Email usage in academe: A profile of Hong Kong universities

C. Elliott
Hong Kong Baptist University

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Email Usage In Academe: A Profile Of Hong Kong Universities

Given the increased use of computer-mediated communication (CMC) and the varied channels it offers for the transfer of meaning, it is important to understand how CMC is being used and how it is affecting the use of other forms of communication. This article examines the usage of electronic-mail, as a form of CMC, among Hong Kong academics and whether it has changed their teaching and research profile; and interaction with their students.

Charles Elliott
Hong Kong Baptist University

Not long ago, definitions of computer mediated communication (CMC) simply included computer conferencing (of which computer bulletin boards were considered a part) and electronic mail (Williams, et.al. 1988:9). Barnes and Greller (1994:129) defined CMC as “when people use computer-networked systems to communicate to other people or to small groups of people.” But now, technological advances have broadened the scope of CMC to include mailing mailing lists, IRC, MUDs, and web sites among other things. Communication that is transmitted via these different channels may be scholarly, personal, business, interpersonal, group, organisational and mass (December 1996, p.24; Morris, M & Ogan, C., 1996, Winter).

December (ibid:24) amplifies the concept of CMC to involve “information exchange that takes place on the global, co-operative collection of networks using TCP/IP protocol suite and the client-server model for data communication.” He also notes that the distribution of CMC varies tremendously, encompassing a range of communication activities from person-to-person messaging (through e-mail) to server broadcasting (through a web site).

Given the increased use of CMC and the varied channels it offers for the transfer of meaning, it is important to understand how CMC is being used and how it is affecting the use of other forms of communication. Rice and Case (1983:132) note that CMC has the potential to extensively affect social and organisational structures and therefore “designers, vendors, organisational
managers, and users alike are becoming more aware of the need to understand and, where possible, control these impacts". This study examines how a specific form of CMC (e-mail) is used by individuals in a specific context (universities).

One of the most basic form of CMC is electronic mail. It offers fast, dyadic or multiple connections in a textual form that can be stored and manipulated and is not dependent on users being connected at the same place or time. Research indicates that its use affects changes in patterns of attention, social contact and interaction, social roles, interdependencies in organizations, perception, spontaneity, articulation, access, interactional cues and contextual cues. (Barnes and Greller, 1994:132; Lea, 1991; Sproull & Kiesler, 198:1509; Garton and Wellman, 1995:440).

Despite a well-developed literature on e-mail over recent years, there is a pressing need for cross-study comparisons (December, 1996:15-16). This study seeks to fill that need by considering e-mail use and its impact within the unique cultural domain of Hong Kong.

In recent years, researchers have attempted to understand how CMC affects the relationships academics have within academe. In terms of relationships with students, both the positive and negative implications of CMC have been discussed. On the negative side, CMC is seen as reducing and distorting the personalization associated with face-to-face contact (Case & Daley, 1983; Chesbro & Bonsall, 1989:120) and thus taking the joy out of student-teacher relationships with “technologies that displace, interrupt or minimize that relationship between teacher and child” (Cuban, 1986:60-61). The potential to use time in increasingly non-social behavior is discussed by Gratz and Salem (1984:100) who find CMC promotes an emphasis on self-reflection rather than social and cultural contexts.

On the whole, however, there are many more positive implications found in the literature. CMC is seen as either intrinsically neutral at the very least (Williams and Rice, 1983:204) or a fantastic means to open up access between students and professors to “successfully explore, experience, and better understand each other.” (Bailey and Cotlar, 1994:186). Feedback in this educational context becomes faster and more spontaneous (McComb, 1994:164; Bailey and Cotlar, 1994:187). Emotional as well as intellectual support can be provided (McComb, 1994:164; Parks and Floyd, 1996:82). The opportunity for faculty to assist students is expanded as “online availability amounts to electronic office hours, beyond the regular face-to-face times” (McComb, 1994:164). Artificial boundaries of the classroom as the arena of learning are broken by CMC and a radical change in teacher-student relationships becomes possible.
How CMC affects the way educators communicate with their peers has been considered by West (1994) who found that while teachers in Florida used electronic mail to communicate, they did so to a lesser degree than administrators, and they did not utilize this form of communication to share instructional materials. This theme of under-application of CMC in the university setting is cited in Foa's essay on technology and the future of higher education. Foa states that in order for universities to prosper in the future, changes in the way technology is applied must take place, especially to inculcate a sense of university community through electronic communication (Foa, 1993:28).

Foa pointed to the fear and resistance to the use of computers for communication and instructional purposes. He notes that teaching and learning need to be redefined to fit the opportunities possible with CMC and that fears of both faculty and students need to be allayed in the transitional process in the university setting (Foa, 1993:28). Educators are also found to have "a deep-seated conservatism, a reluctance to alter prevailing practices and use mechanical devices in classrooms" (Cuban, 1986:59) that makes them especially resistant to explore new technology (Bailey and Cotlar, 1994:185). This is especially true at senior faculty levels. Foa (1994:27) states in this regard that, "ironically, it appears that the full professor and those at the executive levels are the hardest to convince to take the lead in using technology, perhaps because many belong to the precomputer generation."

CMC is also seen in the literature to provide opportunities to expand the professional life of academics in other ways. As well as help with basic administrative functions of teaching, CMC allows educators access to experts through the Internet to supplement both teaching and research efforts (McComb, 1994:162). The Internet has become a place where ideas and the development of ideas can be discussed among people who share the same interest and levels of expertise. Shields (1996:3) notes in this regard that the "Internet has become the preferred venue for pre-publication of articles, the airing of views and testing of ideas."

However, while it appears that experience and integration of CMC to attract students, teach and interact with them, as well as conduct research and communicate with colleagues and experts is increasingly being recognized by the academy, this value has not yet reached the point where it practically affects the professional considerations impacting on promotion or tenure considerations (DeLaughry, 1994).

As educators increasingly adopt CMC as a means of enhancing their professional activities, is modification of other communication activities inevitable? How does the
implementation of electronic communication affect the way more traditional means of communication are used?

Hiemstra (1983:875) concludes that CMC, as a form of interactive communication, has, as a key feature, the intention to supplement or supplant communication that is now conducted by face-to-face, telephone, or hard copy written interaction. Garton and Wellman (1995:439) suggest that electronic communication may affect older forms of communication in three ways. It can act as a substitute form of communication that reduces the use of other forms of communication (Finholt, et.al., 1990). CMC can become an additional form of communication that increases the overall total communication. Or it can boost all types of communication activity (Bikson and Eveland, 1990).

Specific studies have explored changes in use of face-to-face (F-to-F) communication after the implementation of CMC and have generally found that subjects tend to use the communication means best suited to the task at hand: CMC for communication with greater shared context, F-to-F when interaction is important, for example (Zack, 1993).

Walther (1993) found that over time, differences between F-to-F and CMC decrease to a point where they are both relatively the same, confirming Zack’s idea of shared context being a basis for use of CMC. Rice and Case (1983:138-142) determined through their research in a university context that the implementation of CMC increased all kinds of communication contacts but among heavy users of CMC some decrease in the use of the telephone was noted.

Generally, the findings indicate that the implementation of CMC does not replace other forms of communication (McComb, 1994:169) but adds an additional new form that is used to meet specific communication needs as determined by the abilities and preferences of the communicator. As a result, while CMC is generally found to extend connectivity, it becomes integrated into a repertoire of available communication channels used by the individual academic.

The great majority of research conducted on CMC has been completed in a Western context. This is probably because the diffusion of computers as a form of communication has been most dramatic in the Western societies. Yet the computer as a means of communication is rapidly developing in other parts of the world and it is important to consider how “individuals or groups become aware of the new medium, decide to adopt it or decide to stay with that adoption” (Williams et.al., 1988:89).

Some research on the impact of CMC from a cross-cultural perspective has been conducted. Grupta (1990) looked at information technology as a whole and described how it was used
in the development of communication in India. A comparative study on the impact of CMC on the life professionals in the US and Bulgaria found both groups were in agreement on both the advantages and disadvantages of this form of communication (Domozetov, 1989). The effects of culture were seen to have a significant impact on the assessment of CMC.

In a study of CMC differences in the US and Japan, Straub (1994) found that on the basis of social presence and information richness, Japan rated electronic mail lower than fax transmissions in contrast to the US. The indications from this limited body of research is that potentially important differences may exist because of culture yet there is limited research exploring this realm in order to understand what the nature and extent of these differences might be.

Methodology

Given the lack of information from non-Western contexts on the use of CMC, this study was conducted to profile e-mail use in tertiary institutions in Hong Kong. The research questions posed were: (a) How do academics in Hong Kong use electronic mail? (b) How does e-mail affect other kinds of communication?

Survey research was used to question the practices and perceptions of CMC among university teachers in Hong Kong. The universe of individuals considered was all full-time teaching academics in Hong Kong universities. Cluster sampling was used to randomly select three of the seven government supported tertiary institutions in Hong Kong. The universities were University of Hong Kong, the Chinese University of Hong Kong, and the Hong Kong Baptist University. Current university bulletins for each of these three institutions were obtained and from them a sampling frame was developed. A simple random sample of 1/3 of all teaching staff was chosen from the sampling frame. The total number of active tertiary educators from these three universities was 2124 teachers. The sample contained 708 individuals.

The questionnaire was developed using previous literature to establish the questions. In addition, a number of the questions used in this research replicated an earlier study conducted in a university setting by Komsky (1991). The questionnaire was submitted to a panel of experts as well as pretested on similar subjects. Modifications were made from suggestions obtained from the panel and the pretesting results. A copy of the questionnaire was translated into Chinese so that subjects could receive the questions in the appropriate language. Only Chinese and English versions of the questionnaire were prepared since these two languages are the designated languages of instruction.
at universities in Hong Kong.

Interviewers were trained to use the survey instrument and, after practice sessions, conducted face-to-face interviews with the subjects. Interviews were conducted from December 1-15, 1995. Interviewers arranged an appointment to talk to each subject in their office. Each interview lasted approximately 15 minutes. A total of 491 interviews were completed successfully for a response rate of 69.4%. The questionnaires were coded, input into the computer and processed using SPSS.

The age distribution ranged from the mid-20s to age 65. Almost two-thirds of all subjects who responded were in the range of 36 to 50 years of age. A quarter were age 36 to 40. Less than 10% were older than 55 years of age. Only 21.4% of all subjects responding were female.

Hong Kong is an international city and academics from all over the world teach in its tertiary institutions. As a result, a variety of first languages was found among the subjects. In this regard, 62.9% noted Cantonese as their first language, 23.2% said English, 8.1% noted Mandarin and 5.1% noted one of a variety of other languages.

On the basis of title, most subjects were at the Lecturer/Assistant Professor level (45.6% of all respondents). Thirty-one percent of the subjects were Senior Lecturers/Associate Professors and 11% were Readers and Professors. Less than 7% were Assistant Lecturers or lower in rank.

When asked of their nationality (on the basis of their passport), the highest frequency of responses was for Great Britain (28.9%). Hong Kong was a very close second with 28.5% of all respondents listing this as their nationality. The People’s Republic of China accounted for 15.5% of all subjects’ national home, while 9.8% and 4.5% were the responses for those from the US and Canada respectively. 45.8% of all subjects were Asian nationals, 30.7% were European and 14.3% were North American.

The response rate of almost 70% is just short of representing one of every four people in the universe selected for this study. Of all the subjects responding, 21% said they were not connected to the Internet. Only 9.3% said they did not take advantage of their access to the Internet. Those not using their access may represent individuals who were connected by their respective departments or university and yet do not find a need or desire to make use of the resource provided them.

The individuals who were connected and did use their access were asked to note how long they had been connected. As indicated in recent reports about the general population connecting...
to the Internet (Who's on the net? 1995), academics in Hong Kong likewise have accessed the Internet in large numbers within the past year. One-third of all subjects interviewed indicated they had had their Internet connection for less than one year with 18.2% noting they had been connected for less than six months. Another third noted they had access for less than three years. However, one out of every five respondents noted they had access to the Internet for five years or more.

E-mail is one of the most popular applications of CMC and it was assumed that those connected to the Internet would utilize this means of communicating. That assumption was correct, with all but 2.6% of all respondents acknowledging their use of e-mail. It was interesting to find, however, that though very small, there was a group of people connected to the Internet and using that connection for something other than the unique form of communication that e-mail affords.

Table 1 summarizes the information gained about those subjects in the university who are not using electronic mail. It is very interesting to note that 30% of all respondents were not using electronic mail at all to enhance their professional or personal communication.

<table>
<thead>
<tr>
<th>Response</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not connected to Internet</td>
<td>69.1</td>
</tr>
<tr>
<td>Connected, Don't Use Internet</td>
<td>24.1</td>
</tr>
<tr>
<td>Connected, Do Not Use E-Mail</td>
<td>6.0</td>
</tr>
<tr>
<td>No Comment</td>
<td>0.8</td>
</tr>
<tr>
<td>(n=149)</td>
<td>100.0</td>
</tr>
</tbody>
</table>

A total of 343 people noted that they used e-mail and these people were asked how frequently they checked their mail. This question was considered important because an innovation in communication is only as good as the amount of use others are giving it (Williams et.al., 1988:72). If people don't check their e-mail regularly, then other means of communicating with them considered to be more reliable will be used.

A characteristic of e-mail that makes it attractive is its asynchronous nature, that is, one does not have to be connected with the other party in space or time, but rather the message is stored until the receiver accesses it. E-mail would not be a
legitimate channel of communication if accessing stored messages was not timely or consistent.

Table 2: How often do you check your e-mail in an average week?

<table>
<thead>
<tr>
<th>Response</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than once/week</td>
<td>4.1</td>
</tr>
<tr>
<td>Once or twice/week</td>
<td>8.2</td>
</tr>
<tr>
<td>3 times per/week</td>
<td>3.8</td>
</tr>
<tr>
<td>4 times per/week</td>
<td>2.9</td>
</tr>
<tr>
<td>5 times per/week</td>
<td>3.2</td>
</tr>
<tr>
<td>6 times per/week</td>
<td>0.9</td>
</tr>
<tr>
<td>Once daily</td>
<td>28.9</td>
</tr>
<tr>
<td>Twice daily</td>
<td>19.3</td>
</tr>
<tr>
<td>3+ daily</td>
<td>28.6</td>
</tr>
<tr>
<td>No Response</td>
<td>0.3</td>
</tr>
<tr>
<td>(n=343)</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Given this need for regularity and consistency, the results in Table 2 are interesting. A minority (4.1%) rarely takes advantage of e-mail as a form of communication, noting they checked it less than once a week. Almost a quarter of all subjects stated they did not check it daily. This represents almost one person in four in higher education in Hong Kong who was not receiving information on a consistent basis from local or international colleagues, organizations or institutions. With increasing information being transmitted electronically both within universities and from external professional sources, a potentially large segment of the academic community doesn't know what it doesn't know.

Table 2 does show, however, that the majority of respondents did check their mail at least once daily and 28.6% noted that they checked it several times each day. This may be because e-mail offers rapid transfer of messages which makes it possible to send a message, receive a reply and then respond to the reply all within a very short period of time. As academics perceive the value of this rapid interchange as well as other advantages of this unique form of communication, more frequent use of this channel will naturally occur. And, as more faculty members gain access from their homes, the frequency of checking mail will probably increase.

When asked where they primarily used e-mail it was found...
that few academics were accessing from home. Less than 5% said they used a home access and among this group it was not known who were connecting to the university system by modem or who was using a commercial server independent of the university. Over 90% noted that the office was where they sent and received e-messages while just about 5% said they were using e-mail both at the office and at home.

In order to understand the flow of communication moving through e-mail, subjects were asked whether they sent or received more messages in a typical week. As Table 3 shows, most respondents (47.7%) said the flow was relatively well balanced; that is, they were getting about the same amount as they sent. This is consistent with a general use of e-mail as a person-to-person form of communication. Like letters, when a message is sent to another person, a reply is usually expected. In fact, the reply function makes it very easy and convenient to create a quick response.

An interesting finding is that a very large proportion of respondents said they received more messages than they sent. This is probably due to the fact that a great amount of specialized requested information is available through listservers which transmit information to the e-mail addresses of subscribers. Individuals who subscribe to several of these are likely to be inundated over time with a potentially large number of messages awaiting attention in their mail boxes. Finally, it is clear that most educators are not, by their own perception, sending out more messages than they receive. So, the amount of information coming to a large proportion of academics appears to be more than is being transmitted by them, but the nature of this information flow, the quality behind the quantity needs further exploration.

<table>
<thead>
<tr>
<th>Table 3: In an average week, do you send or receive more messages?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response</td>
</tr>
<tr>
<td>Send more than receive</td>
</tr>
<tr>
<td>Receive more than I send</td>
</tr>
<tr>
<td>Send about as many as I receive</td>
</tr>
<tr>
<td>No Response</td>
</tr>
<tr>
<td>(n=343)</td>
</tr>
</tbody>
</table>

One major advantage of e-mail is that it allows fast and relatively free access to people who are distant. For members of
the academy, this means the potential ability to seek advice, draw upon expertise, clarify information, connect with like-minded researchers, and, by so doing, radically enhance all aspects of their professional life. For members of tertiary institutions in Hong Kong, this is especially meaningful, given the limited number of tertiary institutions in the territory and the physical distance from colleagues abroad.

To understand how educators were using their e-mail access, subjects were asked to note the location where the majority of their messages originated. Almost one-third of all respondents said their e-mail was from local contacts. Another third noted that most of their messages originated from North America. This was interesting given the profile of the subjects. Only 14.3% of academics in Hong Kong surveyed noted North America as their national home and yet 33.2% of the sample said most of their messages came from North America. In contrast, 30.7% of the sample listed their national identity as European but only 9% said that was where the bulk of their messages originated.

<table>
<thead>
<tr>
<th>Location</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local (HK)</td>
<td>30.0</td>
</tr>
<tr>
<td>Asia</td>
<td>3.0</td>
</tr>
<tr>
<td>N. America</td>
<td>33.2</td>
</tr>
<tr>
<td>Europe</td>
<td>9.0</td>
</tr>
<tr>
<td>Australia/N.Z.</td>
<td>2.0</td>
</tr>
<tr>
<td>Variety of different places</td>
<td>21.3</td>
</tr>
<tr>
<td>Other</td>
<td>1.7</td>
</tr>
<tr>
<td>(n=343)</td>
<td></td>
</tr>
</tbody>
</table>

This may be the case for several reasons. First, the US has developed Internet communication faster and more extensively than any other place in the world and so there is more to access. Second, a large number of professional listservers originate from the US. Also, with tensions over the future of Hong Kong, Canada has become a popular place of emigration. Connections to family and friends who have moved to North America may be creating the bulk of the traffic from this geographic region.

Four different communication activities were specifically studied as indicated in Table 5. Subjects were asked how they
Table 5: Type Of Changes In Other Communication Behaviour After E-Mail (%)

<table>
<thead>
<tr>
<th>MEDIUM</th>
<th>GREAT DECREASE</th>
<th>SLIGHT DECREASE</th>
<th>NEUTRAL</th>
<th>SLIGHT INCREASE</th>
<th>GREAT INCREASE</th>
<th>N/A</th>
<th>DON'T KNOW</th>
<th>TOTAL (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letters</td>
<td>22.3%</td>
<td>32.2%</td>
<td>35.9%</td>
<td>4.9%</td>
<td>2.0%</td>
<td>0.0%</td>
<td>2.6%</td>
<td>100% (N=343)</td>
</tr>
<tr>
<td>Telephone</td>
<td>12.5</td>
<td>29.6</td>
<td>53.0</td>
<td>1.4</td>
<td>0.6</td>
<td>0.0</td>
<td>2.9</td>
<td>100% (N=343)</td>
</tr>
<tr>
<td>Colleagues</td>
<td>3.3</td>
<td>3.6</td>
<td>54.1</td>
<td>21.8</td>
<td>12.8</td>
<td>0.0</td>
<td>4.1</td>
<td>100% (N=343)</td>
</tr>
<tr>
<td>Students</td>
<td>0.6</td>
<td>2.0</td>
<td>70.0</td>
<td>14.8</td>
<td>2.6</td>
<td>7.8</td>
<td>2.0</td>
<td>100% (N=343)</td>
</tr>
</tbody>
</table>

Table 6: Preference For Other Types Of Communication Over E-Mail

<table>
<thead>
<tr>
<th>MEDIUM Preferred Over E-Mail</th>
<th>STRONGLY AGREE</th>
<th>AGREE</th>
<th>NEUTRAL</th>
<th>STRONGLY DISAGREE</th>
<th>DISAGREE</th>
<th>NO RESPONSE</th>
<th>TOTAL (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone</td>
<td>41%</td>
<td>16.3%</td>
<td>34.4%</td>
<td>31.2%</td>
<td>13.4%</td>
<td>0.6%</td>
<td>100% (N=343)</td>
</tr>
<tr>
<td>Fax</td>
<td>47%</td>
<td>9.0%</td>
<td>31.5%</td>
<td>41.4%</td>
<td>13.4%</td>
<td>0.0%</td>
<td>100% (N=343)</td>
</tr>
<tr>
<td>Letter</td>
<td>12%</td>
<td>4.1%</td>
<td>24.8%</td>
<td>45.7%</td>
<td>23.9%</td>
<td>0.3%</td>
<td>100% (N=343)</td>
</tr>
<tr>
<td>F-to-F</td>
<td>12.3%</td>
<td>32.9%</td>
<td>28.9%</td>
<td>19.5%</td>
<td>6.1%</td>
<td>0.3%</td>
<td>100% (N=343)</td>
</tr>
</tbody>
</table>
Changes In Communication Behaviour

perceived their use of communication via posted mail and telephone had been affected by electronic mail. Also, they were requested to tell what changes (if any) had resulted in their communication relationships with students and colleagues.

Table 5 shows that, for a large proportion of subjects using e-mail, both regular posted mail and use of the telephone were both seen to decrease since the addition of the new channel of communication. More than half of all respondents (54.5%) said there was a decrease in their use of posted mail with 22.3% saying that decrease was great. Only about 7% said there had been an increase of use of posted mail and a little more than a third of all respondents noted no real change in the use of this form of communication.

A decrease in the use of telephone communication was noted by 42.1% of all respondents, but most noted that this change was a slight one. Indeed, more than half (53%) of all respondents said there was no change in their use of telephone communication with the inclusion of e-mail as a form of communication. Only 2% of all subjects said their telephone communication had increased after the addition of electronic mail. So, e-mail seems to have displaced regular mail but has only resulted in a slight decrease in telephone use for those noting a change.

In terms of having an impact on their relationships with others in the university, respondents were asked if, after the introduction of e-mail, their communication with colleagues and students increased, decreased or stayed the same. The majority of respondents said in both cases that they perceived no change in the amount of communication with either colleagues or students (54.1% and 70%, respectively).

However, a little more than one-third of all respondents said that there was an increase in the communication they had with colleagues. This supports the idea noted in the literature that academics are utilizing CMC to contact those of similar interest through the Internet for a variety of different reasons. The fear that CMC might take people away from other people does not seem to be indicated in these results as only 8.8% of all subjects said their communication with colleagues had decreased.

While members of academe in Hong Kong are reaching out to a limited degree through electronic means to establish and develop more contacts with their peers, e-mail was not found to stimulate more communication with students. This is not to say that computers aren’t being used to communicate with students, but rather that the overall impact of the computer as a means of communication was not found to expand office hours or increase contact.

Subjects were asked their preference for several different
means of communication. Table 6 notes about one in five agreed they preferred using telephone communication rather than e-mail. More than twice as many (44.6%) however, disagreed, noting that e-mail was preferred generally over telephone communication. This may be because the asynchronous nature of e-mail gets through to people and does not require trying to track them down with lots of returned calls only to ultimately get through to a gatekeeper (Barnes and Greller:131). Also evident was the fact that one-third of the subjects expressed no preference for telephone or e-mail.

On the preference for fax over e-mail, an even stronger indication for e-mail is apparent. Only 13.7% of the subjects said they preferred fax over e-mail while more than 50% said e-mail was the preferred of the two means of sending messages. A little less than one-third noted no preference. This is interesting because in cross-cultural studies of CMC, Japan preferred the fax over e-mail while the US, similar to the findings here, chose e-mail over fax.

More research is needed to understand why individuals in Hong Kong with as much fax experience as their Japanese counterparts still find e-mail more appealing. Perhaps it is the nature of the subjects that makes the difference. Straub's study of the Japanese did not specifically consider an educational context, while this research does focus on individuals within tertiary institutions. For the Japanese, especially business people, the fax may be considered more efficient, while for academics, seeking direct communication with private individuals may make e-mail more appropriate.

Finally, it appears that when choosing between F-to-F communication and e-mail, most academics in Hong Kong said they would prefer direct personal contact. Forty-five percent of all subjects held this preference. Yet what is amazing here is that when given this choice, 25.6% said they would opt for electronic communication and 28.9% said they had no preference between these two means of communication.

The literature on media richness and social presence indicates that when people have the choice in communication situations, more media richness and increased social presence is generally selected. Why then did a quarter of all respondents choose a medium with less media richness and social presence and almost 30% more express no preference? The character of the subjects may have something to do with this. There are many lecturers in the universities in Hong Kong who are not native speakers of the Cantonese dialect. This not only includes foreigners from North America and Europe, but also Mandarin speaking faculty from Taiwan and the People's Republic of China. For these
balance in the sending and receiving of their messages. For almost half of the subjects in this survey, e-mail seemed to be working as an even exchange of content.

In the case where the subjects are receiving more than they send, it may be because they are receiving messages assigned to their e-mailboxes from lists to which they have subscribed. This indicates that academics may be using electronic mail in two basic ways: as a simple message transfer from person to person and as a data collection means, tapping into specific interest groups that enlighten them about their field, link to experts for research ideas, provide professional announcements and more. More research on the content of academics' e-mail is needed to understand this.

Messages were received mainly from abroad (chiefly North America) by a majority of subjects. This finding has interesting implications from an international communication point of view. The United States has long been seen by much of the rest of the world as a threat to political and cultural sovereignty because of its overwhelming dominance in the flows of news and entertainment content. Now it seems that dominance is continuing in this relatively new channel of communication. International communication scholars need to be aware that flows of information now include more than films, television programming and news. And the opportunity for potential influence may be more significant via CMC since it is such a personalized medium of communication.

The results also indicated for the academics, e-mail seems to decrease the use of regular posted mail. A plausible cause is both electronic and regular mail are both written forms and e-mail has the advantage of speed and directness in delivery. Posted mail takes much longer and may pass through any number of gatekeepers before reaching a designated source. Even so, more than a third of all subjects using e-mail expressed no increase or decrease in their use of regular mail after gaining e-mail access. Again, this may be because despite what electronic mail is capable of (eg. transmission of research papers to a journal), what is actually being practised may be totally unchanged from procedures used in the past (eg. hard copies sent by regular or express mail). So, while academics may prefer e-mail over regular mail, they may not as yet be able to escape the necessity of using posted mail in their professional activities.

While a majority of subjects said their use of the telephone had not been affected by electronic mail, about 30% said there had been a slight decrease in their use and 12.5% said there had been a great decrease in use. Less than 15% said they preferred the telephone over e-mail yet it seems that for over half of the respondents this preference had not manifested itself in a practical
change at this time. The telephone, like regular mail, may still be serving a specific communication purpose that will ensure its continued use as part of a repertoire of communication channels available to academics.

Similar to the findings for the US in Straub's research (1994), the academic community in Hong Kong preferred electronic mail over facsimile transmitted messages. This may be because of the directness of e-mail over faxed information. Faxes may arrive at commonly shared machines and therefore confidentiality may be severely compromised.

Subjects were probed to see how electronic communication was affecting social relationships in the university context. The potential existed, the literature indicated, for academics to lose touch with people as they fulfilled their basic responsibilities via computer-mediated communication. The literature on media richness and social presence (Schmitz and Fulk, 1991) indicated that nearness to people and increased sources of communication from a source as being highly desirable might work against this tendency.

Surprisingly, only 45% of all the subjects using e-mail in this study indicated a preference for face-to-face communication. About 29% of the users of e-mail had no preference for either face-to-face communication or e-mail and a quarter actually preferred e-mail over face-to-face. This is remarkable, given the limits on communication interaction that come with electronic messaging as well as the traditional reliance on interpersonal communication by educators.

Individuals who are not native Cantonese speakers may find the written restriction of electronic communication provides a clearer, more controlled means of communication. Nonetheless, the potential to lose touch with students through computer-mediated communication is a distinct possibility and should be carefully considered in future research.

Does electronic mail increase the amount of interaction between teachers and students? This study indicates that this is not the case. While the literature paints a rosy picture of what is possible via CMC to establish better relationships between teachers and students, in the real world of Hong Kong, this doesn't appear to be happening right now. This finding should not be used to simplistically blame academics for this situation. The use of electronic communication by even the most prolific electronic educator will be in vain if students do not incorporate e-mail into their own set of consistently used communication channels.

A majority of academics said their exchanges with colleagues was unaffected by the use of e-mail. Yet a large portion of those who did note a change indicated an increase in
communication behavior. This may indicate the beginnings of a movement to exchange ideas among people of the same interest and expertise in academe and should be monitored to determine if e-mail is indeed becoming a meeting place for academic ideas.

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Charles Elliott, PhD is lecturer at the Department of Communication Studies, Hong Kong Baptist University. Email contact: c.elliott@hkbu.edu.hk