CHAPTER V

SUMMARY, DISCUSSIONS, AND RECOMMENDATIONS

This chapter presents the summary of the research study, the discussions of the results revealed by the study, and the recommendations for research consumers and for further research.

5.1 Summary of the Study

5.1.1 Purposes

The main purposes of this study were to investigate the effects of different types of peer feedback and levels of general English proficiency and their interaction on the students' writing achievement. Types of peer feedback comprised three aspects- paper-pencil peer feedback, e-mail peer feedback, and web board peer feedback; and with three levels of general English proficiency– high proficiency learners, moderate proficiency learners, and low proficiency learners. Besides, the attitudes toward types of peer feedback the students experienced throughout the semester were also examined.

5.1.2 Research Design

The design of this study was pure experimental research due to the application of a random selection and a random assignment technique. Two independent variables were types of peer feedback and levels of general English proficiency while writing achievement was served as a dependent variable. As a result, this study had a 3x3 factorial design which comprised 9 experimental subgroups.

5.1.3 Samples

The subjects were 90 Thai second year undergraduate Engineering students who enrolled in Writing I at KMITNB in the first semester of academic year 2007. The students' age range was 19-25, 69 males and 21 females. All of them passed Foundation English I and II, and they had different levels of general English proficiency. Stratified random sampling technique was operated for subject selection.

Percentile rank of the English I and II total raw scores was used for classifying levels of general English proficiency of the students.

5.1.4 Research Instruments

Four research instruments, which were the writing achievement test, questionnaire, learner log, and interview, were used to collect the data in the present study. Brief details of each instrument were given below:

1. Writing achievement test

The test was constructed by the researcher and distributed at the end of the study. The purpose of the test was to assess the students' achievement in writing followed by the experiment. The test comprised 3 main parts. The first two parts intended to measure the student's knowledge and recognition on the grammatical points while the third part aimed at measuring the students' writing ability in different rhetorical types.

2. Questionnaire

The survey for the study was carried out at the end of the experiment. The questionnaire consisted of 2 main parts. The first part explored the students' personal information and the other investigated their attitudes towards peer feedback they experienced in the writing course on six main aspects for 55 statements, and two open ended questions (item 56 and 57). In the second part, the students were asked to rate the degree of agreement on each item, the rating criteria were a five point Likert scales ranging from strongly disagree (1) to strongly agree (5).

3. Learner Log

Learning log was used in an effort to triangulate data about students' attitudes, and feelings toward peer feedback in the research question 4. Five questions provided in the learner log made them aware of the problematic aspects, achievement of progress in their writing, and advantages of peer feedback method throughout the semester after they finished writing the second draft of each writing assignment. As a result, the students had to write the learning log 4 times in accordance with the total number of assigned writing tasks throughout the experiment.

4. Interview

The interview was conducted at the end of the course out of class and tape recorded in order to collect more in-depth information about students' reflections, preferences, attitudes, opinions, and feelings towards peer feedback they received for answering the fourth research question.

5.1.5 Data Analysis

Both quantitative and qualitative data analyses had a role to play in this study to attain the four research objectives. Based on the quantitative data analysis, two-way ANOVA of SPSS/PC Version 11.5 was operated to test the hypotheses of research question 1-3 while the effect sizes were calculated using Eta-squared formula. Scheffe's Test was performed to further examine the differences elicited in research question 1 and 2. In regard to the qualitative data analysis, it was used to analyze the data from open-ended part of the questionnaire, learner log, and interview for answering the fourth research question. All these qualitative data were categorized and reported in terms of mean, frequency, or percentage, and they were presented through tables and graphs.

5.1.6 Results

The results can be summarized as follows:

1. Based on the two-way ANOVA, the results showed that the different types of peer feedback had a significant effect on the students' writing achievements (F= 5.534, p<.05). The measures of effect size revealed a medium effect with the Eta squared of 0.06.

2. To meet second research objective which is to investigate the effects of levels of general English proficiency on the students' writing achievement , the two-way ANOVA was operated and it was found that the levels- of general English proficiency had a significant effect on the students' writing achievements (F= 41.919, p<.05). The measures of effect size revealed a large effect with the Eta squared of 0.47. The mean score of the writing achievement test revealed that the high proficiency group outperformed the moderate proficiency group, and the moderate group outperformed the low proficiency group.

3. Based on the results from two-way ANOVA, it was shown that there was no interaction effect of the types of peer feedback and levels of general English proficiency on students' writing achievement (F= 0.384, p>.05). With the effect size of 0.01 conveying that the practical significance was almost equal to zero, there might be a tendency to find that levels of English proficiency did not yield a significant interaction effect on the types of peer feedback.

4. The attitudes towards peer feedback of the three experimental groups were more or less the same that they had highly positive attitudes in most aspects explored. The confirmation can also derive from the learner log. Besides, results from the interview revealed more in-depth data that the students seemed to be satisfied with the peer feedback they experienced regardless of their proficiency levels.

5.2 Discussions of the Findings

Five main topics were discussed in accordance with the striking information found from the research results.

5.2.1 Why do the different types of peer feedback have different effects on the students' writing achievement?

This could be due to the following reasons:

1. The characteristics of the traditional mode and electronic mode

Results of the present study showed that the different types of peer feedback tended to have a significant effect on the students' writing achievement. This may be due to the different characteristics of traditional written mode which paper-pencil peer feedback belongs to and electronic mode which includes e-mail peer feedback and web board peer feedback.

In regard to the characteristics of electronic feedback and traditional written feedback discussed in Chapter II (see Table 2.3), it is obviously shown that these two modes are different in a number of areas. For example, the students in the electronic mode could give and receive feedback without time and place restriction while the students in the paper-pencil group had to wait for peer feedback until they had the same available time to meet and return their work because of different subject enrollment. Moreover, the electronic mode of communication can increase the student-student interaction as well as promoting negotiation of meaning since the students can raise questions to ask for more explanations and clarifications on the

points they might not understand. Besides, the students who are in the e-mail and web board peer feedback groups are greatly facilitated by computer functions that allow them to compose, peer edit and easily revise their writing by the cut and paste function. It is clearly shown that such benefits could not be applicable in paper-pencil peer feedback group.

These striking characteristics which the electronic mode provides lead to more learning engagement, more exposure to the subject out of class, and eventually help the students improve their writing skills. This claim could be supported by the quantitative results of the present study illustrating that the writing achievement scores of the students in the e-mail and the web board groups are higher than those of the students in the paper-pencil group as it could be seen from the following table.

Table 5.1: Writing Achievement Mean scores of the three peer feedback groups

Levels of Proficiency	Paper-Pencil Peer Feedback Group		E-Mail Peer Feedback Group		Web Board Peer Feedback Group	
	Mean	SD	Mean	SD	Mean	SD
High	75.37	7.89	81.41	8.03	81.87	7.27
Moderate	63.98	7.11	66.53	11.27	75.12	10.35
Low	47.12	14.38	51.87	11.54	58.93	19.35
Total	62.16	15.44	66.60	15.85	71.97	16.18

The findings are also supportive of Lyons' (2002) findings that the students using computer had significantly higher essay scores on the post test and on the attitude survey than the students in the traditional handwritten method group. The conclusion was drawn that utilizing computer technology can enhance writing proficiency and promote positive attitudes toward writing.

The findings also support the results of Bump (1990)'s and Paramskas (1993)'s studies which point out that the students who received electronic peer feedback produced a greater volume of written output, unlimited spaces for

comments, more revision and more improvement in fluency than the students who participated in the traditional oral or written peer feedback.

This can be supported by the findings of the interview. When asked about the strengths and weaknesses of the peer feedback they experienced, the students who worked on the electronic mode reported that the mode was more convenient to write, give, and receive feedback without time and place restriction. Moreover, they could search knowledge from the Internet for checking its correctness and search information for commenting on friends' papers as well. Moreover, most of them mentioned that the mode allowed them to write longer and it provided more detailed feedback as they would like to as the basic computer functions such as the cut and paste function were provided, so it was easier to rewrite and revise. On the downside, complains were on the technical problems of the technology such as the Internet access, and an overloaded mail-box.

In contrast, the students from the paper-pencil group identified the weaknesses of the paper-pencil feedback such as limited spaces for comments and difficulties in copying and distributing their assignments, in making appointments with friends, in exchanging feedback, and in collecting their work since it had a chance to lose easily. More than half of the students complained about poor handwriting of their friends saying, "I have difficulty in reading friends' handwriting. Poor handwriting is one barrier that reduces my motivation to read. It is extremely hard for me to understand and leads me not to willingly give feedback."

Based on the results of the present study and prior evidence shown in other researchers' studies, therefore, it could not be wrong to say that students' peer feedback process in the e-mail and web board group are facilitated a great deal when working on the electronic mode. Finally, it could be concluded that the different characteristics of the electronic mode and traditional mode, which either can much facilitate the peer feedback process, could be an important factor contributed to the effects of types of peer feedback on the students' writing achievement.

2. The influence of Thai culture

Apart from the striking characteristics of the electronic mode, the influence of Thai culture could be a remarkable factor that leads to a significantly different effect of peer feedback types on the students' writing achievement. This is due to the fact

that many researchers found that students' culture had a significant impact on the effectiveness of peer feedback groups (Allaei and Connor, 1990). For example, Carson and Nelson (1996 cited in Hyland 2003) point out that there is some concern that the students from collectivist cultures may be more concerned about the need to emphasize a positive group climate than critically appraise their peers' writing, so this makes feedback less beneficial.

Thailand is considered as one of the countries in which collectivist cultures are dominating (Hofstede, 1986), and it is unavoidable to deny the fact that Thai culture, including the notion of face, ego orientation, maintaining harmony, and *Kreng Jai,* seems to influence the students' responding performances and perceptions. That is, they intended to say what the writers want to hear rather than providing frank, helpful comments to the writers, fearing that such negative feedback would humiliate their peers and cause a loss of face and discord in personal relationships afterwards. These problems seem to downgrade the value of peer feedback (Thongrin, 2002).

Among the three peer feedback types experimented in this study, it could be said that the students in the paper-pencil peer feedback group seemed to have the most influential impact from Thai cultural trait, Kreng Jai, while such influence might be lessened in the e-mail peer feedback group and would not possibly exist in the web board peer feedback group. In this perspective, it could imply from the literature that the quality of peer feedback, which is highly important for students' writing improvement, might not be equal in the different peer feedback types. For example, the students in the paper-pencil group might not be willing to criticize peers' writing for the fear of making their friends embarrassed, losing face, or creating bad feelings among them, so they might not give sincere feedback which might be beneficial to their peers' writing. The students might not gain full advantages from the peer feedback process, and eventually their writing ability cannot be improved as expected.

Confirmation can come from the analysis of the interview. When asked about the straightforwardness of feedback, most of the students in the paper-pencil group said they used more polite words when countering negative feedback and gave correct answers instead of explaining sentences to avoid conflicts or hurting anyone's feelings when negative feedback is given.

In regard to the e-mail peer feedback group, the results revealed that e-mail can lessen the cultural trait, Kreng Jai, because work was submitted via e-mail and

there was less confront with face to face conversation. Similar to the paper-pencil group, more careful word expression and the fear of making others feeling bad were taken into the students' thoughts. However, the interview results of students in the web board group showed that they seemed not to have problems with the Thai cultural trait, Kreng Jai as the paper-pencil and e-mail peer feedback group had. Most of them reported that they could give sincere feedback without the fear of making friends embarrassed or creating bad feelings.

These results from the interview corroborate the studies of Carson and Nelson (1992 and 1994) who pointed out that EFL students from China and Japan did not respond well to the peer group work as they generally work toward maintaining group harmony and mutual face-saving to maintain a state of cohesion rather than criticizing peers' essays. The findings also support Thongrin (2002)'s qualitative study of the Thai college students using e-mail in the peer feedback process, it revealed that the students responses showed mutual solidarity, and they soften the tone of negative feedback by using polite words to counter negative feedback, to dilute potential tension, and to prevent the writers from losing face for the fear that their comment would humiliate the writers' ego. She concluded that such responses seem to downgrade the value of peer feedback.

Based on the results of the study and previous research, what can be concluded from the second reason is that Thai cultural trait could be considered as a potential barrier in peer group communication which has an effect on the quality of peer feedback. Moreover, the degree of this cultural impact might vary in different peer feedback type, so it eventually yields different effects on the students' writing achievement. The findings suggest that a teacher should use caution when selecting the mode of peer feedback which is most appropriate to their teaching and learning context without overlooking the significant role of cultures.

5.2.2 Why does the web board peer feedback have the largest effect on the students' writing achievement?

This may be due to the following reasons:

1. The degree of anonymity

As mentioned in Chapter 2 that web board renders completely anonymous communication between readers and writers while this feature provides less support in e-mail and seems not to be found in paper-pencil peer feedback.

Previous research claimed that the degree of anonymity can have an impact on the nature of communication and the quality of the peer feedback. As it is believed that anonymity can eradicate some degrees of cultural barrier in communication, and this would encourage students to give more honest feedback because non-individual's physical presence as well as non-threatening environment for communication are provided (Kern, 1998; MacLeod, 1999).

The evidence to support this claim can be obtained from the questionnaire results of the present study. Results showed the web board group highly disagreed with item 47 said that I am afraid to comment the papers or to point out the mistakes for fear that my friends might be offended ($\overline{X} = 2.37$) while the paper-pencil group yielded highly agree on this ($\overline{X} = 3.60$). Besides, the e-mail group seemed to be neutral towards the matter ($\overline{X} = 3.10$).

Besides, the interview results also supported that the web board encourages the low proficiency students to equally and more confidently participate in the discussion. In contrast, the low proficiency students in the paper-pencil group might not be willingly to share their opinions since they feared for making embarrassing comments due to their inferior language ability. Although such cases were not presented in the questionnaire and the learner log, the evidence of this claim could be manifested in the interview results.

From the above discussion, the conclusion could be drawn that the paper-pencil group and e-mail group were less successful because of an unwillingness to criticize others, so this unavoidably impacted the quality of the feedback. It is no doubt that the students who were in the two peer feedback groups might not gain the most advantages from the use of peer feedback.

In contrast, anonymity can be a double-edge sword as the students would express hostility in this unidentified condition (Kiesler et al., 1984; Kim & Raja, 1991, cited in Herring, 1996). Some students would work less and provided less

helpful and lower quality reviews than the reviews in the identifiable condition (Zhao, 1998).

However, the present study did not encounter those problems since the quality of peer feedback was accredited in the course, and their responses could be monitored by the teacher although there was no teacher intervention. Nevertheless, from the interview results, drawbacks such as receiving harsh feedback and more negative comments were also mentioned than positive ones even though they were true and helpful. It could be implied that the students in the web board peer feedback group not only acquired English knowledge but also gained the non-linguistic factors such as learning to accept other people's opinions.

It is noted that web board peer feedback tends to be a powerful channel to overcome the cultural barriers by encouraging the students to give more honest and frank feedback in the *non-threatening, anxiety free, motivating environment* due to the anonymous characteristic of the mode while the students in the other two groups especially the paper-pencil peer feedback group were directly and indirectly influenced from Thai cultural traits although all of them were reminded about the purpose of peer feedback and its considerable benefits in the intensive training provided at the beginning of the course. Therefore, it might not be surprising to find that the students in the web board group were likely to perform better than the other two groups did.

2. The degree of interaction and its convenience

It is noted that the three types of peer feedback are different in terms of interaction degree. The writers in the web board and e-mail groups could read the feedback and could ask readers for clarifications and explanation, but the degree of interaction might increase in the web board group because the channel supports one-to-many communication while e-mail is considered as one-to-one communication that peer feedback is e-mailed personally and individually to the writing assignment's owner, so other group members are not provided opportunities to learn from those comments or have further discussion. For the paper-pencil group, the mode itself is considered as one way communication since face-to-face peer group discussion was not carried on in-class due to the time constraints.

The study is consistent with the findings of Wertsch (2002 cited in Smith et al, 2003) comparing the nature of communication on web board and e-mail, he suggests that web board provides an opportunity for participants to post quite lengthy reflective pieces without the need to take account of the presence of others, and which can be based on a period of thoughtful reflection on the previous postings of other participants while the e-mail peer feedback does not have the central repository of messages for discussion lists.

It signifies that the web board group might have more convenience in posting and reading comments. In addition, it is also easier for someone in the group to raise the questions on the web board which possibly leads subsequently thoughtful responses for discussion among friends because all the response history is visibly shown, and everyone in the group can equally access to the data.

However, quantitative results of the present study are different from those of Spiliotopoulos (2003)'s study which investigates the potential benefits of students' online interactions in electronic bulletin boards to their academic writing skills. Although the author anticipated that online interaction would facilitate improvements in student confidence, motivation, identity awareness, cross-cultural understanding, and peer relations, the two groups showed no significant differences in the quantitative assessment of English usage or in writing assessments. Although the quantitative results did not reveal any significant findings, the qualitative results suggested that on-line interaction assisted students in improving their writing skills and developing their cross-cultural and interpersonal communication skills. The findings of this research project suggest that interactive writing using an electronic bulletin board allows ESL students the possibility of becoming multiliterate, thereby enabling them to integrate into and contribute to the academic community more effectively.

It could be concluded that the different degrees of interaction and its convenience can be another important factor that can explain why and how the students in the web board group performed best.

3. The permanence of the message

Another distinguishable characteristic of the use of web board with peer feedback is the permanence of the message. On the web board the message is

immediately visible on the website and thus may encourage a feeling of permanence about the message on the writers (Todd, 2003; Karchmer, 2001; Leibowitz, 1999). Students can also read comments for the group as a whole and post comments to them individually. Moreover this can yield the potential feelings of publicness about posted message and the comments are more publicly accessible than via e-mail while this feature cannot be found in paper-pencil peer feedback. This might unavoidably motivate students in the web board group more eagerness to write as well as raising more awareness in the quality of their writing and feedback, so this characteristic of web board could potentially have an effect on the students' writing performance.

This claim can be supported by the interview results. When asking about the strengths of the peer feedback experienced, the strength of web board peer feedback claimed by a number of students is the sense of publicness of their work, one of the students said, "I am very proud of myself as my work is shown online although I feel embarrassed at first." Another said, I am more confident in my feedback if there are other friends giving comments on the same points."

Moreover, all of the students from the web board group stated that they liked posting comments on the channel because it was very easy for them to get back to the source of data. They could learn from other friends' comments too while this aspect might be lacked in the other two channels.

However, the study is not consistent with the study of Braine (1997) which concluded that CMC based writing is no more advantageous than traditional writing. The project used a bulletin board system on which students posted comments. He stated that it was cumbersome for students to traverse through the list of comments for those that were directed to them. Thus, the response system was seen more as an obstacle to writing rather than a benefit in his point of view. However, the findings of the present study differ from Braine's in the intensive peer feedback training and teacher-student conference which was not implemented in his study since these supplements aimed to improve the quality of the peer comments and to ensure students' ability to distinguish between the helpful and not so helpful comments before implementing in their work.

All in all, based on the quantitative data analysis it might not be surprising to find that the scores of web board group are significantly different from those of the

paper-pencil peer feedback group because the characteristics of these two channels have substantial differences theoretically, practically, and technically.

The question might be raised here why the significant score differences were not found between those of the e-mail peer feedback and paper-pencil peer feedback or e-mail peer feedback and web board peer feedback while the e-mail peer feedback is also considered as one type of asynchronous mode of CMC. This may be due to the fact that the e-mail and web board share the same characteristics of asynchronous computer mediate communication. Both are not totally the same as the degrees of some features vary in continuum while the differences between the e-mail peer feedback and paper-pencil peer feedback might not be potential enough to create the score differences. However, the result showed that the mean score of the students' in the web board peer feedback is higher than that in the e-mail peer feedback group. As a result, it could be said that the web board peer feedback tends to shed a more positive light if used in the EFL writing course.

5.2.3 Why do levels of general English proficiency have large and significant effects on the students' writing achievement?

This may be due to the following reasons.

1. Characteristics of high and low proficiency students

The differences between high and low proficiency students were investigated by many researchers (Jerdan, 1993 cited in Swatevacharkul, 2006). The findings revealed that high proficiency students consistently outperformed on the test, showed higher task orientation, a a higher attention level, a higher learning ability, higher engagement in social factors, higher cognitive processing skills, and a more self-directed effort than those of the low proficiency students. As a result, the different characteristics of the language learners could manifest why high proficiency group outperformed the moderate proficiency group, and the moderate group outperformed the low proficiency group. This is supported by the findings from the interview revealed that although the low proficiency students liked the peer feedback method used in the study and gained considerable benefits from it such as an improved reading skills, a better language use knowledge, and an expanded lexicon, their negative attitudes toward English and their English ability, their personal high affective filters e.g. unconfident, high anxiety, low motivation, low participation, low

enthusiastic, insufficient efforts, dependent on teacher feedback, and low responsibility in their own learning are unavoidably found. For example, one low proficiency student in the paper-pencil group said that she chose to believe in high ability students without rechecking, and she refused to take a look at lower ability friends' comments because they might be incorrect. As a result, the characteristics are likely to obstruct them to become more successful language learners.

To sum up, it can be said that the high proficiency are more self-directed, have high critical thinking and cognitive skills, and are more enthusiastic than the low proficiency ones. Therefore, there is no doubt why the high proficiency learners tend to be more successful in language learning.

2. The relationship of general English proficiency and writing ability

Results of the post-hoc test comparison show that the subjects in different ability groups all performed differently. The high proficiency group performed differently from the moderate and the low proficiency ones. Also, the moderate proficiency group performed differently from the low group. To be more specific, the high proficiency group performed better than the moderate proficiency group and the moderate proficiency group performed better than the low proficiency group.

The results of this study are supportive to Kamimura (2006)'s study investigating the effects of peer feedback on high and low proficiency Japanese students .The two groups were compared in terms of their pre- and post test scores. Results showe that peer feedback had overall positive effects on the compositions for both high and low proficiency students. However, the students with the high proficiency students demonstrated greater improvement than low proficiency students. The findings can be supported by prior studies in ESL/ EFL writing, results showed that the quality of L2 writing and students' writing performance depends on their general level of proficiency in the target language (Archibld, 2004; Bardovi-Harlig, 1995; Cumming, 1989, Sasaki and Hirose, 1996; Wongtip, 1998), and it is a vital factor that distinguishes good writers from poor writers (Pennington and So, 1993).

Interestingly enough, former studies concluded that the proficiency level can influence on language learning achievement not only writing skills but also other learning areas as well. The claims corroborate the results of aforementioned studies

(Jansom, 2006; Swatevacharkul, 2006; Thongrin, 2000; Chaisuriya, 2003; Chollatarnm, 1987; Sukamolson, 1998) which were discussed in chapter II. The results showed high proficiency group outperformed the low proficiency group no matter which types of learning methodology they received and regardless the language skills the researchers focused as well.

Since the findings of this study are consistent with other previous studies, it could be concluded that levels of general English proficiency tends to influence the writing ability of the students.

From the above discussion, it leads to the question whether the students in different proficiency groups benefited from the peer feedback process since low proficiency students might have limited language proficiency and insufficient grammar knowledge to give feedback while high proficiency students might perceive comments from low proficiency students as worthless.

The present study suggests that high, moderate and low proficiency students could benefit from peer feedback activity no matter which type of peer feedback they received. The interview yielded the positive results that high and moderate proficiency groups highly agreed that feedback from low ability is useful and can be implemented in their essays in terms of sharing different ideas and content as well as grammar correction. It also helps them more aware of audience as well as teaches them to respect others' ideas. Furthermore, all of the students in the three peer feedback groups agreed that they had more confidence in writing after taking peer feedback because of several interesting reasons. All students believed that their writing was improving for both fluency and accuracy as the semester progressed because they had learned more in the course content and out of sources such as grammar books, from other friends' mistakes and from peers' comments as well. High proficiency students in the paper-pencil group reported that they were more confident when they received positive response and compliment from friends. In addition, low proficiency students from the three peer feedback groups added that they were so proud that they could give feedback to higher ability friends. This made them more confident. It could be concluded from the findings that the students in the three peer feedback groups perceived that their writing was improving as the time progressed, so peer feedback should be introduced to the EFL writing class without reluctance.

The findings of the study could be confirmed with the studies of Thongrin (2000), Chaisuriya (2003), Berg (1999), and Nelson and Murphy (1993) showing that the students with all levels of proficiency as well as under all circumstances can learn well and benefit from peer feedback method. Although the students with high proficiency level demonstrated higher writing achievement scores than those of low proficiency students, such finding is not uncommon since the low proficiency students actually had limitation in their English proficiency.

5.2.4 Why isn't there an interaction effect between types of peer feedback and levels of general English proficiency on the students' writing achievement?

Based on the results from two-way ANOVA, it was shown that there was no interaction effect of the types of peer feedback and levels of general English proficiency on students' writing achievement (F= 0.384, p>.05). With the effect size of 0.01 conveying that the practical significance was almost equal to zero, there might be a tendency to find that levels of English proficiency did not yield a significant interaction effect on the types of peer feedback. The finding can be clearly shown in Figure 5.1 illustrated that the three lines were parallel without any crossing lines to show their interaction effect. It seems that the levels of general English proficiency had significant effects on the students' writing achievement in a natural pattern as the low proficiency group in each peer feedback type had the lowest score while the high proficiency group in different peer feedback type always perform best. Due to this natural pattern, each line has no chance for intersection. As a result, the conclusion can be drawn from the line graph that there is no particular feedback type is preferred by any proficiency groups.

Figure 5.1: Plot of mean scores from the writing achievement test

Estimated Marginal Means of SCORE
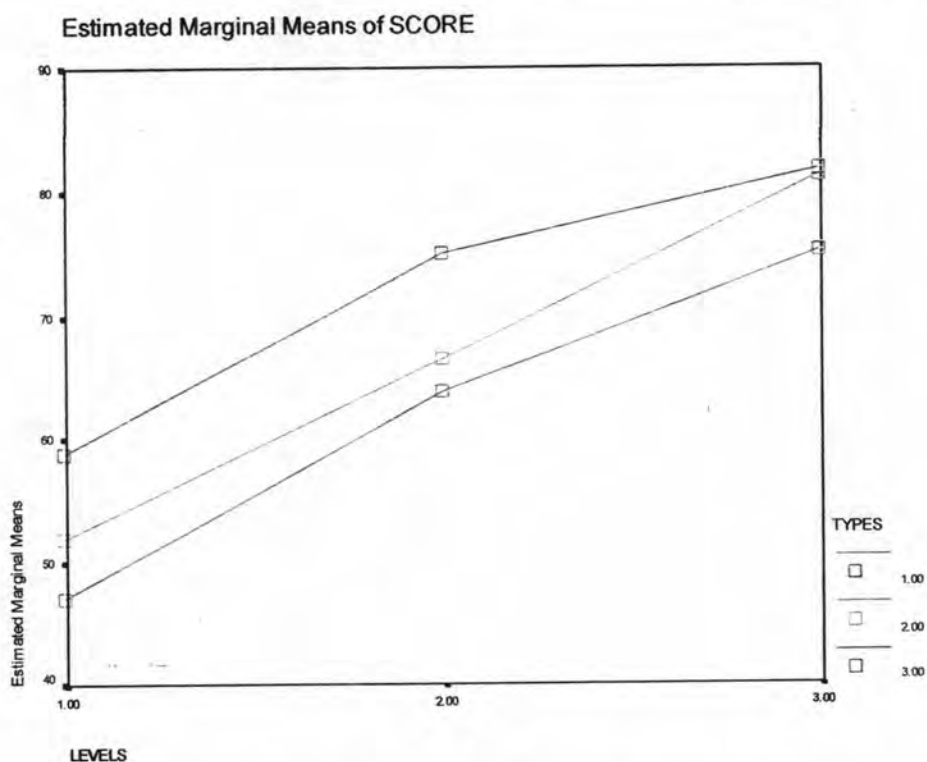
However, the present study has provided empirical evidence that the general English proficiency and the types of peer feedback had a significant effect on the students' writing achievement. Although the main effects of both independent variables were obtained, the interaction effect between them is not necessary to achieve. This is possibly due to the fact that the students in each experimental group are quite satisfied with the feedback type they received throughout the semester regardless the levels of proficiency they are at. This claim could be supported by the interview results reporting that the high, moderate, and low proficiency students in each peer feedback group had no preference in terms of the types of peer feedback that might work exceptionably well with their ability. Besides, this could be confirmed by the attitudinal questionnaire. When comparing the mean of questionnaire response among the high, moderate, and low proficiency groups in different peer feedback types, results from one-way ANOVA (see Appendix W) revealed the attitudes of the students in the three peer feedback groups were not significantly different. Further evidence to support this interpretation explaining why the students had more or less the same attitudes toward peer feedback they experienced is discussed in the subsequent part.

However, other factors such as technology apprehension or computer literacy that might possibly create the interaction effect to the preference of types of peer feedback of the students. Therefore, it is suggested to further study for those interested.

5.2.5 Why are the learners' attitudes toward peer feedback in the paper-pencil, e-mail, and web board peer feedback groups more or less the same?

This may due to the following reasons.

1. Advantages of peer feedback and peer scaffolding

Results from the questionnaire showed that the students in the three peer feedback groups had more or less the same highly positive attitudes toward the type of peer feedback they experienced. This may be due to the fact that no matter whether the students received peer feedback on paper-pencil, via e-mail, or on the web board they gained the fundamental advantages of theoretical peer feedback as considerably mentioned in the reviewed literature. For example, peer feedback encourages active learner participation, authentic communicative context, alternative and audience awareness, offers nonjudgmental environment, reduces writing apprehension (Hyland, 2003), helps develop students' critical and analysis skills, promotes learner independence (Celce-Murcia, 2001, Keh, 1996), provides students opportunity (Mangelsdorf, 1992; Mendonca & Johnson, 1994), and helps students learn from friends' strengths and weaknesses and can make use to their work (Tsui and Ng, 2000).

In terms of peer scaffolding, group of 6 students with different levels of proficiency (high, moderate, and low) were arranged in a subgroup at the beginning of the course. They had to work with the same group since the peer feedback training until the end of the study. Based on the Vygotsky's theory, feedback from more advanced peers can provide scaffolding and can reduce problems associated with peer feedback such as lack of credibility of the peer evaluator, reluctance to be critical in the writing process. Moreover, Cho (2004) stated that multiple sources of feedback could improve the effectiveness of feedback. There are several important benefits of multiple peer reviewers. First, writers can improve the audience conception by having multiple peer feedback (Schriver, 1990). Second, multiple reviews could reduce blind spots and omissions of any given individual review because more reviews means that

more errors are caught. Third, it could reduce the negative impact of incorrect feedback. Forth, multiple reviewers may be in agreement on some specific problems (Mumford, 1983), and this multiplicity of comments on a given problems many be especially persuasive or salient to a student when they are revising their paper.

The findings corroborates the studies of Chinnawongs (2001), Padgate (2001), and Thongrin (2000) which revealed that Thai students seemed to have positive attitudes toward the use of peer feedback strategy as they considered peer comments as useful to their writing improvement. Although peer comment was the lowest ranking as the useful corrective strategy, the mean of peer evaluation was considered very high (Chinnawongs, 2001). Such findings also suggested that peer feedback strategy has a role to play in the EFL writing class. Importantly enough, it is worth noting that although peer feedback training was not implemented in the research discussed above which differs from the present study, the students might benefit from its theoretical values in some degrees.

What can be concluded from the first reason is that the students still gain the benefits of peer feedback strategy in their writing whether the peer feedback process was carried on paper-pencil, via e-mail, or on web board. No doubt the students in the three peer feedback groups had highly positive attitudes toward peer feedback they received.

However, Figure 5.2 shows that the means in every component of the web board peer feedback group were slightly higher than those of the other two groups, except Aspect 6 (attitudes towards the problems of using peer feedback as a reader). Moreover, one-way ANOVA (see Appendix T) showed that there was no significantly difference of the attitudes of the students in the three peer feedback groups. This may be due to the remarkable characteristics of the web board which can facilitate writing and peer feedback process, which is formerly explained in the first discussion.

Figure 5.2: Attitudes toward peer feedback in the 6 main aspects of the students in the three peer feedback groups
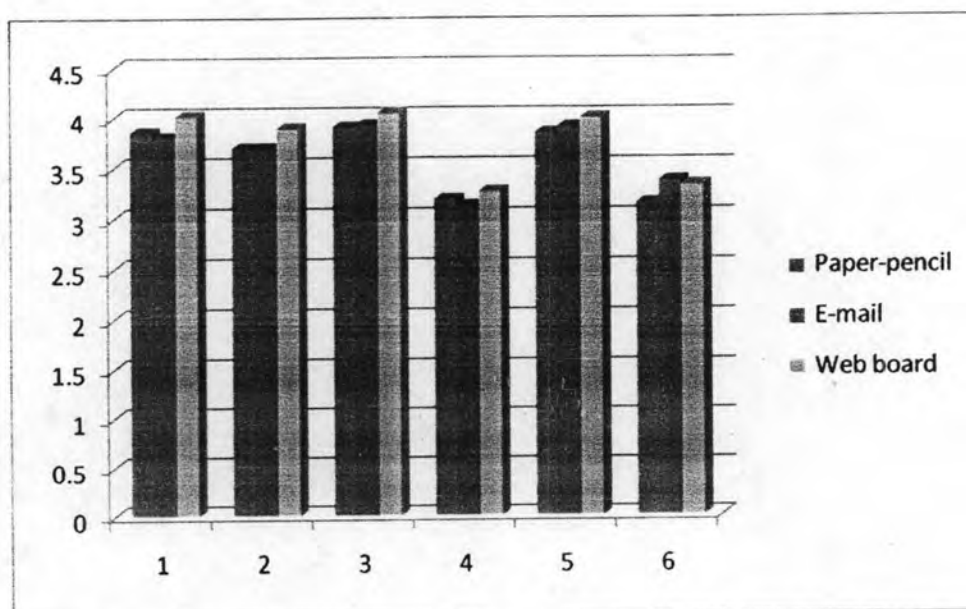
This confirmation might be more apparently made by the learner log results, as the web board group revealed higher percentage of the positive response in most of the explored issues. For example, the web board group expressed highest positive responses (91.60%), e-mail group second (87.13%) and paper-pencil group last (72.63%) when asked their opinion on what they feel or think towards peer feedback in the writing assignments as a reader or a person who has to give feedback. This suggests that the students in the web board group might feel more relaxed working under free-anxiety and non-threatening atmosphere from cultural impact.

In conclusion, it could be said that all the three types of peer feedback could be used in the EFL context since they are well received by the students while the web board peer feedback tends to have a most promising place in the EFL writing class because it can enhance the students' writing performance and increase the quality of peer feedback. However, other factors that might affect the effectiveness of this channel such as learning styles, technology apprehension, computer literacy, and sociocultural factors should be considered before applying it in the writing course.

2. Intensive peer feedback training

Intensive peer feedback training may be another possible reason to explain why the students have more or less the same attitudes toward the use of peer feedback in writing instruction.

Based on the literature, peer response practices are most effective if they are modeled, taught, and controlled (Hyland, 2003). As a result, in this study, the students in the different types of peer feedback group were equally trained how to generate more specific comments and suggestions to their peers' work at the beginning of the course in a cooperative learning environment. The teacher also put an effort to emphasize the role of peer feedback in the writing process, explain and discuss the benefits of having peers to respond the students' papers as opposed to teacher's feedback, and the students were encouraged to believe that they could trust their peer's group assistance. It might not be wrong to say that such training possibly increases the students' self-confidence in their ability to provide useful feedback to their friends and promotes positive attitudes toward the use of peer feedback strategy in their writing process because they were provided opportunity to learn how to effectively respond to their peers' writing, and the benefits that they would gain from the peer feedback process were clearly emphasized during the training. As the students in the three peer feedback groups were equally trained by using the same methods, materials, and exercises, different channels of communication in the peer feedback process: paper-pencil, e-mail, and web board, do not have much influence on the students' attitudes toward the benefits they might gain from the theoretical peer feedback and the problems they might encounter in the peer feedback process, but the channels might have more impact on the students' attitudes in terms of the convenience of communication that technology can facilitate their writing process.

Confirmations of the positive results from peer feedback training can also be attained from previous research studies pointing out that the success of peer feedback training tended to lead to positive effects on students' cumulative writing development, students' ability to provide significantly more and significantly better comment on each other's writing, and students' more confidence (Zhu and Mcgroarty, 1997; Mittan, 1989; Stanley, 1992; Nelson and Murphy, 1993, Berg, 1999; Hui - TzuMin, 2005), and when peers are trained, the feedback of lower level writers is not less effective (Berg, 1999).

What can be concluded from the second reason is that peer feedback training is necessary for the students before fully applying the peer feedback strategy in the writing process because it might be one of the most important factors that lead to the success or the failure of writing instruction and students' writing development. Therefore, it may not be surprising to find that the students who received a different type of peer feedback had more or less the same attitudes toward peer feedback types regardless the channels of communication.

5.3 Recommendations of the Study

Based on the research results and discussion mentioned earlier, recommendations for research consumers and further study are as follows:

5.3.1 Recommendations for the Research Consumer

5.3.1.1 Recommendations for Writing Instructors

1. Based on the first research question about different types of peer feedback which tends to have a significant effect on the students' wriung achievement, it is recommended that if possible, teachers should find an opportunity to implement technology into their writing class due to some advantages of technology that can facilitate the writing process. For example, it can promote students- students interaction, and provide unlimited place and time to contact each other. However, they should be aware of the students' need and preference and computer literacy as well.

2. According to the second research question showing that levels of general English proficiency had a significant effect on the students' writing achievement, it doesn't mean that peer feedback activity doesn't work well with low proficiency group because the results from the questionnaire, learner log and interview revealed that the students from low proficiency groups also had highly positive attitudes toward peer feedback , but teachers should be aware of the students' ability whether they have sufficient knowledge to give feedback to other friends or not. As a result, teacher-student conference and grammar instruction should be implemented in order to make them more confident.

3. To ensure students' ability to give useful feedback, teacher should pay more attention to the training period and conference with students who are in need of help and guidance especially low proficiency learners.

4. Moreover, teachers should clearly explain why peer feedback is used in the class, and identify the advantages students will receive because the students are familiar with traditional method or teacher feedback and dependent learners. Teachers should provide collaborative learning environment, trust and warmth, and the objectives of peer feedback should be clearly indicated and explained.

5. To attain the ultimate benefits of Vygotsky's Constructivism Theory that students can learn from higher ability students, teachers should be aware of group arrangement when introducing peer feedback in the class where students have different general English proficiency levels.

6. It is suggested that teachers should be well trained how to use web board and e-mail, and they should gain computer and technology literacy before if they would like to implement the innovative use of peer feedback in a writing class.

5.3.2 Recommendations for the Students

1. Students should find a more opportunity to write and have more critical thinking as to what comments received from their friends should be used in their writing or not.

2. Students should give honest feedback to their friends' writing in order to gain ultimate benefits from their peer feedback rather than group harmony.

3. Low proficiency students should change their attitudes which discourage their ability and self-esteem or confidence.

5.3.3 Recommendation for the Material Writers

1. It is suggested that material writers should incorporate peer feedback activity and a friendly user manual for teachers who are interested in using as well as tips for using this technique both for the teachers and the students who might not know this or who are unfamiliar with student-centered approach.

2. Peer feedback guidelines, and self or peer assessment should be incorporated in the course book as well in order to promote critical thinking and evaluation which bring about self improvement and life long learning.

5.3.4 Recommendation for the Education Administrators

1. Education administrators should support the integration of technology not only into language classrooms but also in other classes. They should also use the technology as a medium of communication in order to promote a student-student and teacher- student interaction. This may help them engage in the course content, and it tends to be convenient for both teachers and students.

2. It is suggested that the provision of any facilities related to the computer and the Internet for the students should be given the primary concern. The infrastructures should support the use of many users at times both at the institute and at students' accommodation to help students access into the Internet with reasonable speed.

3. As technology is a must in globalization and the institute also emphasizes its importance, the education administrators should provide computer labs and install it in the classrooms as well in order to use it as a medium of instruction. As previous research illustrated implementing technology into the classrooms is likely to enhance the students' motivation to learn.

5.3.2 Recommendations for Further Research

1. Replication of the study is suggested for a longer period of study time to strengthen the results of the study. As there is no control group, and the number of subjects is minimum for the experimental study allowance (Fraenkel and Wallen, 2000), further research should be in caution in terms of generalization. Moreover, it is interesting to further explore whether the study will yield the same results if the study is done with the subjects in other settings such as public universities or the subjects in other educational levels such as graduate students are studied.

2. Other crucial factors that might affect the results of the study such as gender, age, learning styles, learning strategies, technology apprehension, computer literacy, and group integrity should be taken into consideration.

3. Qualitative research on how the students respond to the peer feedback they receive, and to what extent the peer feedback from traditional mode and technology mode is implemented in their essays, the impact of different types of peer feedback

on their writing fluency and accuracy should be conducted in order to shed new light in the EFL field.

4. As this research focuses on asynchronous peer feedback, it is suggested that other researchers might compare the effects of synchronous peer feedback such as chat room with a traditional mode and an asynchronous mode in order to confirm whether which type of peer feedback is more effective and appropriate to implement in the EFL classroom.

5. Since the present study mainly focuses on the students' writing achievement, if possible further research should study the quality of peer comments during the writing process as well in order to gain more insights how the students respond to each other which the results would ensure the success of peer feedback in L2 writing classroom.