

# *Investigating the Language Learning Attitudes of Postsecondary Students Towards the Usage of Computer-mediated Communication in the Language Classroom*

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*The purpose of the study was to investigate what attitudes postsecondary students have towards the usage of computer-mediated communication (CMC) in the language classroom and whether their attitudes differ from those of secondary students. Two questionnaires were distributed to a class of postsecondary students (N = 19) studying in a Pre-Associate degree programme at Form 6 level and a class of secondary school students (N = 20) studying at Form 5 level at a postsecondary institution in Hong Kong. Independent t test results showed that there were significant differences between the responses of the two groups towards the usage of CMC in the classroom in terms of enjoying electronic discussions ( $p = 0.000$ ), using electronic discussions outside the classroom ( $p = 0.14$ ,  $p = 0.15$ ), and using electronic discussions inside the classroom ( $p = 0.005$ ). Structured interviews were conducted with 3 postsecondary students to probe for reasons of*

*postsecondary students favoured electronic discussions due to the following reasons: (1) convenience, (2) social bonding, (3) awareness of linguistic mistakes, (4) research which can be done on the Web to discuss on a topic, (5) a relaxing environment, (6) the fact that electronic discussions can be saved as archives, and (7) cultural exposure.*

*Key words: computer-mediated communication, electronic discussions, postsecondary students*

## **Introduction**

The use of web-based learning is increasing around the world (Wentling & Johnson, 1999). In the 1990s, the World Wide Web started to grow where teachers and students could interact electronically such as through electronic forums (Buda, 2006). Lee (2000) stresses that computer-assisted language learning helps to increase students' interaction between students through a network-based channel on the Web such as sending and replying to emails and chatting in electronic forums such as newsgroups. The channel of this electronic interaction has been known as computer-mediated communication (CMC) (Ho, 2005; White, 2003). Nowadays many people communicate through instant messaging networks with popular instant messaging programmes such as MSN (developed by Microsoft) and ICQ (Jones, 2005). A number of studies conducted at university level have shown that students improved their communicative and literacy skills in English through synchronous (e.g., chatting on MSN) and asynchronous (e.g., sending messages in an online forum) channels (Blake 2000; Chen, Belkada, & Okamoto, 2004; Lanny & Goodfellow 1999; Sengupta 2001, Shin Shin 2006, Sotillo 2000). Other studies have analyzed the discourse features in synchronous (Ho, 2006) and asynchronous (Darhower, 2002) online platforms by young people or university students which helped them to foster a social bond of learning and support (Darhower, 2002; Ho, 2006).

Some studies have shown that students who have interacted through asynchronous communication with other foreign students in online forums have increased their cultural awareness of the foreign students' origin or background (Ho, 2000; Zeiss & Isabeelli-Garcia, 2005).

In terms of comparing the participation patterns of second language learners between electronic versus non-electronic small group interactions in giving feedback in writing, studies have found that students participated more in electronic discussions than face-to-face group discussions (Sullivan & Patt, 1996; Warshauer, 1996, as cited in Ortega, 1997).

Ortega (1997) states that electronic discussions provide many benefits: (1) students can participate at their own pace and time, (2) the environment is more relaxing than oral discussions and fosters a higher transaction of messages being sent, and (3) students can manage the discussion responsibly, plan and edit their messages.

## **Review on Pedagogical Studies on Computer-mediated Communication**

Existing studies have investigated the use of different online chat programmes or forums to improve the communication skills among second language learners and promote a relaxed environment of learning and socializing. For example, Blake (2000) investigated the synchronous discussions between a group of second language learners learning Spanish at a university using a chat programme called Remote Technical Assistance (RTA), which their textual entries were stored. He found out that jigsaw tasks promoted negotiation of meaning between learners and was also a way to investigate interlanguage development between learners. This would mean that the language development of the learner may be seen in electronic discussions. In addition, Shin Shin (2006) did an ethnographic study where he analyzed interactional patterns of a group of university student visitors interacting in face-to-face lessons and analyzing their online interactions through the use of MSN messenger from the data collected consisting of saved chat meetings and field notes from face-to-face lessons for a semester. He

found out that online synchronous chatting provided a channel for students to socialize and learn in a relaxing environment with no pressure.

Studies on electronic forums for asynchronous communication have also shown that it provides a relaxing and less threatening environment for students to foster social bonding and express communicatively (Darhower, 2002; Ho, 2000, 2006; Lee, 2006, Ortega, 1997; Shin Shin, 2006; Zeiss & Isabelli-Garcia, 2005). For example, Lee (2006) analyzed the electronic interactions of two Korean university language learners in a popular Korean forum. From the interview findings with the two Korean learners, electronic interaction provided them opportunities to practise the language and develop a social bond with other Koreans online. The Korean learners were also more relaxed as they were not worried about spelling mistakes.

Studies have also compared the group dynamics of electronic groups with non-electronic groups of second language learners in terms of participation rates through face-to-face discussions and asynchronous electronic discussions. For example, Sullivan and Pratt (1996, as cited in Ortega, 1997) compared two ESL writing classes. One class consisted of groups (4 per group) of students using a software InterChange to interact asynchronously in an electronic forum to give feedback on their peer's compositions at computer terminals while the other class was in groups giving feedback on their peers' compositions orally. The other class consisted of groups of students who discussed in groups of four on their peers' compositions orally. The results showed that in face-to-face mode, the student authors of the composition dominated the discussion and peers found it difficult giving suggestions to the student authors. However in electronic mode, no dominance occurred between the groups in electronic forums and every peer had greater opportunities to give more effective comments to the student authors to revise their compositions. Warschauer (1996, as cited in Ortega, 1997) compared the interaction between 4 groups of 34 students of open-ended discussions in face-to-face mode and electronic mode. The ratio of total words per group was calculated and compared and the results showed that three out of four groups participated more in the electronic discussion.

Since it was mentioned by Ortega that students have a chance to plan and edit their messages, it is also important for learners to be aware of their own linguistic mistakes so they can change their bad habits. Lai and Zhao (2006) did a study to examine the level of text-based online chat to promote university students' awareness of their problematic language. In this study, twelve ESL university learners did three tasks: spot-the-difference tasks, one via online chat and the other through face-to-face conversation. The results revealed that text-based online chat encouraged the learners to notice their grammatical mistakes more than face-to-face conversations.

Studies on the usage of asynchronous electronic forums have found that forums help to increase students' cultural awareness of other students from different countries. For example, Zeiss and Isabelli-Garcia conducted a study on an experimental group of 23 American university students who engaged in online chatting with a group of Mexican university students while there was a control group of 38 American university students of America. A questionnaire was administered to the experimental group to measure whether there was any increase in their cultural awareness of the Mexican culture which their responses to particular questions were categorized under different themes. The results conveyed that the experimental group increased their cultural awareness of the Mexican culture in terms of current affairs, daily life and educational systems. In another study, the British Council conducted an international information-based collaborative project and the purpose of the project was to compare electronic interactions between primary level students from Singapore and Birmingham (Ho, 2000). In the analysis of interactive discussions through electronic mode between students of different cultures, the results showed that students developed a deeper understanding of each other's cultural background. Not only cultural awareness was developed among the students, but students also became more mature cognitively, and their critical thinking skills were enhanced as they answered specific questions and made decisions regarding the project. Also, the project engaged the students to transfer their knowledge from their email messages to be presented on the website which the forum became a knowledge building mechanism for the students.

Studies have also been conducted on analyzing the discourse features of CMC in electronic forums among young people. For example, Ho (2006) did a study on analyzing the discourse features of an electronic forum open to young people of Singapore on daily topics. From her results, opinion-seeking type features (e.g., open-ended topics) were most popularly used by young people which helped initiate good discussions of different topics and promote critical thinking (Ho, 2006). The second discourse feature most frequent was the purpose of socializing which helped young people to establish a community of support, belonging and encouragement and identity (Ho, 2006). Darhower (2002) did a study on analyzing the discourse of CMC among 33 Spanish learners at university level who interacted in web-based discussions created by Web CT for their class meetings in the computer laboratory. The learners were divided into four groups and they discussed topics that were brought out in class lessons and also came from reading texts and video clips. The findings showed that interactional features emerged such as social bonding, group belonging, humour (e.g., joking and teasing) and collaborative learning (Darhower, 2002).

Most experimental studies have mentioned many benefits on the use of CMC in electronic forums or chatrooms for language learners such as developing a social bond of learning and rapport, providing a relaxed and less threatening environment for interaction and participation, increasing awareness of linguistic development, and giving feedback.

But most of the studies mainly focus on experimental research on the affect of CMC on students' learning and there seems to be fewer studies that look deeply at students' language learning attitudes in general towards the usage of CMC in the classroom from their personal perspectives without intervention of CMC. Also, most of the research studies on CMC seem to focus on L2 (second language) learners at university level and seldom focus on learners at postsecondary level.

## **The Purpose of the Study**

The purpose of the study was to examine whether the language learning attitudes of postsecondary students differ from the language learning attitudes of secondary students towards the usage of CMC in the language classroom. It also aimed to probe the language learning attitudes of postsecondary students towards the usage of CMC in the language classroom since there seems to be less research in this area.

## **Research Questions**

The specified research questions to be investigated in this study were:

1. Do postsecondary students' language learning attitudes differ from those of secondary students towards the usage of electronic discussions in the language classroom?
2. What are the language learning attitudes of postsecondary students towards the usage of electronic discussions in the language classroom?

## **Method**

### **Postsecondary Students**

One secondary English class (Class LM,  $N = 20$ ) and one postsecondary English class (Class Pre-AD,  $N = 19$ ) from a postsecondary institution in Hong Kong took part in the study. The students in the secondary English class were Form 5 repeaters and studying an English course which was part of a programme equivalent to Form 5 level; the students who pass the course would get an equivalent of pass in English for Hong Kong Certificate in English Education (HKCEE). The students in the postsecondary English class were studying in an English course which was part of a Pre-Associate Degree programme which was equivalent to Form 6 level. The two classes selected represented typical secondary and postsecondary classes in Hong Kong. The two classes were selected based on accessibility and convenience for the researcher to conduct research as he was also the teacher of the two classes. In order to

investigate the attitudes of postsecondary students towards the use of CMC in the classroom, 3 postsecondary students were chosen to be interviewees in the study. The researcher selected these 3 postsecondary students — Student A (high), Student B (middle) and Student C (low) — as they represented the postsecondary class at different levels of academic ability based from their overall academic results in 2006–2007. Only 3 postsecondary students were selected from the postsecondary class as it was manageable to the researcher. They had not been engaged with CMC in the classroom before in English lessons during their studies in the postsecondary institution.

## **Data Collection Instruments**

### **Questionnaire**

In April 2007, the researcher used a questionnaire (Appendix A: Student Questionnaire on Electronic Discussions) adapted from Arnold and Ducate (2006) to collect quantitative data from the secondary class (Class LM,  $N = 20$ ) and the postsecondary class (Class Pre-AD,  $N = 19$ ) in an English class where the researcher was also the teacher. The researcher adapted the questionnaire from Arnold and Ducate (2006) because it had questions comparing students' attitudes towards the use of electronic discussions in the classroom. All students were informed of the purpose of the study and that the data collected in the questionnaire would be used for research purposes only. They were also informed that they would be anonymous in the study.

### **Structured Interviews**

Qualitative data was collected from 3 Pre-AD students in the form of structured interviews based on questions (Appendix B: Student Interview Questions) derived from the student questionnaire (Appendix A) on their language learning attitudes of the use of electronic discussions in the classroom which was done from 28 May to 29 May 2007 by phone to further probe for reasons from their responses to the questionnaire. The postsecondary students were interviewed by phone as



they preferred to be called by phone in their spare time. The researcher obtained their consent before they were phoned. The postsecondary students were informed of the purpose of the study and ensured that they would be anonymous in the research study. All qualitative data were recorded in the interviews conducted by the researcher.

### **Data Analysis**

An independent  $t$  test was conducted for each questionnaire statement between the postsecondary class (Class Pre-AD,  $N = 19$ ) and secondary class (Class LM,  $N = 20$ ) to see if there was any significance between their responses to the statements of the questionnaire. The mean, standard deviation and standard error of measurement was compared between students' responses from the two classes. Levene's test of variance was also used to analyze whether there was homogeneity of variances between the student responses from the two classes towards the questionnaire statements in the questionnaire.

### **Results**

This section is divided into two parts. The first part attempts to answer the first research question on whether language-learning attitudes of postsecondary students (Class Pre-AD) differ from those of secondary students (Class LM) towards the usage of electronic discussions in the language classroom. The second part attempts to answer the second research question on the language learning attitudes of postsecondary students towards the usage of electronic discussions in the language classroom.

*RQ1: Do postsecondary students' language learning attitudes differ from those of secondary students towards the usage of electronic discussions in the language classroom?*

**Table 1 Independent *t* test Results of Responses of Class Pre-AD and Class LM**  
(for Questionnaire Statements 1, 13 and 14 in Appendix A)

Item	Class	<i>N</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>	<i>t</i>
Statement 1	Pre-AD	19	0.47	0.513	0.118	- 4.901*
	LM	20	1.90	1.165	0.261	- 4.989*
Statement 13	Pre-AD	19	2.42	0.902	0.207	2.580*
	LM	20	1.75	0.716	0.160	2.565*
Statement 14	Pre-AD	19	1.26	0.872	0.200	- 3.012*
	LM	20	2.20	1.056	0.236	- 3.027*

\*  $p < 0.05$

Table 1 shows that the mean of students' responses from Class Pre-AD ( $M = 0.47$ ) was lower than that of Class LM ( $M = 1.90$ ) for Statement 1: "I enjoy electronic discussions (e.g., ICQ, MSN)." There was more variability in the students' responses from Class LM ( $SD = 1.165$ ) than Class Pre-AD ( $SD = 0.513$ ). The mean of students' responses for Class Pre-AD ( $SEM = 0.118$ ) was a more accurate estimate of the true mean of students' responses in the population than Class LM ( $SEM = 0.261$ ). Independent *t* test results showed that the responses between Class Pre-AD ( $p = 0.000$ ,  $t = - 4.901$ ) and Class LM ( $p = 0.000$ ,  $t = - 4.989$ ) were significant for Statement 1. Levene's test of variance revealed that student responses ( $p = 0.000$ ) from the two classes were not homogenous which means there was a difference in the variances between the two classes in their responses to Statement 1.

The table shows that the mean of students' responses from Class Pre-AD ( $M = 2.42$ ) was higher than that of Class LM ( $M = 1.75$ ) for Statement 13: "We should use electronic discussions outside the classroom." There was more variability in the students' responses from Class Pre-AD ( $SD = 0.902$ ) than Class LM ( $SD = 0.716$ ). Also, the mean of students' responses from Class LM ( $SEM = 0.160$ ) was a more accurate estimate of the true mean of students' responses in the population compared with Class Pre-AD ( $SEM = 0.207$ ). Independent *t* test results showed that the responses between Class Pre-AD

( $p = 0.014$ ,  $t = 2.580$ ) and Class LM ( $p = 0.015$ ,  $t = 2.565$ ) were significant for Statement 13. Levene's test of variance revealed that student responses ( $p = 0.201$ ) from the two classes were homogenous which means there was no difference in the variances between the two classes in their responses to Statement 13.

The table shows that the mean of students' responses from Class Pre-AD ( $M = 1.26$ ) was less than that of Class LM ( $M = 2.20$ ) for Statement 14: "We should use electronic discussions inside the classroom." Moreover, there was more variability in the students' responses from Class LM ( $SD = 1.056$ ) than Class Pre-AD ( $SD = 0.872$ ). The mean of students' responses from Class Pre-AD ( $SEM = 0.200$ ) was a more accurate estimate of the true mean of students' responses in the population than Class LM ( $SEM = 0.236$ ). Independent  $t$  test results showed that the responses between students from Class Pre-AD ( $p = 0.005$ ,  $t = -3.012$ ) and Class LM ( $p = 0.005$ ,  $t = -3.027$ ) were significant for Statement 14. Levene's test of variance showed that student responses ( $p = 0.088$ ) from the two classes were homogenous which means there was no difference in the variances between the two classes in their responses to Statement 14.

There were significant differences between the attitudes of postsecondary students and secondary students towards the usage of CMC in the classroom in terms of enjoying electronic discussions, using electronic discussions inside the classroom and also outside the classroom. These findings may prove that there were differences between the attitudes of postsecondary students and secondary students towards the usage of CMC in the classroom.

*RQ2: What are the language learning attitudes of postsecondary students towards the usage of electronic discussions in the language classroom?*

In this section, all the summarized comments made by the 3 postsecondary students according to the interview questions (Appendix B) from the structured interviews are summarized in Table 2.

**Table 2 Summarized Comments (N = 8) from Structured Interviews of Postsecondary Students (N = 3) on Use of Electronic Discussions in the Language Classroom**

Interview Questions	Summarized Comments (N = 8)
1	1. Electronic discussions provide convenience for students to communicate at anytime and any place with others
9, 10, 11, 12, 14	2. Electronic discussions could help students to establish social bonding and relationships with classmates inside and outside the classroom
2, 13, 17	3. Electronic discussions could help increase students' awareness of linguistic mistakes (e.g., grammar and spelling mistakes) and improve their writing
5, 6	4. Electronic discussions give opportunities for students to do research on the Web to discuss deeply on the topic
3, 4, 7, 9, 15	5. Electronic discussions provide a relaxed and less stressful environment for chatting and asking questions
4, 8	6. Electronic discussions could encourage students to contribute ideas more easily than face-to-face discussions
2, 17	7. Electronic discussions can be saved as archives for reference
11	8. Electronic discussions would increase students' understanding of different cultures of other students from other schools

The 3 postsecondary students reported that they liked electronic discussions because it was convenient to communicate with others (summarized comment 1). For example, the comments below by Student A conveyed that he found it convenient to chat with his group mates instantly in his group project and this helped him to maintain relationship with his group mates outside the classroom.

MSN gives me a chance to talk with my groupmates on our project. I could chat with them when I cannot sleep. I can also check if they are free or not. If they are online, they are free. We can still keep the relationship even though we are not in the classroom. (Student A)

The 3 postsecondary students mentioned that electronic discussions helped them to establish social bonding and relationships with classmates inside and outside the classroom (summarized comment 2). Student B talked about maintaining the relationship with his classmates

as he could see them online during the weekends and chat with them about themselves informally:

I can chat with my group mates online. When I see them online during weekends, I chat with them and talk about many things. Not just work but about hobbies that we like. (Student B)

The 3 postsecondary students supported that electronic discussions could help them to increase their awareness of linguistic mistakes (e.g., grammar and spelling) and improve their writing (summarized comment 3). For example, Student B said that he noticed his grammar mistakes in online discussions more than in class discussions and that he would try to avoid making the mistakes.

I think that online discussions provides me a way to know my grammar mistakes as I could see my grammar mistakes easily online but not in class discussions. (Student B)

The 3 postsecondary students supported electronic discussions as it gave opportunities for them to do research on the Web to discuss deeply on the topic (summarized comment 4). For example, Student A talked about the convenience of searching on the Web and how her group mates could all contribute their research found from the Web and give feedback instantly on what they had found:

The Web is great. I can search on the Web and post my messages very quickly to the Web. My groupmates can also search and talk about it in the online discussion very quickly. (Student A)

The 3 postsecondary students stated that electronic discussions provided a relaxed and less stressful environment for chatting and asking questions (summarized comment 5). Student C said that talking on MSN was less threatening as he did not need to see his classmates face-to-face and he could talk more freely without being afraid of hurting the other classmates' feelings:

I think talking on MSN is less frightening as I cannot see my groupmates' facial expressions so I will feel freer to talk directly and not be afraid to hurt their feelings. I also like to chat freely and I am not afraid to make any grammar mistakes. (Student C)

The 3 postsecondary students emphasized that electronic discussions could encourage them to contribute ideas more easily than face-to-face discussions (summarized comment 6). Student C said that shy students could contribute ideas in online discussions as they could post their messages without interrupting the speaker like in face-to-face discussions:

Online discussions give shy people a chance to share their ideas easily as they just need to post without speaking. But in face-to-face group discussions, it would be hard to stop classmates who keep on talking in class discussions. (Student C)

The 3 postsecondary students mentioned that electronic discussions could be saved as archives for reference (summarized comment 7). Student C emphasized that online discussions could be saved and information could be searched on the Internet to understand the topic:

Everything can be saved on MSN. You do not need to take notes. Also, you can search the Web to find information about the topic and contribute ideas to MSN. (Student C)

The 3 postsecondary students stated that electronic discussions could encourage students to understand the culture of different students (summarized comment 8). For example, Student B said that it would be a good idea as they could learn from other students from other schools of how their school operates:

It is great if I can chat with other students from other schools. I can learn from them and understand about their school. (Student B)

## **Discussion**

The results for the first research question showed that there were significant differences between the attitudes of postsecondary students and secondary students towards the usage of CMC in the classroom in terms of enjoying electronic discussions, using electronic discussions inside and outside the classroom. These results further support that there

may be differences between postsecondary students' and secondary students' attitudes towards the usage of CMC in the classroom.

From the interview findings, results from the second research question showed that postsecondary students ( $N = 3$ ) favoured the use of electronic discussions in the classroom (see Table 2). The interview findings have conveyed more insights on how extra technological aids could make electronic discussions richer than face-to-face discussions such as students could search on the Web to find information to contribute to their ideas when chatting online with their classmates.

Regarding postsecondary students' view that electronic discussions could help establish and maintain relationships between students, this finding was also found in previous studies on university students (Darhower, 2002; Ho, 2006; Lee, 2006, Ortega, 1997; Shin Shin, 2006). In reference to the interview findings where students mentioned that their awareness of grammatical mistakes increased when they chatted in electronic discussions, similar finding was also found from Lai & Zhao's study where learners were more aware of their grammatical mistakes through electronic discussions.

Referring to the interview findings that electronic discussions provided students with a relaxing environment for chatting, similar finding was also found in Lee's (2006) study where the two Koreans who discussed in the Korean online forum were relaxed and not afraid of making mistakes. Shin Shin's study also showed this similar finding where the student visitors found chatting on MSN messenger as a relaxing environment for socializing.

When referring to the interview findings where students said they could understand the culture of how other schools run from students outside their school, similar finding was also found in Zeiss and Isabelli-Garcia (2005) and Ho (2000)'s study where university students increased their understanding of the cultural background of other foreign university students through electronic discussions.

The mentioning of electronic discussions that could be saved as an archive for reference from the interview findings from the postsecondary students was also found in Shin Shin's study where the chat sessions were saved for reference. This program feature of saving

archives of discussions in electronic chat programmes are very useful when compared with face-to-face discussions in groups as they need to assign a secretary to write down all the points that would be mentioned in face-to-face mode. But for electronic discussions, a student group leader does not need to assign a secretary as everything discussed on the topic is saved as an archive for reference.

## **Conclusion**

The findings of this study will hopefully provide language teachers a deeper understanding on postsecondary students' language learning attitudes towards the usage of electronic discussions in the classroom and how it may be used to provide a better learning environment for them. In terms of limitations to the study, the size sample of postsecondary students' views limits the generalizability of the findings and weakened the statistical power of the analysis. A larger sample size of postsecondary students' views could be collected in future studies to get a more representative view of postsecondary students' attitudes towards the use of CMC in the classroom. There were many interesting findings raised in the interviews with the 3 postsecondary students regarding the advantages of using the Web such as searching on the Web to increase their understanding of the topic of the electronic discussion. Future research can compare the effectiveness of group dynamics in electronic and face-to-face mode on the usage of CMC for different tasks. It is hoped that the researcher has shed some light on postsecondary students reactions towards the use of CMC in the classroom and how it could be used as a facilitating aid for face-to-face classroom discussions.



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## Appendix A

### Student Questionnaire on Electronic Discussions (adapted from Arnold & Ducate, 2006)

Students are asked to choose an item from a five-level Likert scale (strongly agree, agree, neutral, disagree, strongly disagree) for the following questions:

1. I enjoy electronic discussions (e.g., ICQ, MSN).
2. I learned things in electronic discussions that I would not have figured out on my own or in class discussions.
3. The electronic discussions give me the opportunities to ask questions I would not have asked in class discussions.
4. I would enjoy participating on electronic discussions than class discussions.
5. The process of talking and writing on different topics through electronic discussions help me to understand each topic better.

6. Chatting electronically with my classmates helps me to look at topics from perspectives would not have considered on my own.
7. The forum of the electronic discussions provides less anxiety and a more relaxed environment than class discussions.
8. I would like a class better without electronic discussions.
9. I would have preferred to electronically chat only with classmates from my school.
10. I would have preferred to electronically chat with students from other schools.
11. I experience a sense of community with the other classmates in my group in my classroom through electronic discussions.
12. Electronic discussions help me to learn and communicate with my classmates in the classroom.
13. We should use electronic discussions outside the classroom.
14. We should use electronic discussions inside the classroom.
15. We should use face-to-face discussions in the classroom.
16. We should use face-to-face discussions and electronic discussions in the classroom.

## **Appendix B**

### **Student Interview Questions**

1. Why do/don't you enjoy the electronic discussions (e.g., ICQ, MSN)?
2. Why do/don't you learn things in electronic discussions that I would not have figured out on my own or in class discussions?
3. Why do/don't electronic discussions give you the opportunities to ask questions I would not have asked in class discussions?
4. Why do/don't you enjoy participating in electronic discussions than class discussions?
5. Why does/doesn't the process of talking/writing on different topics through electronic discussions helps you to understand each topic better?

6. Why does/doesn't chatting electronically with my classmates help me to look at topics from perspectives I would not have considered on my own?
7. Why don't/do you think that the forum of the electronic discussions provides less anxiety and a more relaxed environment than class discussions?
8. Why do/don't you prefer to like a class better without electronic discussions?
9. Why won't/would you prefer to electronically chat only with classmates from your school?
10. Why would/wouldn't you have preferred to electronically chat only with classmates from other schools?
11. Why do/don't you experience a sense of community with the other classmates in your group in your classroom through electronic discussions?
12. Why do/don't you think that electronic discussions help you to learn and communicate with my classmates in the classroom?
13. Why do/don't you think that we should use electronic discussions outside the classroom?
14. Why do/don't you think that we should use electronic discussions inside the classroom?
15. Why should/shouldn't we use face-to-face discussions in the classroom?
16. Why shouldn't/should we use face-to-face discussions and electronic discussions in the classroom?