

---

## **The use of chat by Greek students**

---

Vasileios C. Tsarouchas  
and Anastasios A. Economides\*

Departments of Economic Sciences and Information Systems,  
University of Macedonia, Thessaloniki, Greece

E-mail: b.tsarouchas@yahoo.gr

E-mail: economid@uom.gr

\*Corresponding author

**Abstract:** Greek students are familiar with chat and its features but they also expect new and more advanced features. Most of them use MSN every day for file transfer and communication with friends who live far from them. However, they are concerned about security and convenience of use. Their biggest worries are the pretension of other users and the fact that someone could possibly try to take advantage of them. Most of them select a chat-mate by his nickname and hide their personal data when they chat about erotic issues. Finally, most of them chat about sports, gossip and erotic issues.

**Keywords:** chat; Greece; internet usage; internet relationships; online communication; real time communication; synchronous communication; virtual life; virtual relationships.

**Reference** to this paper should be made as follows: Tsarouchas, V.C. and Economides, A.A. (2008) 'The use of chat by Greek students', *Int. J. Advanced Media and Communication*, Vol. 2, No. 2, pp.209–220.

**Biographical notes:** Vasileios C. Tsarouchas is a graduate in Economics at the University of Macedonia, Thessaloniki, Greece. His research interests include computer technologies and e-communications.

Anastasios A. Economides is an Associate Professor of Computer Networks at the University of Macedonia, Thessaloniki, Greece. He holds an MSc and a PhD in Computer Engineering from the University of Southern California, Los Angeles, USA. He is the Director of CONTA (Computer Networks and Telematics Applications) laboratory ([www.conta.uom.gr](http://www.conta.uom.gr)). His research interests include networking technologies, strategies and e-services. He has published over 100 peer-reviewed papers. He has been the plenary speaker in two International Conferences.

---

### **1 Introduction**

Chat is a real-time conferencing capability among two or more users over a network. Previous studies on chat have investigated the use, the dangers as well as features of chat. Particularly, previous studies have examined the variety and popularity of chat applications, as well as users' criteria that help them to choose chat rooms (Craven et al., 2002; Ludwig et al., 2002). Recently, new versions of chat applications have been

released, with a lot of new features that could affect users' choice. Furthermore, users' choices seem to be quite different from country to country. Another popular subject of previous studies was dating and sexual relationships over the internet (Hardie and Buzwell, 2006; Fiore and Donath, 2004; Lui, 2005). The main conclusion of these studies was that chat provides an easy way of flirting to people who are generally introvert and shy. These people find it easier to flirt over the internet, as there is no face-to-face contact with the person they flirt with. However, people are afraid to try dating through the internet (Anderson, 2005). People sometimes prefer chat over interpersonal communication for various reasons, which were investigated by previous studies (Johnson et al., 2000; Peris et al., 2002). In some occasions, people appear to be more extroverts in chat rooms, comparing to real life, owing to the fact that they can keep their identity secret while chatting, which makes them feel free to express feelings that were withheld because of embarrassment. Another common subject of previous studies on chat was related to its use in education. These studies agreed that chat rooms gradually tend to replace classrooms in the modern world (Oliver, 2000). It seems possible that students could gather in a 'virtual' classroom, which is a chat-room accessed only by students and teachers who have the required password to enter this chat-room, and the chat subject is the subject of the lesson (Halkett, 2002; Gonzalez, 2003; Michailidou and Economides, 2003; Neo, 2005; Recchiuti, 2003). In this way, a chat-room can be considered as an academic teaching technique (de la Harpe and Mackenzie, 2002). Students would also cooperate via chat while they are at outdoors (Vasiliou and Economides, 2005, 2007). In addition, chat has affected the use of libraries as it is easier to find information using the internet and chat-rooms than reading books (Curtis and Greene, 2004; Porter, 2003). Finally, some previous studies investigated the differences in chat behaviour between male and female users (Li, 2005; Panyametheekul and Herring, 2003). Females participated more often and received a higher rate of response from both females and males in a chat-room, especially when related to flirt and dating.

Recently, the internet has become widespread in Greece because of the decrease in the internet connection cost. The leased line connections as well as the Asymmetric Digital Subscriber Line (ADSL) connections tend to replace Public Switched Telephone Network (PSTN) and Integrated Services Digital Network (ISDN) connections for home use. Currently, there are about 1 million broadband subscribers in a population of over 10 million people ([www.infosoc.gr](http://www.infosoc.gr)). About 36% of the population have surfed on the web during the last month. It is possible that fast, cheap and easily accessible internet would enable spread of chat. We were interested in investigating the use of chat by Greek students. As there were not any previous studies on the use of chat in Greece, we were based on our own experience and on previous studies in other countries such as Canada (Brym and Lendon, 2001), USA, UK, Germany (Deller et al., 1999) and Australia (Spennemann, 2007).

First, it would be worthwhile to present the current status regarding computer usage in Greece ([www.observatory.gr](http://www.observatory.gr); [www.infosoc.gr](http://www.infosoc.gr)). The number of internet users has been quadrupled from 2001 (10%) to 2006 (25%). Most of them use the internet for e-mail (20.6% in 2006) and searching for information and products (17.3% in 2006). The average weekly time that a person uses the internet increased from 6.3 h (2002) to 8.6 h (2006). About 16% of them faced a virus problem. Also, about 35% of Greeks use a computer at home. Men seem to use computers about 50% more often than women. In addition, young age groups use computers much more than older ones. In fact, only 2% of people older than 55 years old use the computer at home, in contrast to about

65% of people aged between 15 and 24. The usage is also related to the level of education. People who have studied in Universities use computers in a percentage of about 60%, whereas 2% of the people who use computers have only finished primary school.

In the next section, we present the methodology that we have used in this paper. Then we describe the results. Finally, we conclude and suggest directions for future research.

## **2 Methodology**

Based on discussions with colleagues and students, as well as on our own experience and knowledge with regard to chat and internet, we developed a questionnaire, which contained 25 questions related to the various dimensions of chat. This questionnaire was originally created from us and was not based on any other questionnaire of previous researches, mainly because there were not any suitable questionnaires available. Several graduate students commented on the questionnaire. Some small modifications were made. The questionnaire tried to identify the use of chat by Greek students, their considered importance of the chat applications' characteristics, their reasons for chatting, their behaviour while chatting, their views and suggestions. More precisely, the questionnaire tried to collect the following key elements of information:

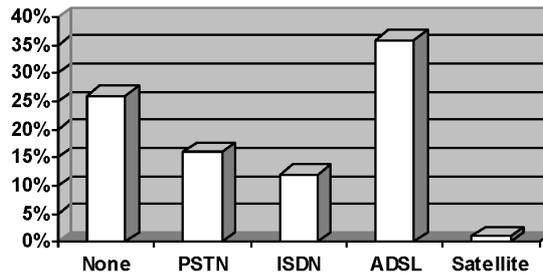
- gender and age
- internet usage (place, frequency, time per day, connection type, cost)
- chat usage (application software, frequency, time per day, since when, what functions, how often every function)
- importance of chat application characteristics, willingness to pay
- reasons for chatting, interest on potential areas of chat
- behaviour while chatting (chat-mate selection, chat subjects, hide personal data, reasons for anonymity, meeting chat-mate)
- chat advantages and disadvantages/problems
- open questions (suggestion of future functions, reasons for decreasing chatting, opinion about potential uses of chat).

We distributed this questionnaire to about 200 students in an Informatics class during December 2006. The students were full-time undergraduate students (19–25 years old) in a Department of Economics at a Greek University. All of them were Greeks. In Greece, a University student is not obliged to attend classes. All of these students had already attended two introductory Informatics courses, so they were already quite familiar with the use of computers and internet. They had half an hour to answer the questionnaire voluntarily and anonymously. The questionnaire was in Greek. 107 students returned it. However, 100 students (37 men and 63 women) completed all sections of the questionnaire. Usually, more women than men attend the classes in this Department. The remaining seven questionnaires were answered roughly and partially, so they were not included in the results. Next, we describe and discuss the results.

### 3 Results and discussion

Recently, fast internet connection has become cheap and easily accessible in Greece. As a result, most of the students (61) use the internet at home almost everyday, and only 19 students use it once a week at internet cafés and three students at the office. As the participants were University students, 35 students use the internet at the University at least once a week. Most students (35) have an ADSL connection at home (Figure 1).

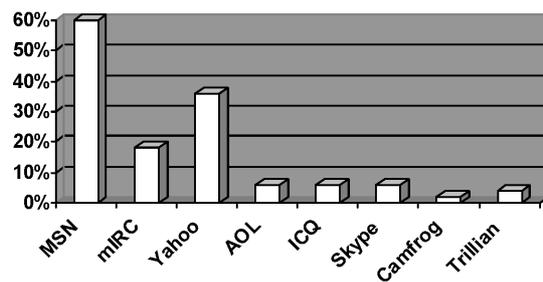
**Figure 1** Internet connections at home



The average time that students spend on chat everyday is 3 h for those who have ADSL or Satellite connections, as charge is not proportional to the time they are online, in contrast to the average of about 1 h for those who have PSTN or ISDN connections. The young students tend to chat almost twice as much as the old students. The same phenomenon is also observed in other studies (Trocchia and Janda, 2000). The average monthly amount paid for internet access at home is 13€, and 18€ for accessing the internet from internet cafés (it is worthwhile to mention that the price for using the internet for an hour at an internet café at present time is about 2€).

There are 100 of chat applications available for users to choose from. The applications included in the questionnaire were the most popular worldwide, according to Cnet's ([www.cnet.com](http://www.cnet.com)) most downloaded list (Figure 2).

**Figure 2** Application popularity



Although some of these chat applications are quite popular in some countries such as the USA, they seem to be unknown to most Greek students. Most Greek students chat using MSN (Microsoft Network). Applications such as Camfrog and Trillian are only used by two students and four students, respectively, whereas in the USA, they are two of the most popular choices by the users. This difference in users' choices would be explained by their answers to the next question. Popularity is one of the most important features

users want their chat application to have, as more users actually means more people to chat with (Table 1).

**Table 1** Importance of the chat applications' features

	<i>Not at all</i>	<i>A little</i>	<i>Quite</i>	<i>A lot</i>
Easy to use	2	6	33	59
Popularity	2	2	64	32
Styling	7	20	42	31
Multimedia	6	9	56	29
Compatibility	8	29	30	33
Security	7	15	12	66
Configurability	10	39	40	11

Users choose a chat application according to several criteria: convenience of use, popularity, styling, multimedia, compatibility, security and configurability. The most important criteria for Greek users are the security, convenience of use and popularity of the chat application (Table 1).

It is quite remarkable that students are concerned about the security provided by the chat application, which means that they are aware of the dangers they may experience while being online and chatting. New viruses and Trojans can easily infect someone's computer, as they are programmed to be sent by people who are on his or her friends-list in a picture format. As a result, many people accept these files, since they could not imagine that one of their friends would actually send them a virus. They also considered as very important the chat application's easiness of use. In contrast, they do not seem to be very interested in the application's design and style.

Although fast internet connection has only recently become available in Greece (ADSL, leased lines, Satellite), the average time span during which the students have used internet chat applications is about three years. This means that they used to spend many hours chatting even though the charge was proportional to the time they were online. In addition, a user with three years of experience can be considered to be an advanced user, who should be able to take full advantage of an application's functions.

Next, the students stated the usage frequency of the functions that chat applications provide (Table 2).

**Table 2** Frequency of use of chat applications' functions

	<i>Not at all</i>	<i>Once a month</i>	<i>Once a week</i>	<i>Once a day</i>	<i>Several times a day</i>
Voice conference	42	14	18	9	17
Video conference	48	22	12	15	3
File transfer	12	3	5	16	64
Remote help	72	24	4	0	0
Telephone calls	53	29	13	1	4
Games	21	23	31	15	10
Public rooms	42	18	20	16	4
Skins	63	23	9	5	0
User search engine	39	22	26	6	7

Clearly, the most popular function is file transfer, as 64 students use it several times a day. Voice conferencing is also quite popular, with 26 students using it every day, whereas video conferencing is used every day by 18 students. Forty seven students make telephone calls through the chat applications, but only 18 students use it more frequently than once a week. It is quite remarkable that some new functions such as remote help and skins are not used at all by a large percentage of users. Students still seem to prefer using the functions that chat applications have provided since their first versions, such as file transfers. It may be possible that students are not familiar with the new functions yet.

When asked if there are any extra functions that they would like chat applications to include in their future versions, most of the students could not come up with any suggestions. It is possible that they are satisfied with current versions of chat applications or they do not have advanced computer experience to suggest improvements. The only answers to this question were the following:

- trades with online shops or the stock market
- easier and more direct dating
- video and audio conference among more than two users simultaneously.

These functions could probably be available in some future versions of chat applications.

As chat applications are freeware, a user only needs to download and install them into his computers. But what would students do if these applications were not freeware and they had to pay for using them? Amazingly enough, 52 students would not pay and said they would rather not use them. Twenty nine students would pay up to 15€ for a chat application, 12 students would pay up to 30€, and the remaining seven students would pay a price higher than 30€ if it was necessary, to use an application to chat. This also reveals that another reason for the popularity of the chat applications is the fact that they are free. It is possible that if a user had to pay for a chat application, he would turn to other means of communication.

Despite being regular users of chat, some students think there are a number of reasons that would make them consider reducing the time they spend on chat. Only 38 students answered this question. Eighteen of them said that they would reduce it due to security issues, including personal data confidentiality as well as computer safety. Nine of them complained about the cost of using the internet, although the prices nowadays are quite low. Three of them preferred interpersonal communication, whenever that is possible, instead of chat. Two of them would like saving time for doing something else more interesting. Remarkably, only one student was anxious about health issues (eye or wrist injuries).

A very interesting topic is related to the reasons that make students chat. Obviously, there could be a million different answers concerning the reason someone chats, depending on the character or the mood of each person. The most common reasons were presented to the students and the answers are illustrated in Table 3.

As it was expected, most students use chat to communicate with some of their friends who live in different places and frequent interpersonal communication with them is impossible. Chat offers these students the opportunity to communicate easily and inexpensively on a daily basis. The second most popular answer is to make new friends, since the internet is the easiest way of meeting people from every place on the planet. Not many students admit that they have tried dating through the internet. However, it is possible that they are not comfortable with answering such questions. The ability to make

phone calls is one of the features that chat applications have recently added to their latest versions and it does not seem to be very popular yet. Fields like education and online help are not very important to users as well, and most of the students either use them rarely or do not use them at all.

**Table 3** Reasons people chat

	<i>Never</i>	<i>Rarely</i>	<i>Every month</i>	<i>Every week</i>	<i>Every day</i>
Communicate with friends who live far from you	2	5	14	18	71
Make new friends	24	32	3	10	31
Date	72	20	4	2	2
Educational issues	29	32	18	19	2
Help/technical support	45	33	17	4	1
Replace phone calls	46	23	9	9	13

Various chat functions would possibly be available to the users in the future. Some of these functions have already started to appear in some experimental forms, so we can expect them to be available in the near future. Some of them were proposed to the students, to express their opinion regarding their interest in using them. The levels of interest were: 'Not interested', 'A little interested', 'Interested', and 'Very interested'. The proposed functions and levels of their interest, as well as the answers are illustrated on Table 4.

**Table 4** Interest in potential uses of chat

	<i>Not at all</i>	<i>A little</i>	<i>Quite</i>	<i>A lot</i>
Chat about help or technical support	5	14	52	29
Chat with teachers about educational issues	11	18	45	26
Chat with doctors about health issues	17	42	38	3
Chat with classmates to share opinions and notes	8	10	62	20
Chat with co-workers or bosses about job issues by working at home	20	22	41	17

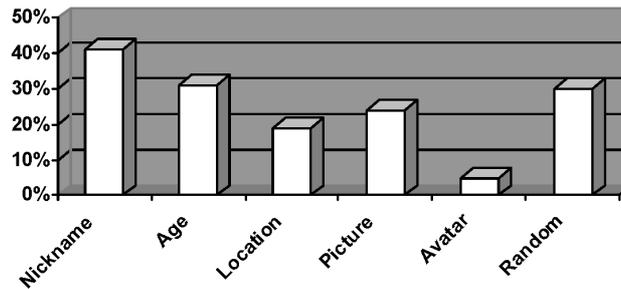
Most students (29) are interested a lot in technical help and support via chat. Online help and education are the most promising fields. Chat would have a potential in these two fields.

The next issue concerns the criteria used by the students to choose whom they will chat with. This has to do with finding new people to chat with and not the ones they chat with on a regular basis. Figure 3 presents these criteria according to how often students use them to start chatting with another person.

Apparently, the nickname is the most appealing criterion as it can catch the eye of the other person. Age is also quite important, especially when one wants to chat about a specific subject or even date. The picture is also quite important, as many students want to know how their chat-mate looks like. Many students choose the person

they will chat with randomly, especially those who chat for no specific reason or subject. Location seems to be a secondary criterion, maybe because most students do not intend to meet their chat-mates in real life. Finally, very few students seem to care about the avatar used by other users.

**Figure 3** Criteria of chat-mate choice



The relationships each person develops by chatting can either become interpersonal relationships by meeting the chat-mate in real life, or remain strictly online relationships. It is interesting to see whether students usually take online relationships to the next level of meeting them personally or not. 19 out of 49 students (39%) who have answered this question said that they have never met any of their chat-mates in personal. The other 30 students have met someone only once.

Another important issue is related to the subjects students chat about. Users are able to find a chat-mate for almost any subject they may be interested in, simply by joining a chat room where people of the same interests gather to chat. Otherwise, they can divide their contacts into categories, and choose the one they will chat with according to the subject they want to chat about. The preferences of the students regarding various subjects' categories are the following: Gossip (58 students), Sports (67 students), Education (20 students), Occupation (23 students), Culture (43 students), Erotic (56 students) and Health (8 students). As expected, sports seem to be the most common chat subject among males, as opposed to gossip for females. Subjects related to erotic issues are quite popular, mainly because people who are shy and introvert do not feel comfortable talking about these subjects face to face.

Usually, people's personalities tend to change while chatting. This is probably a result of the anonymity that chat provides when somebody chooses to keep his true identity secret. When being anonymous, people express feelings they would never express in face-to-face communication, because they may be embarrassed or afraid (Walther et al., 2005). This is also a question that not all students answered fully, probably because they are not aware of the change in their personality when they are chatting. Thus, 62 students admit that some parts of their personality might change during chat. An amazing 53 of them (almost 85% of those who admitted that they experience personality change) say that they become more extroverts during chat in comparison with real life. 30 of them (almost 48%) admit to be more honest when chatting, because they are afraid that, in real life, their opinion could hurt someone's feelings. Also, 22 students (almost 35%) are more selfish and less friendly when they chat than in real life, because their chat-mates are unknown to them, and they do not care about their opinion. Even though these

personality changes may take place just for experimentation, in some occasions they reveal their real personality, which lies hidden within them.

Hiding personal data is a very common habit for chat users (Kang and Yang, 2004; Jones, 1997; Walther et al., 2005). The frequency depends on the subject someone is chatting about. Most students (31) hide their personal data when they chat on Erotic issues. Several students also hide their personal data when they chat on other subjects: Gossip (18), Sports (14), Education (14), Occupation (16), Culture (16), and Health (15).

The last part of the questionnaire is focused on the perceived advantages and disadvantages of chat. The students were asked to state their opinion about which of the proposed advantages and disadvantages are more or less significant (Table 5). The levels of significance were: 'Not significant', 'A little significant', 'Significant', 'Quite significant', and 'Very significant'.

The students' biggest concern is the pretension of other users and the fact that someone could possibly try to take advantage of a certain situation. Both of these problems are results of the anonymity enabled by the internet, as mentioned earlier. The only way to avoid such problems is to chat only with people you have met in real life.

As far as advantages are concerned, the levels of importance were: 'Not important', 'A little important', 'Important', 'Quite important', and 'Very important' (Table 6).

**Table 5** Significance of chat disadvantages

	<i>Not significant</i>	<i>A little significant</i>	<i>Significant</i>	<i>Quite significant</i>	<i>Very significant</i>
It's more likely for people to pretend	8	7	7	37	41
Not enough info about the person you chat with	5	6	18	32	39
It's more likely to meet odd people	9	8	27	23	33
You cannot use all of your senses	6	20	21	28	25
You cannot express exactly how you feel	8	16	31	29	16
It's more likely for people to try to take advantage of you	4	6	18	26	46

**Table 6** Importance of chat advantages

	<i>Not important</i>	<i>A little important</i>	<i>Important</i>	<i>Quite important</i>	<i>Very important</i>
Easy to meet people	21	13	26	25	15
You meet people from foreign countries	7	11	19	35	28
Privacy	8	21	35	22	14
Easy dating	15	27	24	18	16
Freedom of expression	3	16	23	36	22
Cheap way of communicating	12	17	17	23	31

As expected, the chance of meeting people easily, especially those who live in different countries, is considered as a very important advantage of chat. It enables to get in touch with people from different locations without even knowing them. The low cost of communication is also a very important advantage, and as it was predicted some years ago, chat seems to be replacing telephone communications day by day. Finally, freedom of expression is also one of the reasons that people tend to chat more and more every day.

#### 4 Conclusions

Greek students seem to be in a state of familiarisation with the overall concept of chat. The cheap and easy internet access has quickened this process, but it certainly is not comparable with the levels of some more developed countries, as computers and internet in these countries are used more than in Greece ([www.itu.int](http://www.itu.int)). Greek students may be familiar with most of the functions a chat application may offer, but they still do not take full advantage of the variety of the offered functions. Most of them use MSN every day for file transfer and communication with friends who live far from them. Also, they are really concerned about security and convenience of use. Their biggest worries are the pretension of other users and the fact that someone could possibly try to take advantage of them. Most of them select a chat-mate by his nickname and hide their personal data when chatting about erotic issues. Also, most of them chat about sports, gossip and erotic issues. However, they do not usually make real life friends people they met during chatting. Only the minority of the chat-mates would become real friends or even erotic partners.

Greek students appear to be very satisfied with the variety and functions of chat applications, except for security issues. Many of them seem to have had problems with viruses or other kinds of 'intrusions' to their computers. This is obviously the reason why so many anti-virus and firewall applications are frequently released, to provide protection to internet users.

Future research could repeat this study in other countries. Similarities and differences with respect to ethnicity and culture could be identified. Another future study would specifically investigate any gender differences in chatting. Furthermore, this study would be repeated after some years to examine any differences in the use of chat across time. As internet becomes more accessible and cheaper, the use of chat may grow with great new features to come, but also, with new dangers for the users.

#### References

- Anderson, T.L. (2005) 'Relationships among internet attitudes, internet use, romantic beliefs, and perceptions on online romantic relationships', *CyberPsychology and Behavior*, Vol. 8, No. 6, pp.521–531.
- Brym, R.J. and Lenton, R.L. (2001) *Love Online: A Report on Digital Dating in Canada*, Accessed on 12 February, 2007 at: <http://www.nelson.com/nelson/harcourt/sociology/newsociety3e/loveonline.pdf>
- Craven, P., Keppy, B. and Baggaley, J. (2002) 'Online video-conferencing products', *The International Review of Research in Open and Distance Learning*, Vol. 3, No. 2, Accessed on 12 February, 2007 at: <http://www.irrodl.org/index.php/irrodl/article/view/Article/88/167>

- Curtis, D. and Greene, A. (2004) 'A university-wide, library-based chat service', *Reference Services Review*, Vol. 32, No. 3, pp.220–233.
- de la Harpe, R. and Mackenzie, A. (2002) *Chat Rooms as an Academic Teaching Technique*, Accessed on 17 December, 2006 at: <http://citte.nu.ac.za/papers/id2.pdf>
- Deller, D., Stubenrath, M. and Weber, C. (1999) 'A survey on the use of the internet for investor relations in the USA, UK and Germany', *European Accounting Review*, Vol. 8, No. 2, pp.351–364.
- Fiore, A.T. and Donath, J.S. (2004) *Online Personals: An Overview*, Accessed on 2 January, 2007 at: [http://smg.media.mit.edu/papers/atf/chi2004\\_personals\\_short.pdf](http://smg.media.mit.edu/papers/atf/chi2004_personals_short.pdf)
- Gonzalez, D. (2003) 'Teaching and learning through chat: a taxonomy of educational chat for EFL/ESL', *Teaching English with Technology*, Vol. 3, No. 4, Accessed on 12 February, 2007 at: [http://www.iatefl.org.pl/call/j\\_review15.htm](http://www.iatefl.org.pl/call/j_review15.htm)
- Halkett, R. (2002) 'E-learning and how to survive it', *Industrial and Commercial Training*, Vol. 34, No. 2, pp.80–82.
- Hardie, E. and Buzwell, S. (2006) 'Finding love online: the nature and frequency of Australian adults' internet relationships', *Australian Journal of Emerging Technologies and Society*, Vol. 4, No. 1, pp.1–14.
- Johnson, D., Sutton, P. and Poon, J. (2000) 'Face-to-face vs. CMC: student communication in a technologically rich learning environment', *Proceedings 17th Conference Australasian Society for Computers in Learning in Tertiary Education*, Accessed on 3 January, 2007 at: [http://www.ascilite.org.au/conferences/coffs00/papers/daniel\\_johnson.pdf](http://www.ascilite.org.au/conferences/coffs00/papers/daniel_johnson.pdf)
- Jones, S.G. (1997) *Virtual Culture: Identity and Communication in Cybersociety*, Sage Publications, Inc. Thousand Oaks, CA, USA.
- Kang, H. and Yang, H. (2004) *The Effect of Anonymity on the Usage of Avatar: Comparison of Internet Relay Chat and Instant Messenger*, Accessed on 28 December, 2006 at: [http://www.ecademy.ch/ecademy/ecadpubli.nsf/CC90F30010478827C1256F10002842C7/\\$file/SIGEBZ05-1754.pdf](http://www.ecademy.ch/ecademy/ecadpubli.nsf/CC90F30010478827C1256F10002842C7/$file/SIGEBZ05-1754.pdf)
- Li, Q. (2005) 'Gender and CMC: a review on conflict and harassment', *Australasian Journal of Educational Technology*, Vol. 21, No. 3, pp.382–406.
- Ludwig, B., Poscente, K., Baggaley, J. and Fahy, P.J. (2002) 'Chat and instant messaging systems (synchronous)', *The International Review of Research in Open and Distance Learning*, Vol. 3, No. 2, Accessed on 12 February, 2007 at: <http://www.irrodl.org/index.php/irrodl/article/view/86/165>
- Lui, K. (2005) *Personality and Internet Dating*, Accessed on 10 January, 2007 at: <http://reagan.disted.camosun.bc.ca/P110/APA%20term%20paper.pdf>
- Michailidou, A. and Economides, A.A. (2003) 'Elearn: towards a collaborative educational virtual environment', *Journal of Information Technology Education*, Vol. 2, pp.131–152.
- Neo, M. (2005) 'Web-enhanced learning: engaging students in constructivist learning', *Campus-Wide Information Systems*, Vol. 22, No. 1, pp.4–14.
- Oliver, K.M. (2000) 'Methods for developing constructivist learning on the web', *Educational Technology*, Vol. 40, No. 6, pp.5–18.
- Panyametheekul, S. and Herring, C.S. (2003) 'Gender and turn allocation in a Thai chat room', *Journal of Computer-Mediated Communication*, Vol. 9, No. 1, Accessed on 12 February, 2007 at: [http://jcmc.indiana.edu/vol9/issue1/panya\\_herring.html](http://jcmc.indiana.edu/vol9/issue1/panya_herring.html)
- Peris, R., Gimeno, M.A., Pinazo, D., Ortet, G. and Carrero, V. (2002) 'Online chat rooms: virtual spaces of interaction for socially oriented people', *CyberPsychology and Behavior*, Vol. 5, No. 1, pp.43–51.
- Porter, S. (2003) 'Chat: from the desk of a subject librarian', *Reference Services Review*, Vol. 31, No. 1, pp.57–67.

- Recchiuti, J.K. (2003) *College Students' Uses and Motives for E-mail, Instant Messaging and Online Chat Rooms*, Accessed on 5 January, 2007 at: <http://www.udel.edu/communication/web/thesisfiles/janicerecchiutithesis.pdf>
- Spennemann, D.H.R. (2007) 'Learning and teaching 24/7: daily internet usage patterns at nine Australian Universities', *Campus-Wide Information Systems*, Vol. 24, No. 1, pp.27–44.
- Trocchia, P.J. and Janda, S. (2000) 'A phenomenological investigation of internet usage among older individuals', *Journal of Consumer Marketing*, Vol. 17, No. 7, pp.605–616.
- Vasiliou, A. and Economides, A.A. (2005) 'Multicast groups in MANETs', *WSEAS Transactions on Communications*, Vol. 4, No. 8, pp.686–693.
- Vasiliou, A. and Economides, A.A. (2007) 'Game-based learning using MANETs', in Mastorakis, N. and Dondon, Ph. (Eds.): *Proceedings of the 4th WSEAS/ASME International Conference on Engineering Education (EE'07)*, WSEAS Press, Agios Nikolaos, Crete Island, Greece, 24–26 July, pp.154–159.
- Walther, J.B., Gay, G. and Hancock, J.T. (2005) 'How do communication and technology researchers study the internet?', *Journal of Communication*, Vol. 55, No. 3, pp.632–657.