually or use a school-provided system, like Oasis at Vanderbilt, for automatically downloading the roll with e-mail addresses and setting up a class nickname file.

I advise the following minimum e-mail strategies:
- Check messages at least once a day.
- Send messages to the entire class as needed but avoid sending too many (overkill diminishes effectiveness).
- Check e-mail the evening before a major assignment is due.
- Send reminders of important points or tips two days before a major assignment due date.

These tips should expedite the process:
- Announce as a course requirement that students check e-mail daily.
- Send the first message after the first week to allow the class roll to stabilize. Check in class to see if anyone had difficulty receiving it.

- Send most messages as a short message in the body and not as an attachment.
- Send any necessary formatted document or long message as an attachment.
- Rarely send attachments, especially to the entire class.
- Limit attachments received from students to the occasional rough draft and excused late paper. Avoid requiring e-mailed drafts or final papers from everyone.
- Proofread messages carefully for clarity and appropriate tone before sending them.
- Make the subject line as specific as possible; for example, if making changes to the syllabus, use the words "syllabus change."
- Use general-to-specific order and whatever visual cues your e-mail client allows to increase ease of reading.

Through feedback about my messages, my students have helped me devise a method to make my messages easier to read (Figure 1), compensating for my e-mail client's minimal formatting with spacing, numbering, and capitalization. The first line specifies the contents, section headings identify section contents, item headings provide a quick overview, capitalization emphasizes, and numbering and spacing between items increase readability. This format works even for long messages. Although spacing between items requires more scrolling, students requested it for easier reading.

Subject: Project Length CHANGE and Project/Last Day Reminders

Hello, Everyone,

Here are reminders for the final project and for the last class, including a PROJECT LENGTH CHANGE:

FOR THE PROJECT

1. LENGTH CHANGE: Focus on STRENGTH, NOT LENGTH of the paper. Don't include fluff just to get a certain length. Focus on your message. To encourage this focus, I've changed the required minimum length to 3 single-spaced pages.

2. PERSON AND FORMAT: In the memo report format, it's fine to refer to your group as "we" and to the recipient as "you."

3. GRADING: The points will be distributed 50-50 for the report and the Web page. The grading criteria are in the ClassPak, chap. 1.

FOR CLASS

1. CLASSPAK: Bring your ClassPak so you can fill out the informal evaluation in the last chapter. I request this extra evaluation to get feedback on the class immediately after I turn in grades.

2. AGENDA: a) Your group project (Web page and report) is due; b) We have one oral presentation each in the 12:00 and 1:00 sections; c) You will evaluate the course.

E-mail me if you have further questions.

Figure 1. Using organization and limited formatting to improve ease of reading in a long e-mail message.

Student Recommendations Based on Informal Survey Results

Recently while experimenting with improving my teaching using e-mail, I asked for my students' help in an informal survey. I collected responses from 31 technical communication students, mostly juniors and seniors with various engineering majors. I asked for two kinds of written responses. First, students answered three questions about my e-mail messages to them:

1) What is working?
2) What is not working?
3) What do you recommend to me and to professors in general?

Secondly, I listed these written responses in a questionnaire to get each student's opinion of each idea. Students responded by checking columns labeled "agree," "disagree," or "indifferent." Questionnaire items were grouped in the following categories:

- Format and Organization
- Reminders and Assignment Information
- Usage
- Frequency
- E-mail and the Web
- Miscellaneous (mostly about content)

Students' responses usually concern improving e-mail messages sent to an entire class. Interestingly, occasionally the majority disagreed with a student's statement that at first I had thought represented the majority view (for example, Table 1, item 2). Table 7 in the Appendix presents the questionnaire and percentage results for the 31 students responding. Percentages of 50 or more are highlighted in bold print. (Two of the original items are instructor-specific and, therefore, are omitted since they are not directed to professors in general.)

Table 1 shows students' advice about format and organization. Conciseness was a point reiterated throughout the responses. Unfortunately, formatting with bullets, boldface, and underlining cannot be done in all e-mail software. Figure 1 shows a way to compensate with spacing, numbering, and capitalization. One surprising response was that 65 percent did not want attachments sent even though formatting would be possible.

Table 1. Student responses about e-mail format and organization (31 students). Majority responses are highlighted.

	Agree	Disagree	Indifferent	Omitted
Format and Organization				
45. Place urgent material first in the e-mail message.	**93.5%**	0.0%	6.5%	0%
46. Put assignment details in attachments.	16.1%	**64.5%**	19.4%	0%
47. Use boldface type or underline.	**64.5%**	12.9%	22.6%	0%
48. Use numbered and bulleted lists for ease of reading.	**93.5%**	0.0%	6.5%	0%
49. Be concise because students will ignore wordy parts.	**96.8%**	0.0%	3.2%	0%

Teaching with e-mail includes, but is not restricted to, sending reminders, stressing main concepts, or clarifying points about assignments. Table 2 indicates my students' ideas about these types of e-mail content. Interestingly, 100 percent requested a specific subject line when the message concerns assignment changes; that was the only unanimous response. Over half the students (52 percent) thought that using e-mail to clarify assignments was enough, but a large majority (87 percent) wanted both clarification and reminders.

Much of the information students want in e-mail is already in the syllabus and course materials. Reading these materials and taking notes in class would seem to be sufficient, thus making e-mail unnecessary. Surprisingly, 84 percent recommended a weekly Sunday night message alerting students to happenings and assignments in the upcoming week. This method may seem like coddling. To clarify this point, I later added a statement in a brief addendum to the questionnaire: "Sending reminders of assignments one or two days before they are due and a Sunday night reminder of the upcoming week's work is coddling students." Sixty-nine percent of 26 respondents disagreed. Perhaps one student's written comment about item 10 is apropos: "It's good to reiterate what needs to be learned to help grind it into our little skulls."

Even though I had misgivings, I began sending a weekly message from midterm until finals. For one reason, students' perception seemed to be that the syllabus changed often although I disagreed. After weekly e-mail messages were sent, students asked fewer clarification questions, seemed more organized, and grasped more details about the assignments. Their e-mail messages also seemed to decrease.

Table 2. Student responses about e-mail reminders and assignment information (31 students). Majority responses are highlighted.

	Agree	Disagree	Indifferent	Omitted
Reminders and Assignment Information				
6. Give possible times for students to meet with the instructor to discuss ambiguous assignments.	**61.3%**	3.2%	35.5%	0%
7. Use e-mail to summarize assignments and emphasize key elements.	**90.3%**	3.2%	6.5%	0%
8. Send reminders the night before or one day ahead of time.	**80.7%**	16.1%	3.2%	0%
9. Include "Assignment Change" in the subject line when appropriate.	**100.0%**	0%	0%	0%
10. Use e-mail to reiterate assignments, clarify, and list items due.	**96.8%**	3.2%	0%	0%
11. Send one comprehensive e-mail explaining the assignment and reminding students about the due date.	**80.6%**	6.5%	12.9%	0%
12. Use e-mail just to clarify assignments.	**51.6%**	25.8%	19.4%	3.2%
13. Distribute assignments by e-mail. It saves paper.	16.1%	**67.7%**	12.9%	3.2%
14. Give handouts for assignments the old-fashioned way. Use e-mail strictly for reminders and not for additional information.	35.5%	48.4%	16.1%	0%
15. Use e-mail for clarifying assignments and reminding students about major assignments.	**87.0%**	6.5%	6.5%	0%
16. Most students do not start assignments more than two days in advance.	**70.9%**	19.4%	9.7%	0%
17. Send messages about changes and difficulties with assignments as soon as possible because many students like to work ahead.	**54.8%**	22.6%	22.6%	0%

Table 2 (continued). Student responses about e-mail reminders and assignment information (31 students). Majority responses are highlighted.

	Agree	Disagree	Indifferent	Omitted
Reminders and Assignment Information (continued)				
18. Do not send important messages the night before an assignment is due without warning students in class to expect it.	**64.5%**	29.0%	6.5%	0%
19. Send an e-mail with a weekly syllabus. Include Web links for explanations of special assignments.	**67.7%**	22.6%	9.7%	0%
20. Send an e-mail every Sunday night listing the week's events. It could be just a summary of what's in the ClassPak [course materials].	**83.9%**	16.1%	0%	0%

Results in Table 3 about e-mail usage show that these students do not consider tone as a factor in encouraging questions. They do value e-mail for allowing access to the professor. Item 22 may offer some insight about why students want information in course materials also put in e-mail messages.

Table 3. Student responses about e-mail usage (31 students). Majority responses are highlighted.

	Agree	Disagree	Indifferent	Omitted
Usage				
21. The tone of the e-mail should encourage questions.	35.5%	12.9%	**51.6%**	0%
22. Students check e-mail more often the ClassPak [course materials].	**87.1%**	9.7%	3.2%	0%
23. Remember that some students do not check e-mail daily.	45.1%	32.3%	22.6%	0%
24. Sometimes messages get lost in student's mailbox.	45.2%	29.0%	25.8%	0%
25. Do not expect or ask for responses unless the message is sent to an individual student.	**58.1%**	16.1%	25.8%	0%
26. E-mail helps students feel that professors are accessible. Use e-mail to connect to students.	**83.8%**	6.5%	9.7%	0%
27. Few students will use e-mail to contact professors unless the professor shows a preference for it.	41.9%	35.5%	22.6%	0%
28. Only a few of my professors communicate by e-mail.	38.7%	**58.1%**	3.2%	0%
29. E-mail is a great way to communicate with professors since office hours can conflict with students' schedules.	**90.3%**	3.2%	0%	6.5%
30. E-mail is valuable teaching tool.	**90.3%**	3.2%	6.5%	0%
31. Since I do not usually print a copy of an e-mail message, I forget that it is there.	22.6%	**67.7%**	9.7%	0%
32. Tell students in class when an e-mail is going to be sent.	29.0%	22.6%	48.4%	0%

Student responses about e-mail frequency (Table 4) show that most students do not want a last-minute message sent the day an assignment is due. Once again, they emphasize conciseness. Items 35, 38, and 39 show a large majority advising against sending too many messages. This result may calm some colleagues' fears that teaching with e-mail results in a flood of messages.

Table 4. Student responses about e-mail frequency (31 students). Majority responses are highlighted.

	Agree	Disagree	Indifferent	Omitted
Frequency				
33. Avoid sending e-mail the day of an assignment.	**77.4%**	12.9%	9.7%	0%
34. Send a comprehensive e-mail four to five days before the assignment is due.	**64.5%**	22.6%	12.9%	0%
35. Using e-mail too often can become ineffective. Students may ignore professors' messages if sent too often. Ex.: Professor writes the whole group when any student asks a question.	**64.5%**	9.7%	25.8%	0%
36. Keep e-mails relatively informal, terse, and quite evenly spaced out in time, somewhat like a good TV show, such as *Moneyline* or *CNN*.	**71.0%**	3.2%	22.6%	3.2%
37. Be consistent. Do not omit sending e-mails when students might be expecting them.	**64.5%**	6.5%	29.0%	0%
38. Send lots of short e-mails.	22.6%	**58.1%**	16.1%	3.2%
39. Do not send too many e-mails.	**83.8%**	3.2%	12.9%	0%
40. Different types of messages require being sent at different frequencies.	48.3%	6.5%	45.2%	0%

The responses to the section about e-mail and the Web (Table 5) were somewhat unexpected. These students seemingly do not value the discussion forum as much as I had thought and prefer e-mail messages rather than Web page postings for the entire class. They value the Web for providing links to needed information.

Table 5. Student responses about e-mail and the Web (31 students). Majority responses are highlighted.

	Agree	Disagree	Indifferent	Omitted
E-mail and the Web				
41. Create a forum on the Web page for students to post questions and to allow students and the professor to respond.	32.3%	29.0%	25.8%	12.9%
42. Put schedule changes on the class Web page and maybe notify us by e-mail also. When students read e-mail, we don't always have our schedules with us; the Web is the easiest place to see a schedule.	**54.8%**	12.9%	22.6%	9.7%
43. Class Web pages are wonderful.	**54.8%**	9.7%	29.0%	6.5%
44. Only a few of my professors provide and use a class Web page.	**51.6%**	29.0%	12.9%	6.5%
45. In e-mail messages, provide Web links or attachments to show assignment examples.	**70.9%**	9.7%	12.9%	6.5%
46. Save e-mail for person-to-person communication and post messages to the entire class on the class Web page.	19.4%	**58.0%**	16.1%	6.5%

Students' tips about e-mail content (Table 6) emphasize clarity and fairness to students. At first, some of my students indicated they sometimes had difficulty following my messages. However,

their continued feedback helped me develop the formatting system in Figure 1. The statement (item 49) asking for an occasional humorous comment draws mostly an indifferent response. Item 50 refers to a message sent after I noticed that students were not following directions. My intent was to prevent most students from making the same mistakes. I might have mentioned this in class after the first presentations if there had been enough time and wrongly assumed an e-mail message would be appropriate. Perhaps an in-class announcement would have also seemed unfair to students, but e-mail seems to have a stronger impact than an in-class announcement (as student responses indicated in Table 2).

Table 6. Student response about miscellaneous items dealing mostly with content (31 students). Majority responses are highlighted.

	Agree	Disagree	Indifferent	Omitted
Miscellaneous (mostly about content)				
47. Do not send frivolous e-mails. We have enough as it is.	41.9%	16.1%	35.5%	6.5%
48. Notify students beforehand when there is a change in policy or grading. Many professors change policies and notify the class after the fact.	**90.3%**	3.2%	0%	6.5%
49. Include humor sometimes in your e-mail messages.	29.0%	9.7%	**51.6%**	9.7%
50. Do not e-mail tips on giving oral presentations after some students have already presented. It's not fair to the first group.	32.3%	45.1%	16.1%	6.5%

Conclusions

This student feedback indicates the following conclusions about my students and their advice to professors:
- Students, functioning as users/readers rather than writers, describe good technical writing principles when giving advice about how professors should write effective e-mail messages. This response may be because they are asked from a practical standpoint to judge when text is most readable for them.
- A technical communication professor, functioning as an e-mail writer rather than a reader, may need audience feedback to practice what she preaches about technical communication, especially brevity.
- Students overwhelmingly agree that e-mail is a valuable teaching tool.
- Students recommend putting information where the reader is most likely to see it -- in e-mail because it is checked more often than course materials.
- Students value the accessibility of the professor provided by e-mail.
- Professors should use e-mail to communicate not only to individual students, but also to the class as a whole.
- Professors should use e-mail to encourage learning course material, not just to make announcements.
- Professors should avoid overusing e-mail, which diminishes benefits.
- E-mail messages from professors to students have a strong impact.

Since the number of respondents for this questionnaire is small (31) and the study informal, generalizing to the student population at large would be inappropriate. This feedback helped me to tailor my e-mail correspondence to the needs of my students. I plan to give the questionnaire again to gather further information.

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APPENDIX – STUDENT QUESTIONNAIRE RESULTS

Table 7. Student questionnaire results showing recommendations to faculty about teaching with e-mail (31 students). Responses over 50 percent are highlighted.

	Agree	Disagree	Indifferent	Omitted
Format and Organization				
1. Place urgent material first in the e-mail message.	**93.5%**	0%	6.5%	0%
2. Put assignment details in attachments.	16.1%	**64.5%**	19.4%	0%
3. Use boldface type or underline.	**64.5%**	12.9%	22.6%	0%
4. Use numbered and bulleted lists for ease of reading.	**93.5%**	0%	6.5%	0%
5. Be concise because students will ignore wordy parts.	**96.8%**	0%	3.2%	0%
Reminders and Assignment Information				
6. Give possible times for students to meet with the instructor to discuss ambiguous assignments.	**61.3%**	3.2%	35.5%	0%
7. Use e-mail to summarize assignments and emphasize key elements.	**90.3%**	3.2%	6.5%	0%
8. Send reminders the night before or one day ahead of time.	**80.7%**	16.1%	3.2%	0%
9. Include "Assignment Change" in the subject line when appropriate.	**100.0%**	0%	0%	0%
10. Use e-mail to reiterate assignments, clarify, and list what is due.	**96.8%**	3.2%	0%	0%
11. Send one comprehensive e-mail explaining the assignment and reminding students about the due date.	**80.6%**	6.5%	12.9%	0%
12. Use e-mail just to clarify assignments.	**51.6%**	25.8%	19.4%	3.2%
13. Distribute assignments by e-mail. It saves paper.	16.1%	**67.7%**	12.9%	3.2%
14. Give handouts for assignments the old-fashioned way. Use e-mail strictly for reminders and not for additional information.	35.5%	48.4%	16.1%	0%
15. Use e-mail for clarifying assignments and reminding students about major assignments.	**87.0%**	6.5%	6.5%	0%
16. Most students do not start assignments more than two days in advance.	**70.9%**	19.4%	9.7%	0%
17. Send messages about changes and difficulties with assignments as soon as possible because many students like to work ahead.	**54.8%**	22.6%	22.6%	0%
18. Do not send important messages the night before an assignment is due without warning students in class to expect it.	**64.5%**	29.0%	6.5%	0%
19. Send an e-mail with a weekly syllabus. Include Web links for explanations of special assignments.	**67.7%**	22.6%	9.7%	0%
20. Send an e-mail every Sunday night listing the week's events. It could be just a summary of what's in the ClassPak [course materials].	**83.9%**	16.2%	0%	0%
Usage				
21. The tone of the e-mail should encourage questions.	35.5%	12.9%	**51.6%**	0%
22. Students check e-mail more often the ClassPak [course materials].	**87.1%**	9.7%	3.2%	0%
23. Remember that some students do not check e-mail daily.	45.1%	32.3%	22.6%	0%
24. Sometimes messages get lost in a student's mailbox.	45.2%	29.0%	25.8%	0%
25. Do not expect or ask for responses unless the message is sent to an individual student.	**58.1%**	16.1%	25.8%	0%
26. E-mail helps students feel that professors are accessible. Use e-mail to connect to students.	**83.8%**	6.5%	9.7%	0%
27. Few students will use e-mail to contact professors unless the professor shows a preference for it.	41.9%	35.5%	22.6%	0%
28. Only a few of my professors communicate by e-mail.	38.7%	**58.1%**	3.2%	0%
29. E-mail is a great way to communicate with professors since office hours can conflict with students' schedules.	**90.3%**	3.2%	0%	6.5%

Table 7 (continued). Student questionnaire results showing recommendations to faculty about teaching with e-mail (31 students). Responses over 50 percent are highlighted.

	Agree	Disagree	Indifferent	Omitted
Usage (continued)				
30. E-mail is a valuable teaching tool.	**90.3%**	3.2%	6.5%	0%
31. Since I do not usually print a copy of an e-mail message, I forget that it is there.	22.6%	**67.7%**	9.7%	0%
32. Tell students in class when an e-mail is going to be sent.	29.0%	22.6%	48.4%	0%
Frequency				
33. Avoid sending e-mail the day of an assignment.	**77.4%**	12.9%	9.7%	0%
34. Send a comprehensive e-mail four to five days before the assignment is due.	**64.5%**	22.6%	12.9%	0%
35. Using e-mail too often can become ineffective. Students may ignore professors' messages if sent too often. Ex.: Professor writes the whole group when any student asks a question.	**64.5%**	9.7%	25.8%	0%
36. Keep e-mails relatively informal, terse, and quite evenly spaced out in time, somewhat like a good TV show, such as *Moneyline* or *CNN*.	**71.0%**	3.2%	22.6%	3.2%
37. Be consistent. Do not omit sending e-mails when students might be expecting them.	**64.5%**	6.5%	29.0%	0%
38. Send lots of short e-mails.	22.6%	**58.1%**	16.1%	3.2%
39. Do not send too many e-mails.	**83.9%**	3.2%	12.9%	0%
40. Different types of messages require being sent at different frequencies.	48.3%	6.5%	45.2%	0%
E-mail and the Web				
41. Create a forum on the Web page for students to post questions and to allow students and the professor to respond.	32.3%	29.0%	25.8%	12.9%
42. Put schedule changes on the class Web page and maybe notify us by e-mail also. When students read e-mail, we don't always have our schedules with us; the Web is the easiest place to see a schedule.	**54.8%**	12.9%	22.6%	9.7%
43. Class Web pages are wonderful.	**54.8%**	9.7%	29.0%	6.5%
44. Only a few of my professors provide and use a class Web page.	**51.6%**	29.0%	12.9%	6.5%
45. In e-mail messages, provide Web links or attachments to show assignment examples.	**70.9%**	9.7%	12.9%	6.5%
46. Save e-mail for person-to-person communication and post messages to the entire class on the class Web page.	19.4%	**58.0%**	16.1%	6.5%
Miscellaneous (mostly about content)				
47. Do not send frivolous e-mails. We have enough as it is.	41.9%	16.1%	35.5%	6.5%
48. Notify students beforehand when there is a change in policy or grading. Many professors change policies and notify the class after the fact.	**90.3%**	3.2%	0%	6.5%
49. Include humor sometimes in your e-mail messages.	29.0%	9.7%	**51.6%**	9.7%
50. Do not e-mail tips on giving oral presentations after some students have already presented. It's not fair to the first group.	32.3%	45.1%	16.1%	6.5%