Abstract

Motivated by the increasing popularity of computer-mediated communication (CMC) technologies in university students learning, this study investigated students’ motivations for using CMC technologies in their learning. Fifteen university students were interviewed using the Repertory Grid Technique (RGT) in order to elicit needs that they fulfill when choosing CMC for communication in their learning. Using ground theory approach, these elicited data were then classified into 8 categories: interpersonal/social utility, convenience, information seeking, connectivity, content management, social context cues, problem solving, and multimedia. We describe these eight categories and the paper concludes with a discussion of the importance and implications of understanding factors affecting students’ technology use in the contemporary media environment.

Keywords: Adoption, Media choice & use, ubiquitous computing, Computer-Mediated Communication (CMC), Uses and Gratifications (U&G) perspective, Repertory Grid Technique (RGT)

1 INTRODUCTION

Compared to general population, university students are the heaviest Information and technology users (Aiken et al. 2003; Hoffman et al. 2004; Parker et al. 2000). Many of the university students are already working collaboratively with other students via CMC technologies, such as email, instant messaging (IM), forums, and many other computer-mediated applications. Internet-based CMC technologies have become the integral part of university students’ education and have actually enhanced their educational experience (Hoffman et al. 2004).

However, despite the widespread use of these technologies among university students, we have little knowledge about what motivates their use of a particular type of communication technology or another. Little scholarly research has been carried out investigating the personal and social attributes that affect why students use CMC (Papacharissi et al. 2000). Although a good number of studies have provided insights into the nature of CMC or effect of CMC on individual media use behavior (Baltes et al. 2002; DeSanctis et al. 1994; Rice 1987; Steinfield 1992; Walther 1997; Weisband et al. 1995), these were mainly conducted from an organizational perspective. Few researchers have systemically examined CMC impact or effect in university contexts (Kuehn 1994). As Kuehn (1994) notes, “indeed, it is somewhat ironic that many of the studies cited above examined computer communication variables using college students, often in classroom situations using computer-assisted instructions.” (p.172)
Further, due to the increased popularity of being a communication tool of the Internet, it is not surprising that many researchers have examined why and how people use Internet for communication. However, most of them have studied Internet in general. Different components of the Internet are functionally different from each other. Each of these technologies has its own usage conditions and therefore, each should be analyzed in its own right (Baron 2004; LaRose et al. 2004). Although the uses and gratifications (U&G) perspective to the studies of media choice offers some insight into the reasons why people adopt a new medium when it becomes available, they are limited by the fact that their focus has been on only one medium at a time (Flanagin et al. 2001).

By employing the U&G approach, this study examined university students’ motivations for using CMC technologies. A better understanding of factors influencing students’ technology use would be useful for university policy-makers regarding the implementation of information technology for student use in a university setting. It would also assist our educators in finding ways to effectively use CMC technologies in their teaching. Also university students today can be expected to be tomorrow’s business executives and they will carry their perceptions of media with them into the workplace. Thus, understanding their motivations for using different technologies is of importance for a rigorous examination of the new information technologies’ development, use and social effects (Flanagin et al. 2001).

We begin this paper by first exploring various functions of CMC technologies. Then we discuss the uses and gratifications perspective which is employed to examine students’ motivations for using CMC technologies in their learning. Next we outline RGT process, a technique used to collect our data. Our research method and data analysis technique are introduced next. After discussing our results, the paper concludes with a discussion of the importance and implications of understanding factors affecting students’ technology use in the contemporary media environment.

2 COMPUTER-MEDIATED COMMUNICATION

For the purpose of this study, CMC is defined as any form of interpersonal communication that uses some form of networked telecommunications systems to create, transmit, store, annotate, and present information. Common applications of CMC are email, bulletin boards systems (BBS), audio/video-conferencing, white board, news group, chat rooms, IM, listervs, groupware, world wide web (WWW), and other forms where communicating is the primary intent. Characteristics of these systems that have implications for organizational communication include: feedback, asynchronicity/synchronicity, electronic transmission and storage of information, structuring of communication, connectivity and integration (Rice 1984). Through these characteristics CMC systems have been shown to reduce delays in information exchange, improve maintenance of records and information received, increase coordination of geographic dispersed groups, and improve users’ capabilities to process large amounts of information (Baltes et al. 2002; Kettinger et al. 1997; King et al. 1997).

CMC technologies have been described as lacking nonverbal cues (Walther et al. 1995), lacking social presence (Short et al. 1976) and is less rich than face-to-face (Daft et al. 1986), which affect the nature of interpersonal interaction via the medium. Other researchers, however, have argued for the existence of computer-mediated interaction where lean media have been used effectively for social interactions (Rice et al. 1987; Sproull et al. 1986). Also research shows that much CMC conveys nonverbal cues in terms of chronemic cues (Walther et al. 1995). Walther and Tidwell (1995) argue that CMC systems can support a range of relational interactions resulting in a variety of perceptions, each of which can become more or less pronounced over time.

In addition, Newhagen and Rafaei (1996) offer five defining technical qualities of communication on the Internet: multimedia, hypertextuality, packet switching, synchronicity, and interactivity, which are not commonly associated with traditional media. Those special attributes of Internet technologies have make it possible for them to offer image and voice in addition to text, to allow users to explore related information in other documents, to be capable of both synchronous and asynchronous communication,
and to provide highly interactive communication environment. Thus, communication through Internet can possess both interactive/social and informational/task-oriented dimensions for users (Papacharissi et al. 2000). Relational dimension limitations of CMC have overcome through adaptive message strategies (Flaherty et al. 1998). People can use various communication functions of the Internet, such as email, bulletin boards, discussion groups, and chat rooms, to fulfill different needs.

3 USES AND GRATIFICATIONS PERSPECTIVE AND CMC USE MOTIVATIONS

Derived from the mass communication literature, the U&G approach provides a user-centred perspective on the relation between users and media. The U&G perspective focuses on explaining the social and psychological motives that shape why people use the media and that motivate them to select certain media in order to gratify a set of psychological needs behind those motives (Katz et al. 1974; Rubin 1994).

According to Katz et al (1974), one basic assumption of this approach is that media users are goal-directed in their behavior, and the personal use of media is an active choice made to satisfy needs. The second assumption of this approach is that media users are aware of their needs and select the appropriate media to gratify their needs. The U&G approach has been considered a useful vehicle to explore why people are engaged in one specific mediated communication or another, and what they get from it (Newhagen et al. 1996; Ruggiero 2000). Media studies that have taken a U&G approach have focused on a number of media, such as television, VCR, telephone, cable TV, and the Internet (Ruggiero 2000). Indeed, the U&G approach has been used to investigate users’ motivations or reasons of using a particular mediated communication medium whenever a new technology becomes available (Elliott et al. 1987).

The characteristics of active choice of media and user-centred nature make the U&G approach particular useful for understanding motivations to use Internet in general, CMC in particular (Kuehn 1994; Morris et al. 1996; Ruggiero 2000). Numerous studies have applied the U&G approach to the Internet. Garramone and Anderson’s pioneering work (1986) on electronic political bulletin boards indicated that the need for surveillance, personal identity and diversion were equally explanatory in that context. Korgaonkar and Wolin (1999) established five motivation factors for the web users: escapism, information control, interactive control, socialization, and economic motivations. Papacharissi and Rubin (2000) also developed a scale of Internet usage motives that consisted of five primary dimensions: interpersonal utility, pass time, information seeking, convenience, and entertainment. Stafford and Stafford (2001) identified five key underlying dimensions of web use motivations: searching, cognition, new and unique, socialization, and entertainment. By employing exploratory and confirmatory factory analysis, Stafford et al (2004) identified an important new Internet-specific social gratification, as well as process and content gratifications as previously found in studies of television. Other new gratification dimensions have included: problem solving, persuading others, relationship maintenance, status seeking, and personal insight (Flanagin et al. 2001). Collectively, the U&G perspective has been very useful in understanding motivations and needs for using the Internet.

As communication technologies become more ubiquitous in university students interactions, some important questions are raised: how do they use these technologies? What are their motivations for using one over another? Studies focusing on students technology use found that students sometimes had different motivations for using the technologies (Parker et al. 2000). For example, Vicent and Basil (1997) found that college students’ use of news media and surveillance needs increased with year in college. They also found that increasing surveillance needs resulted in increased use of all news media. By employing the U&G perspective to explore the media habits of college students in the context of the new media, Parker and Plank (2000) found that students did not abandon traditional
forms of media for the Internet. They also found that the key predictors of college students’ online usage were relaxation and escape.

These studies discussed above, however, examined motivations for using the Internet in a very general way, although recognizing various functions of the Internet (Parker et al. 2000). Cross-media studies suggest that motivations for using media are also associated with specific channels (Dobos 1992). In addition, most of them examined Internet motivations with previously defined mass media gratifications items instead of identifying the gratification uniquely associated with Internet technologies used by students in the university contexts. Knowledge of the motivations associated with CMC technologies, therefore, is an important first step in describing and explaining use of the CMC technologies in the university context.

4 REPERTORY GRID TECHNIQUE

Kelly (1955) developed the repertory grid interviewing technique (RGT) in 1955 to study personal construct systems. Kelly argues that individuals use their own personal constructs to understand and interpret events that occur around them and that these constructs are influenced by each individual’s background, personal experiences, beliefs and value systems (Napier et al. 2007). The RGT involves the generation of a list of concepts (elements) about things or events to be studied and the forming of attributes (constructs) based on the list of concepts (Zhang et al. 2001). It is a structured interview process with procedures for uncovering the cognitive constructs of individuals (Tan et al. 2002), and has been widely used in organizational and IS research (Napier et al. 2007). In IS research, this technique has been used in developing expert systems (Phythian et al. 1992), elicit qualities of excellent system analysts (Hunter 1997), explore the cognitive thinking of business and IS executives, and more recently, examine the skills of successful IT project managers (Napier et al. 2007).

The use of RGT is suitable for research in the area of CMC use motivation for the following reasons. First, RGT is a method that avoids the use of a priori adoption of a theoretical framework. Since the categories emerge from the data through the identification of emerging themes, it provides a way of doing research into problems in a more precise, less biased way than any other research method (Stewart et al. 1981). Second, this technique allows participants to express their views in their own words and yet, due to its systematic nature, allows researchers to probe deeper into the responses to derive richer information. This facilitates better understanding of participants’ perceptions and aids in the analysis of data. Finally, the data obtained from RGT is rich enough to enable a thorough examination of content elicited by each individual’s construct system (Hunter et al. 2000).

5 RESEARCH METHODOLOGY

5.1 Sampling

Given the intensive nature of the RGT, a relatively small sample size of about 15-25 participants are capable of eliciting a comprehensive list of constructs (Tan et al. 2002). The sample of intended subjects (university students) who participated was a convenience sample based upon personal and professional contacts of the researchers. A total of 15 current university students, 9 men and 6 women, agreed to participate in this study. All participants have been attending their respective universities for at least 6 months with an average of 4 years of university experience. All of the participants have had experience of Internet usage for at least 5 years and are considered to be computer literate. Table 1 below provides students’ demographic information.
5.2 The Repertory Grid Interview Procedure

Prior to the main interviews, pilot interviews were conducted with three university students who were all experienced with the using of CMC in the university context. As a result, we were able to standardize the RGT interview process and confirm our procedures for the actual interviews. The major steps involved in the interview are outlined below.

5.2.1 Setup

The interview started with a briefing by the researcher outlining the project purpose and interview instruction. To reduce researcher’s bias, briefing instructions were read from prepared notes to ensure all participants received the same quality of information. Then participants provided demographic information and media use experience, and indicated whether voice recording would be allowed. Participants were informed that all information collected from the interview was used solely by the researchers for the purpose of this research. Finally, participants were made aware of their ability to terminate or revoke the interview at any time. Upon signing the informed consent form, voice recording was initiated.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Academic Year</th>
<th>Study Major:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>21-25</td>
<td>4th</td>
<td>Computer Science</td>
</tr>
<tr>
<td>Female</td>
<td>21-25</td>
<td>4th</td>
<td>Business Information Technology</td>
</tr>
<tr>
<td>Male</td>
<td>21-25</td>
<td>4th</td>
<td>Computer Science</td>
</tr>
<tr>
<td>Male</td>
<td>21-25</td>
<td>6th</td>
<td>PHD in Information Systems</td>
</tr>
<tr>
<td>Male</td>
<td>26-30</td>
<td>1st</td>
<td>Security Terrorism and Counter terrorism</td>
</tr>
<tr>
<td>Female</td>
<td>16-20</td>
<td>3rd</td>
<td>Environmental Engineering / Politics</td>
</tr>
<tr>
<td>Male</td>
<td>21-25</td>
<td>5th</td>
<td>Environmental Engineering</td>
</tr>
<tr>
<td>Male</td>
<td>21-25</td>
<td>4th</td>
<td>Business Information Technology</td>
</tr>
<tr>
<td>Male</td>
<td>21-25</td>
<td>4th</td>
<td>Information System Management / Marketing</td>
</tr>
<tr>
<td>Male</td>
<td>21-25</td>
<td>3rd</td>
<td>Telecommunications Engineering / Commerce</td>
</tr>
<tr>
<td>Female</td>
<td>16-20</td>
<td>2nd</td>
<td>Business Information Technology</td>
</tr>
<tr>
<td>Female</td>
<td>21-25</td>
<td>4th</td>
<td>Mathematics</td>
</tr>
<tr>
<td>Female</td>
<td>21-25</td>
<td>4th</td>
<td>Computer Science / Commerce</td>
</tr>
<tr>
<td>Female</td>
<td>26-30</td>
<td>7th</td>
<td>Master of Technology Management</td>
</tr>
</tbody>
</table>

Table 1: Interview Participants’ Demographics

5.2.2 Element Selection

Element selection aims to identify subjects within the domain of the investigation. The relevant elements for this study are CMC technologies used by the students. The definition and examples of CMC technologies were provided to the participant. In order to provide sufficient triads for use in the next step, each participant was encouraged to identify at least five commonly used and functionally unique CMC technologies for their university learning. For the purpose of this study, university learning communication behavior is defined as any interaction with lecturers or peers which may include discussion, research, consultation, individual and group work or relationship building. Four additional non-computer mediated communication media were supplied by the researcher as additional elements: Face-to-face, telephone, mobile and Short Messaging Service (SMS), if participant indicated that these four communication media were part of the channels used in the learning context. These four communication media represent researcher-supplied elements to measure and compare the differences between CMC and non-CMC communication media (Tan et al. 2002).
5.2.3 **Construct Elicitation**

Constructs are the qualities that people attribute to the elements. Constructs are bipolar in nature. They describe how some elements are alike and yet different from others (Tan et al. 2002). Two interviewing methods, “triading” and “laddering”, are employed to elicit constructs. Triading involves the participant randomly selecting three elements (communication media). Then constructs were elicited by asking participant to identify, how two of them were similar and different from the third, in terms of reasons for using them for communication. Participants were encouraged to provide a brief label that best described the motivation and its contrast. The labels for similarity and difference identified form a bipolar construct, e.g. easy to access—difficult to access. In the laddering process, the researcher probed the participants with a series of ‘how’ and ‘why’ questions to clarify the meaning and uncover the underlying assumptions. For example, where participants identified ‘seeking information’ as the construct, they were asked “How is it good for information seeking?” The elicitation process was then repeated to identify more constructs until either no any new constructs can be elicited from a triad or the participant became noticeably tired.

5.2.4 **Data Analysis Technique**

Using RGT, participants were allowed to freely choose both their elements for comparisons as well as their constructs of interest. Among a few data analysis techniques recommended to interpret data from the RGT, we selected content analysis, a technique that allows us to create thematic categories from the constructs described in the interview (Neuendorf 2002). For the categorization of constructs, an adjusted generic core-categorization procedure outlined by Jankowicz (2004) was used. Briefly, this process involved identifying the categories and allocating the constructs to them, establishing the reliability of the category system, and summarizing the categories. The interpretations and labels assigned to each category were informed by literature on communication media characteristics and motivations for using them.

However, before content analysis can be applied, we wanted to consolidate raw constructs with the same underlying ideas. This data reduction process included consolidating constructs with different phrases but obvious connections, and combining constructs with similar phrases provided by the different participants.

6 **RESULTS AND DISCUSSION**

By design, the repertory grid interview process adopted in this study allowed participants to freely voice their opinions to achieve the greatest construct elicitation effect. As a result, the 15 interviewees provided a total of 298 raw comments. For the purpose of data analysis, we first consolidated raw comments for each individual participant by combining comments that were expressions of the same underlying idea, resulting in 232 unique statements. Then, these 232 statements were content analyzed by following the generic content analysis procedure for RGT outlined above. The first two authors worked together to identify the categories. Based upon their semantic similarities, 232 statements were consolidated into 31 unique constructs or motivations. These were, then, collapsed into 8 large categories based upon semantic correspondences. Then the definitions for each of them were provided. The third author verified that the categories made conceptual sense. Table 2 shows the 8 resulting motivation categories and mapping of unique constructs to them.

6.1 **Interpersonal/Social Utility**

The interpersonal/social utility category refers to how people use CMC to maintain relationship with others. Our study found that students used CMC for communication because CMC allowed them to build social relationship with others. 12 out of 15 participants indicated that using CMC is easy for
<table>
<thead>
<tr>
<th>Motivation Category</th>
<th>Unique Construct Identified</th>
<th># of participants mentioning this construct (N=15)</th>
<th>Comment Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal/ Social Utility (total 70 statements)</td>
<td>Real-time communication</td>
<td>12</td>
<td>Synchronous communication</td>
</tr>
<tr>
<td></td>
<td>Quick response</td>
<td>12</td>
<td>Can get feedback quickly</td>
</tr>
<tr>
<td></td>
<td>Control who the receiver is</td>
<td>12</td>
<td>Know who you will talk to</td>
</tr>
<tr>
<td></td>
<td>Information sharing</td>
<td>9</td>
<td>Can share information with others</td>
</tr>
<tr>
<td></td>
<td>Formal interaction</td>
<td>8</td>
<td>Formal or informal conversation</td>
</tr>
<tr>
<td></td>
<td>More personal</td>
<td>7</td>
<td>Close catch, feel personal touch</td>
</tr>
<tr>
<td></td>
<td>Sociability</td>
<td>6</td>
<td>Help maintain social relationships</td>
</tr>
<tr>
<td></td>
<td>Less intrusive for receiver</td>
<td>4</td>
<td>Try not to be too intrusive for receiver</td>
</tr>
<tr>
<td>Convenience (total 48 statements)</td>
<td>Accessibility</td>
<td>10</td>
<td>It is easy to access</td>
</tr>
<tr>
<td></td>
<td>Cost</td>
<td>10</td>
<td>It is cheap</td>
</tr>
<tr>
<td></td>
<td>Mobility</td>
<td>9</td>
<td>You can carry it with you</td>
</tr>
<tr>
<td></td>
<td>Easy to use</td>
<td>8</td>
<td>Easy to use</td>
</tr>
<tr>
<td></td>
<td>Speed</td>
<td>6</td>
<td>Quick to communicate with people</td>
</tr>
<tr>
<td></td>
<td>Guarantee delivery</td>
<td>5</td>
<td>Sure that message is delivered</td>
</tr>
<tr>
<td>Information Seeking (total 30 statements)</td>
<td>Detailed information</td>
<td>10</td>
<td>Provide detailed information</td>
</tr>
<tr>
<td></td>
<td>Various sources of information</td>
<td>7</td>
<td>Get opinions from different sources</td>
</tr>
<tr>
<td></td>
<td>Broad range of information</td>
<td>7</td>
<td>Provide broad range of information</td>
</tr>
<tr>
<td></td>
<td>Reliable information</td>
<td>6</td>
<td>Information provided is reliable</td>
</tr>
<tr>
<td>Connectivity (total 24 statements)</td>
<td>One to many communication</td>
<td>9</td>
<td>Can have group discussion and collaboration</td>
</tr>
<tr>
<td></td>
<td>Geographic distance</td>
<td>6</td>
<td>Can talk to people no matter where they are</td>
</tr>
<tr>
<td></td>
<td>Communicate over a long period</td>
<td>5</td>
<td>Can chat for a long period</td>
</tr>
<tr>
<td></td>
<td>Social influence</td>
<td>4</td>
<td>Everyone else uses it</td>
</tr>
<tr>
<td>Content Management (total 20 statements)</td>
<td>Large quantity of information</td>
<td>8</td>
<td>Transfer large quantity of information</td>
</tr>
<tr>
<td></td>
<td>File storage/management</td>
<td>6</td>
<td>Can store and manage files</td>
</tr>
<tr>
<td></td>
<td>Keep communication record</td>
<td>6</td>
<td>Can keep communication record history</td>
</tr>
<tr>
<td>Social Context Cues (total 16 statements)</td>
<td>Verbal vs text</td>
<td>10</td>
<td>Can not only text, but also talk</td>
</tr>
<tr>
<td></td>
<td>Nonverbal cues</td>
<td>6</td>
<td>Can see other body languages</td>
</tr>
<tr>
<td>Problem Solving (total 16 statements)</td>
<td>Clarify issues</td>
<td>9</td>
<td>Less misunderstanding for the conversation</td>
</tr>
<tr>
<td></td>
<td>Solve complex issues</td>
<td>5</td>
<td>Good for solving complex issues</td>
</tr>
<tr>
<td></td>
<td>Solve critical issues</td>
<td>2</td>
<td>Good for solving critical issues</td>
</tr>
<tr>
<td>Multimedia (total 8 statements)</td>
<td>Multimedia</td>
<td>8</td>
<td>Can use multiple tools for communication, e.g., chat, talk, attach file etc.</td>
</tr>
</tbody>
</table>

Table 2 Summary of Motivation Categories
them to control who they can talk to, friends or strangers. It is the anonymous nature of CMC technologies that allows people to overcome “identity fixes,” such as gender, looks, and disabilities (Papacharissi et al. 2000). Prior research into the effects of CMC suggests that CMC might lead to unemotional or under-social communication (Walther et al. 1992) due to the absence of nonverbal, relational cues in CMC. However, our study indicated that students appeared to be socialized into using CMC media, such as email or IM for specific purposes as a social technology in the information age (Leung 2001). Our participants indicated that email would allow them to keep in touch with others and share information with other people. Other studies also found that maintaining social relationship is the important motive for general public (Kaye et al. 2002).

6.2 Convenience

Convenience refers to how convenient students feel when they communicate via CMC. Our study found that convenience is a very important motivation for students to use CMC for communication. Participants indicated that if the media were easy to access, cheap, easy to use, or quick to catch people, they would consider using them for communication. Our study also found that financial reason was another important motive for students to use CMC. 10 out of 15 participants considered the cost as a reason for using CMC. Travelling is cost and long distance call is also expensive. Using CMC for communicating with people in different locations can reduce the cost significantly.

6.3 Information Seeking

The capabilities of CMC technologies suggest that both getting and providing information are important needs fulfilled by modern communication media (Fulk et al. 1996). Our study also found that seeking information is an important need for students to use CMC. CMC technologies have abilities to provide detailed information, broad range of information, reliable information, or various sources of information. Our findings are consistent with previous research on information seeking needs by Internet users (Flanagan et al. 2001; Kaye et al. 2002).

6.4 Connectivity

Connectivity of the technology describes the ability to connect people across time and space (Rice 1984). CMC has vastly expanded connectivity which allows people to link globally, thus creating a virtual community (Fulk et al. 1995; Simons et al. 2004). Our study found that participants used CMC to work with people no matter where they are. CMC is also found to be very useful for group assignment, in which everyone has to contribute by attending an online group meeting.

6.5 Content Management

An instrumental motivation in this study, ‘content management’, was not identified in any Internet studies as fundamental motives. Although Flanagan and Metzger’s (2001) suggestion of ‘getting and providing information’ describes the notion of a two-way information flow, it provides a similar but conceptually different interpretation of content management. From the constructs: transfer large quantity of information, file storage and management, and keep communication records, this study indicates that students do not only evaluate a medium by its ability to communicate with others, but rather its ability to store and retrieve information. This is a particularly useful functionality for university students as they are constantly travelling and working between home and university. CMC technologies such as email and forums offer a universal storage platform that can be accessed anywhere. Further, in instances of university group work where physical meetings are not always possible, the use of CMC technologies provides a central repository for students with the capabilities to share and store documents in real-time.
### 6.6 Social Context Cues

Comparing with communication via CMC technologies, face-to-face interaction allows people to have full access to all the nonverbal cues, such as sharing the same physical location, seeing and hearing one another’s tones, gestures, feeling, etc (Driskell et al. 2003). In contrast, some text-based CMC technologies, such as email and forum, attenuate to at least some degree the social context cues available in face-to-face interaction (Sproull et al. 1986). However, our study found that participants sometimes enjoyed the text-based feature of email since it would allow them to think about how to articulate themselves before answering it. In other words, higher social context cues are not really necessary to affect communication in certain situations. The textual nature of CMC may provide an opportunity for people to control the interaction better since they have enough time to think before constructing a response (Madell et al. 2007).

### 6.7 Problem Solving

According to organizational communication technology research, CMC technologies are used to meet people’s instrumental needs, such as persuasion, negotiation, discussion, clarification, decision making, and problem solving (Flanagin et al. 2001; Rice 1993). Our study also found that participants used CMC to clarify issues, solve critical or complex issues. However, our participants did mention that not all CMC could meet their needs in terms of problem solving. They preferred to have real-time conversation for some important or complex issues. Short messages were always avoided for complex issues to minimize misunderstanding. This finding is consistent with media richness theory which suggests that people would like to choose synchronous media for complex problems (Daft et al. 1986).

### 6.8 Multimedia

Multimedia refers to the use of computers to present text, graphics, video, animation, and sound in an integrated way (Ruggiero 2000). Although it is a special feature for CMC technologies, it has not emerged as a motive for communication in previous studies. Our study found that participants considered this as an important feature of media. More than half of the participants preferred media with multiple tools for communication, such as talk, text, attaching files, images etc.

### 7 IMPLICATIONS AND CONCLUSION

Our study is however limited in a number of ways. First, we have used convenience sample of university students in Australia to explore CMC use motivations. Applications and generalization of these results from this study to other population may not be justified. Future research could repeat the research design using theoretical sampling in another university context or another country to confirm our results and explore how individual, university, or country’s characteristics impact the derived motivation categories. Second, as we only interviewed 15 students, our findings cannot be generalized to the larger population. Although the intensive nature of RGT only requires a small sample of participants, future research could validate our findings further through quantitative research techniques using a more representative sample. A limitation of uses and gratifications is its inability to consider the content of the media, as this may directly affect a student’s media selection. For example, a student may use a different medium to transfer video and text due to differences in file size. Future studies can be carried out with the consideration of the communication content for a comparative analysis.

In this study, we translated students’ media use experience into the set of gratifications they considered when choosing media for communication. The application of the RGT yielded rich and relevant qualitative data from the interviews. The findings of this study represent a comprehensive list of important student-specific technology use motivations.
Following this, further research can include the validation of the relative importance of the constructs that have emerged in this study. A further extension is to examine the relationship between motivations and media use behaviour. Furthermore, factors that influence the motivations and outcomes from media related behaviours can also be explored, as Rubin (1994) suggests that psychological characteristics, social contexts, and attitudes influence people’s motivations and behaviours. Finally, in view of the growing multicultural nature of our classrooms, research into investigating whether differences in CMC use motivations exist among groups of students from different cultures may assist institutions to be better able to respond to the technological preferences and needs of their student customers (Stafford 2005).

This study contributes to the evolving literature on CMC use in three ways. First, by empirically developing dimensions of students CMC use motivations, this study reaffirmed the usefulness of the U&G approach in studying CMC technologies. Second, the development of student-specific CMC use motivation scale is useful for future technology motivation research when using students as samples. Thirdly, we have shown that using the RGT has indeed elicited more in-depth and specific motivation factors that address our research objective.

There has been high institutional investment in technology infrastructure to support more flexible models of teaching and learning within higher education (Kirkup et al. 2005). Without an understanding of the social contexts of CMC use in the universities from the students’ perspective, the smooth implementation of technologies and flexible teaching and learning models can easily be impeded or disrupted by students anxieties and insecurities, caused by rapid change in the learning environment (Breen et al. 2001). When educators understand the motivations that guide student interactions with the technology, they will be able to accommodate those needs more responsively in their teaching strategies. Using various CMC technologies has become so pervasive in the lives of this young generation, and it has become a natural extension of themselves (Hoffman et al. 2004). So, it is also important for organizations to understand the motivations and choice behaviors of their future executives’ technology use.

References


