

Probing into the Effect of Synchronous and Asynchronous Computer-mediated Peer Feedback Practices on IELTS Learners'/Peers' Provided Comments

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Abstract

The current study was an attempt to explore whether there was any significant difference between the effects of synchronous and asynchronous computer-mediated peer feedback practices on IELTS learners' provided comments, and whether there was any significant difference between the effects of synchronous and asynchronous computer-mediated peer feedback practices on IELTS learners' incorporation patterns of provided peer comments. To this end, 75 IELTS candidates in five writing classes from three private language institutes in Iran were selected and divided into three equal groups as two experimental and one control group. One experimental group received treatment via synchronous computer-mediated peer feedback. Another experimental group was taught via asynchronous computer-mediated peer feedback. In contrast, the control group received no special instruction. The findings revealed that language use was the most common feedback type in both groups, which was predictable due to the English as a foreign language (EFL) context of this study. The findings of the inferential statistics indicated that the number of global comments provided by the students in the asynchronous group was significantly more than that of the participants in synchronous group. On the other hand, the number of local comments provided by the participants in the synchronous group was significantly higher. In addition, the findings showed that the participants of the asynchronous group incorporated significantly more comments into their revised versions.

Keywords: *Feedback, synchronous computer-mediated peer feedback practices, asynchronous computer-mediated peer feedback practices, Iranian IELTS candidates*

1. Introduction

English is the lingua franca of the outset of the third millennium. This language is prevalently used by its native and nonnative speakers throughout the globe. Nowadays, nonnative speakers of English outnumber native speakers, who are just a fourth or a fifth of English language users (Stevens, 1992). An increasing portion of human communication is conducted through the medium of English language. The advent of the Internet and other communication advances have increased the English acceptability among native speakers of other languages.

In order to scaffold second language students' writing ability, several supporting procedures such as writing courses, teacher feedback, self-assessment, and peer feedback

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have been employed. With the increase in the popularity of process approach to writing, peer feedback found its place in different stages of writing (Hyland & Hyland, 2006), and more attention was paid to it at both theoretical and practical levels. This type of feedback can be used in both first and second language writing classes and helps students recognize their weaknesses and strengths of their writing (Ferris, 2003). In addition, it can foster automation and invoke motivation to write more. It also can provide opportunities to learn from each other (Liu & Hansen, 2002).

Peer feedback has found its place in second language writing classes as either an alternative or a complement to teacher feedback. Peer feedback enables students to have a more active role in writing classes. In classes where peer feedback is used, students are not merely passive participants who just receive teacher feedback; they assume, as Liu & Hansen (2002) put it, “roles and responsibilities normally taken on by a formally trained teacher, tutor, or editor in commenting on and critiquing each other’s drafts in both written and oral formats in the process of writing” (p. 1). This innovation in writing classes was conjoined with the use of computers in writing programs.

In the 1980s, practitioners and researchers started to employ computers in L1 and L2 classes. However, instructors’ reactions to the use of computers in writing classes were not uniform. Hyland (2003) states that “some teachers have welcomed these developments enthusiastically, seeing the integration of new technology-based pedagogies as a means of enlivening instruction, improving students’ writing skills, and facilitating collaboration and interaction both within and beyond the classroom” (p. 30).

Warschauer and Kern (2000) state that the use of computers in language teaching has led to different teaching orientations in the passage of time. They indicate that a shift from structuralist view in the form of giving grammar and vocabulary drills to a cognitive view which encouraged the use of problem solving tasks and towards today’s orientation which is a sociocognitive approach is detectable in computer programs. In the sociocognitive view, the learners’ interaction with computers is replaced by the learners’ interaction with other learners via the computer. In writing classes, the sociocognitive approach is manifested in both teacher-student and student-student interactions. The provision of teacher feedback by the use of computers and peer feedback provided by students is an instance of the sociocognitive approach.

Although several studies have investigated the dynamics of peer feedback and computer-mediated peer feedback practices, there are issues that have remained unexplored or under-explored. There are some niches in the literature that can be investigated to contribute to the body of second language acquisition. One of these niches in the literature is the thorough investigation of the effect of synchronous and asynchronous computer-mediated feedback on provided comments and the way they are incorporated into the students’ revised versions. Although previous studies have touched upon the issue, no comprehensive study has investigated the way synchronous and asynchronous peers’ and learners’ feedback practices can improve the writing quality of IELTS learners. Another gap in the literature that this study attempts to fill deals with the investigation of the IELTS candidates’ perceptions and attitudes in terms of the synchronous and asynchronous peer feedback.

That is, the effect of two types of feedback, namely, provided comments and the pattern of incorporating these comments, were examined. Unlike previous studies, the present study puts the comments in five different criteria proposed by Jacobs, Zinkgraf, Wormuth, Hartfiel, and Hughey (1981) including Grammar, language use, content, mechanics, and organization. Furthermore, this study attempts to scrutinize the participants’ provided comments under different computer-mediated peer feedback conditions. Finally, this investigation attempts to uncover students’ perceptions and attitudes towards synchronous and asynchronous computer-mediated peer feedback. Thus, the current study will answer the following questions:

RQ1: Is there any significant difference between the effects of synchronous and asynchronous computer-mediated peer feedback practices on IELTS learners’ provided comments?

RQ2: Is there any significant difference between the effects of synchronous and asynchronous computer-mediated peer feedback practices on IELTS learners' incorporation patterns of provided peer comments?

It is hoped that the findings of this investigation can also give us a deep understanding of the way synchronous and asynchronous peer feedback can help second language learners scaffold each other's writing ability. While significance of students' engagement with the provided comments is well-established in the literature, to the best of the researcher's knowledge, no systematic study has delved into this issue.

2. Literature Review

The theoretical framework of this study is based on sociocultural theory and community of practice. Sociocultural theory is a social constructivist view of learning pioneered by Lev Vygotsky. This theory holds that learning is a social phenomenon that occurs through interaction between different participants in a society. Community of practice, an offspring of sociocultural theory, explains how a newcomer person to a community is socialized into the explicit and implicit rules, and moves from a legitimate peripheral participation to full participation.

Peer feedback is supported by a number of theoretical stances. As Liu and Hansen (2002) state, different linguistic and educational theories have supported the use of peer feedback in writing classes. The researchers have outlined Zone of Proximal Development, cooperative learning, interactional hypothesis, input hypothesis and output hypothesis as the oft-cited bases of peer feedback. Peer feedback is supported by Vygotsky's (1978) notion of Zone of Proximal Development (ZPD). Vygotsky (1978) argues that cognitive development is the result of social interaction in which more experienced individual guides the less experienced person to extend his competence. This expansion of competence happens with restriction which is called ZPD. Vygotsky (1978) defines ZPD as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers" (p. 86).

Ho and Savignon (2007) compared the conventional and online peer feedback in terms of students' attitudes and perceptions. The participants of their study were 37 English major students in a Taiwanese university. Two intact classes (one junior and one senior) participated in this survey. In order to glean the data, the researchers gave the students a questionnaire which included 30 closed-ended questions and 5 open-ended questions. The semester was divided into two halves; in the first half students gave each other face-to-face feedback, while in the second half students used annotation section of the word processor to give comments and then emailed them to their partners. The results of their study showed the favorable attitude of the students towards peer review.

Marefat's (2004) study is an exploratory investigation of the online asynchronous feedback. She probed the nature of the comments exchanged and investigated the students' attitudes towards online peer feedback. The results of the study indicated the existence of different functions of comments. She found agreeing, praising, complaining, asking questions, and discussing as the functions recurring in the comment pool. Another finding of the study was the increase in the length and the intricacy of the comments. Students exchanged longer stretches of words in their online interactions; they also paid more attention to content and organization errors. With regard to the students' attitude towards online peer feedback, she found that students had positive attitude towards it; however, email was out of favor with some of the students. They preferred the live atmosphere of the class for comment exchanging interactions.

Shang (2007) conducted another exploratory research on online peer feedback. Like Marefat's study (2004), Shang used email to exchange peer feedback. He probed into the question of whether the use of email improve syntactic complexity, grammatical accuracy and lexical density of the students' writing. They could communicate online to exchange comments. The findings of Shang's study indicated an improvement in the students' writings' syntactic complexity and grammatical accuracy; however, lexical density levels of the students' writings weren't improved. With regard

to the students' perception, the results of the survey showed that online exchanges increased the amount of writing practice, social interaction, their vocabulary knowledge and their self-monitoring ability.

Guardado and Shi (2007) conducted an exploratory study investigating the nature of comments and their effects on the revisions students made. The findings indicated that students had provided 128 positive comments, and 93 negative comments. All positive comments were revision-based, and with regard to negative comments, 57 out of 93 comments were revision-oriented. They reported that students usually started with a general positive comment, followed by a specific positive comment and terminated by a set of negative comments.

Dippold (2009) investigated the affordances of weblogs in peer feedback activities. The participants of this study were 9 students of an advanced German class in the UK. Dippold reported that the nature of comments students provided in the first task (summarizing) and the second task (writing a cover letter) differed. The comments given on the first task were short and focused less on the content. However, in the second task, students provided suggestions which embodied both grammatical and content issues. The results of the questionnaires manifested the positive attitude of the students towards online peer feedback. One of the external tutor-observers stated that the interactive nature of the online activity, and its playfulness were two advantages of the treatment. Another external tutor-observer stated that he had had peer feedback experience in his teaching programs but he said that his students were shy, lacked self-confidence, and took the teacher as the sole authority of the class which prevented them from giving sound comments; these reasons made him exclude the peer feedback from the program.

Yang (2011) also examined the way students scaffold each other in the process of exchanging peer feedback. Yang also investigated the nature of interactions in online peer feedback; he also surveyed students' perceptions of the online peer feedback. The findings of the study revealed that students learned from other students' texts and comments; the students also assisted each other in revising drafts through the six processes mentioned above. The analysis of the interactions showed that students in the course of writing supported and received supports from other students. The construction of collaborative language knowledge was the product of the reciprocal interactions of the students. Students' positive attitudes towards peer feedback was another result of this study. Most students in this survey found peer feedback effective in their writing improvement. The students stated that they tried to be beneficial, so they tried hard to give comments on their peers' writings and support them when required.

In a recent study, Greenwood (2017) investigated students' perceptions of computer-mediated peer feedback. He employed a series of semi-structured interviews to collect students' perceptions. In this case study, he gleaned the perceptions of five upper-secondary EFL students. The findings of this study revealed that students' overall attitude toward computer-mediated peer feedback was positive. The participants' positive perceptions were categorized into three themes of positive affective response, low affective filters, and favorable conditions for second language learning.

3. Method

3.1. Participants

The participants of the current study consisted of 75 IELTS candidates in five writing classes from three private language institutes in Iran. They were selected based on their scores on IELTS mock exam. They were ranging from 22 to 29 years old. Then, they were divided into three equal groups, all of whom were native Persian speakers.

3.2. Materials and Instruments

3.2.1. Writing Tasks

The writing tasks were taken from *Improve your IELTS: Writing Skills* (McCarter & Whitby, 2011). For the purpose of the current study, IELTS Academic task 2 was utilized.

3.2.2. Synchronous and Asynchronous Media

Synchronous peer feedback was performed by the utilization of a software. *Whatsapp* was employed to provide the learners with the platform to paste their texts and discuss the different parts of the writing tasks. Each pair created a group for each peer feedback session and added the researcher to this group so that he could examine the interactions. In contrast, for the asynchronous peer feedback treatment, each learner was supposed to create a simple weblog. The participants were free to choose any weblog provider they wished but the weblogs had to be accessible for their classmates with no difficulty.

3.3. Procedure

The whole process of data collection lasted three months. The data collection began with the IELTS Mock test conducted by the institutes to find out a homogenous sample of the participants (N=75). Then, the selected participants were divided into three equal groups (N=25), and assigned into two experimental and one control group. The second step was the introduction of treatments to the participants in different groups. One experimental group received treatment via synchronous computer-mediated peer feedback. Another experimental group was taught via asynchronous computer-mediated peer feedback. In contrast, the control group received no special instruction. After the treatment session, all groups were examined on a posttest.

3.4. Data Analysis

The peer comments collected from both synchronous and asynchronous groups were investigated. These comments were categorized into five major aspects of writing suggested by Jacobs et al. (1981). The comments were put into organization, content, vocabulary, language use, and mechanics. The organization aspect deals with the extent to which the contents are provided in a well-organized manner. Content has to do with the extent to which there are substantial amount of content to support the main idea. The items pertinent to lexical items, including collocations and idiomatic expressions are called vocabulary. Those comments that deal with the construction of sentences are labeled as language use. The last aspect, which deals with punctuation and paragraphing, is called mechanics. Table 1 shows the frequencies of different feedback types provided by the students in the synchronous group.

Table 1. Frequencies of Different Feedback Types Provided by the Students in Synchronous Group

	Frequency	Percent
Organization	62	15.85%
Content	45	11.50%
Vocabulary	66	16.87%
Language use	122	31.20%
Mechanics	96	24.55%
Total	391	100%

As indicated in Table 1, the most common feedback type provided by the students in the synchronous group was language use (n=122, 31.20%). The second most common feedback type was pertinent to the mechanics of writing. Around a quarter of comments (n=96, 24.55%) were on issues such as punctuation and paragraphing. Vocabulary was the third recurrent feedback type. The students in the synchronous group gave 66 comments (16.87%) on lexical items. The second least common feedback type was organization. This feedback type formed 15.85 percent of peer

comments provided by the students in the synchronous group. The least frequent feedback type was content. Only 11.5 percent of comments were on the content of the texts. Overall, 27.35 percent of comments were on global aspects (organization and content), and 72.65 percent of the peer comments provided by the students in the synchronous group were on local aspects. In other words, the comments on the local areas were three times more than those on the global aspects.

Table 2. Frequencies of Different Feedback Types Provided by the Students in Asynchronous Group

	Frequency	Percent
Organization	124	21.70%
Content	121	21.15%
Vocabulary	73	12.76%
Language use	151	26.4%
Mechanics	103	18.00%
Total	572	100%

As indicated in Table 2, around a quarter of comments (26.4%) provided by the students in the asynchronous group was on language use. This aspect was followed by comments on organization with 21.7 percent of all comments. Twenty-one percent of comments provided by the participants in the asynchronous group were on the content of the texts. Mechanics and vocabulary were other feedback types provided by the students in the asynchronous students with 18.00 and 12.76 percent. These participants provided 42.85 percent of their comments on the global aspects of texts, and 57.15 percent of comments were given on the local aspects of texts.

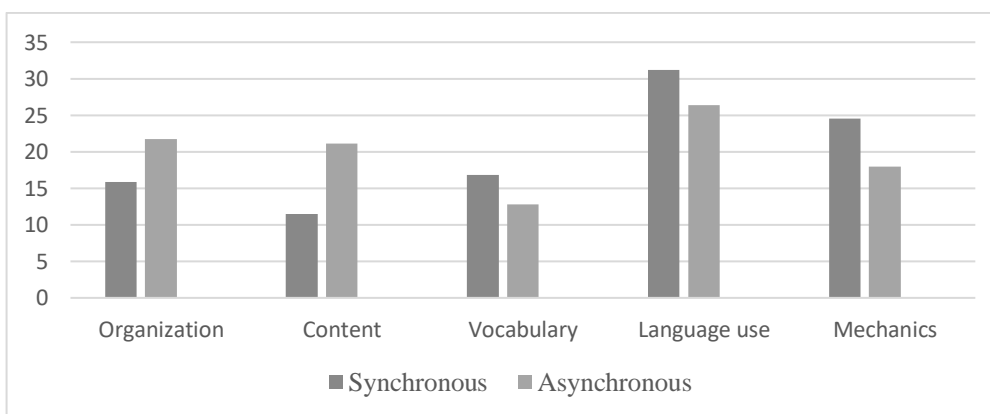


Figure 1. The Frequencies of Different Feedback Types Across Conditions

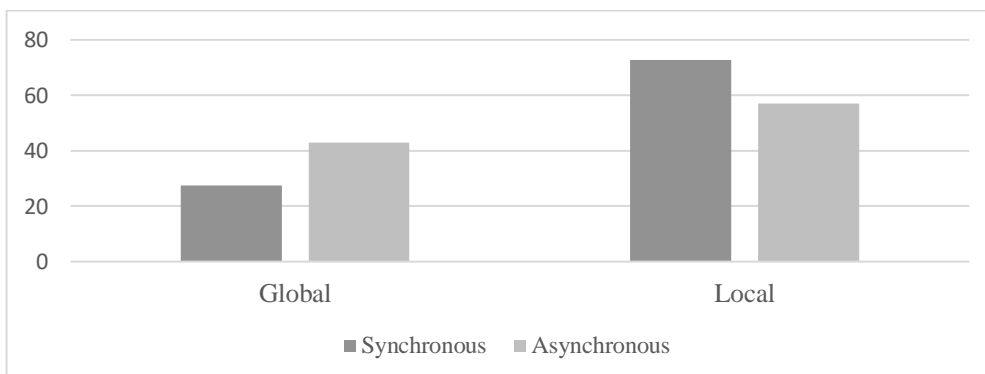


Figure 2. The Frequencies of Feedback on Global and Local Aspects Across Conditions

Table 3. Chi-square Test for Different Feedback Types

	Pearson chi-square value	df	Asymp. Sig. (2-sided)
Organization	5.05	1	.025
Content	15.14	1	.000
Vocabulary	3.18	1	.074
Language use	2.63	1	.110
Mechanics	6.06	1	.014
Global	29.97	1	.000

According to Tables 1, 2, and 3, the students in the asynchronous group gave significantly more comments on the organization of texts than those in the synchronous group ($X^2=13.66$, $p<.05$). Similarly, the frequency of comments on the content of texts provided by the students in the asynchronous group was significantly more than that provided by those in the synchronous group ($X^2= 15.14$, $p<.05$). On the other hand, those in the synchronous group provided significantly more comments on mechanics ($X^2=6.06$, $p<.05$). The non-significant differences were the ones between the frequencies of comments on vocabulary ($X^2= 3.18$, $p<.05$) and language use language use ($X^2=9.81$, $p<.05$). Totally, the frequency of global comments provided in the synchronous group was significantly lower than that of the asynchronous ($X^2= 29.97$, $p<.05$).

The participants' incorporation patterns of peer feedback by the participants of synchronous and asynchronous group were also investigated. The following tables provide the patterns of feedback incorporation across the two conditions.

Table 4. Frequencies of Incorporated Comments by the Students in Synchronous Group

	Frequency	Frequency of Incorporated items	Percentage of incorporated items
Organization	62	24	38.70%
Content	45	19	42.22%
Vocabulary	66	37	56.06%
Language use	122	96	78.68%
Mechanics	96	68	70.83%
Total	391	219	56.01%

Table 4 indicates the extent to which different feedback types were applied by the students in the synchronous group. As shown in this table, these participants applied 38.70 percent of organization comments. The incorporation level of comments pertinent to content was a bit higher. They incorporated 42.22 percent of this kind of feedback. In other words, these participants applied less than half of global comments into their revised versions. The incorporation level of comments on local aspects of writing was higher, though. The students in this group incorporated 56.06 percent of comments on lexical items. They also applied 70.83 percent of mechanical and 78.68 percent of language use comments. Overall, the participants of this group applied 56.01 percent of all comments.

Table 5. Frequencies of Incorporated Comments by the Students in Asynchronous Group

	Frequency	Frequency of Incorporated items	Percentage of incorporated items
Organization	148	85	57.43%
Content	121	76	62.80%
Vocabulary	73	43	58.90%
Language use	127	105	82.67%
Mechanics	103	86	83.49%

Total	572	395	69.05%
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Table 5 shows the frequencies and percentages of incorporated comments by those in the asynchronous group. The analysis of the incorporated comments showed that 57.43 percent of comments on the organization of texts were applied by the students. Even more comments on the content of texts (62.80%) were used by the students. While these participants applied 58.90 percent of vocabulary comments, they incorporated high numbers of comments on language use (82.67%) and mechanics (83.49%). Overall, they applied 69.05 percent of comments.

Table 6. Chi-square Test for the Incorporation Level of Different Feedback Types Across Conditions

	Pearson chi-square value	df	Asymp. Sig. (2-sided)
Organization	6.13	1	.013
Content	5.68	1	.017
Vocabulary	.115	1	.735
Language use	.835	1	.361
Mechanics	4.55	1	.033

As provided in Table 6, the incorporation level of comments of different kinds across the two conditions were significant in some cases. As evident in Tables 5 and 6, the incorporation levels of comments in the synchronous group were lower than those in the asynchronous group. Table 6 shows the extent to which these differences were significant. The results shows that the students in the asynchronous group applied significantly more organization ($X^2= 6.13, p<.05$), content ($X^2= 5.68, p<.05$), and mechanics ($X^2= 4.55, p<.05$). However, the difference between the incorporation levels of comments on vocabulary ($X^2= .115, p<.05$) and language use ($X^2= .835, p<.05$) across the two peer feedback conditions were not significant.

4. Results and Discussion

4.1. Results

Regarding the first research question, in the present study, the effect of the synchronicity factor on the feedback types was investigated. The results showed that the highest frequency belonged to the comments on language use. This finding seems logical since the participants of this study were all non-native learners of English and the occurrence of grammatical errors and mistakes was predictable. The findings of the present study also revealed that the students in the asynchronous group provided significantly more global feedback on their peers' texts. This finding is in line with those of previous studies in the literature (Chang, 2009; Liu & Sadler, 2003; Jones, Garralda, Li, & Look, 2006). However, the study of Chang (2012) found a reverse pattern. Chang found that while the participants in the synchronous group provided a balanced number of global and local comments, those in the asynchronous group provided significantly fewer (around 13%) global comments. Ho and Savignon (2007) argue that each specific medium employed to communicate can bring about its own effects on peer feedback process and product; thus, the mixed results can be due to the different tools employed in these studies.

Prior studies have argued that asynchronous feedback by furnishing the condition to have more reciprocal discussions helps students to discuss the issues which need in-depth discussions such as organization and content (Liu & Sadler, 2010; Saeed, Ghazali, Sahuri, & Abdulrab, 2018). The delayed discussions in asynchronous peer feedback condition facilitates learners' reflection on global aspects which are more cognitively challenging. On the other hand, because of the inherent condition of the synchronous computer-mediated peer feedback, the interactions did not resolve in the deep analysis of texts. This temporal pressure, which can in turn affect the depth of analysis by

second language learners can explain the higher number of global comments by the students in asynchronous group.

4.2. Discussion

Feedback is a pivotal part and parcel of education since it leads to encouragement and consolidation of learning (Hyland & Hyland, 2006; Vygotsky, 1978). In language writing classes, too, both teachers and students have welcomed the implementation of feedback. The function of feedback has undergone some changes since its appearance in writing classes. Since the mid-1970s, and the heydays of the process approach to writing, teachers have been encouraged to pay attention to the content as well as the previously single attended area, which was the local aspect. Another difference lies in the number of drafts that students wrote. Unlike the product approach to writing, the students in process approach writing classes were required to write several drafts and revise them based on the received comments. Meanwhile, some researchers and practitioners, sticking to theoretical bases such as Vygotsky's ZPD, cooperative learning, input hypothesis, output hypothesis, and interactional hypothesis, proposed peer feedback. Since the early 1980s, several endeavors were made to promote the efficiency of peer feedback; one of them was the incorporation of computers and networks into the language writing classes. Practitioners, researchers, and computer technicians have been involved since then to provide an educational context which facilitates the learning process of students. Several studies probed different aspects of online peer and teacher feedback (e.g., Chang, 2012; Digiovanni & Nagaswami, 2001; Ho & Savignon, 2007; Jin & Zhu, 2010; Liu & Sadler, 2003; Ogata, et al., 2000; Yeh & Lo, 2009), and the present study aimed at putting a step forward and probing some of the untouched areas pertaining to online peer feedback. The present study was conducted to investigate possible differences between the effects of traditional, synchronous and asynchronous peer feedback on IELTS candidates' writing improvement, interactions, provided feedback, incorporation pattern, and perceptions. In so doing, employing a quasi-experimental design, the participants in six intact classes were assigned to the three treatments (i.e., traditional, synchronous, and asynchronous).

In the present study, two research questions were raised and attempted to be answered by collecting the required data. At first, the research question deals with the feedback types that the participants of the two groups provided on their peers' texts. To answer this research question, the comments provided by the students of the two computer-mediated peer feedback groups were undergone a deductive categorization procedure. The comments they had provided were categorized into five main categories of content, organization, language use, vocabulary, and mechanics. The findings of this content analysis procedure indicated that language use was the most common feedback type in both groups, which was predictable due to the English as a foreign language (EFL) context of this study. The findings of the inferential statistics indicated that the number of global comments provided by the students in the asynchronous group was significantly more than that by the participants in synchronous group. On the other hand, the number of local comments provided by the participants in the synchronous group was significantly higher.

The second research question of this study had to do with the incorporation pattern of the comments provided by students' peers. To examine the frequencies of different incorporated comments by the students in synchronous and asynchronous groups, the comments and first and revised versions of texts were analyzed. The findings indicated that the participants of the asynchronous group incorporated significantly more comments into their revised versions. The note-worthy point is that the participants in the asynchronous group applied more global comments which is a more difficult task than incorporating local comments.

5. Conclusion and Implications

The effectiveness of employing computers in second language writing classes was doubted by some scholars twenty years ago (Hyland, 2003, Hyland & Hyland, 2006). However, the findings of the present study, along with a series of previous studies, have revealed that computers can make a positive and noticeable difference in the process of peer feedback exchange and can lead to

second language learners' writing improvement. The findings of this study indicated that the writing ability of those IELTS candidates who received asynchronous peer feedback improved significantly more than those in the traditional and synchronous group. The scrutiny of the participants' perceptions and the quality of comments provided by the participants in this group indicated that the mechanics of asynchronous peer feedback condition provided them with more learning chances. Peer comments can function as language-related episodes (LREs) in a peer-scaffolding manner. The frequencies of these LREs have been reported (Swain & Lapkin, 2000) to have a positive relationship with second language learners' acquisition of new items. The asynchronous computer-mediated peer feedback condition by providing more chances of creating LREs, enables students to improve their writing ability. Similarly, as found in this study, the higher number of referential comments within the asynchronous condition can give feedback receivers data to add to their linguistic repertoire and improve their writing ability.

One of the criticisms directed at peer feedback has been the overemphasis of second language learners on the local aspects of writing (Biber, Nekrasova, & Horn, 2011; McGroarty & Zhu, 1997). The findings of this study indicated that the asynchronous peer feedback condition can improve the participants' focus while commenting on their peers' texts. It seems that the lower cognitive demand imposed by the asynchronous peer feedback condition help second language learners' focus on more demanding tasks such as analyzing the content or organization of texts as well as local aspects such as language use, vocabulary, and mechanics.

Based on the findings of the present study on the effect of different computer-mediated conditions on the process and product of peer feedback activities, some implications will be provided here.

Teachers of learners' second language are recommended to employ computer mediated peer feedback in their IELTS preparation classes since it can give the participants, who are mainly adults, the chance to get involved in the process of exchanging comments in the form of language related episodes in a time and place independent condition. Based on andragogy, the science of educating adults, adult learners are more motivated to participate in activities when they are given the chance to decide their preferred time and place flexibly.

Furthermore, the results of this study suggest the use of asynchronous peer feedback condition gives the participants the chance to have less cognitive load to both process the texts and give comments and analyze received comments to incorporate into their revised texts. In addition, asynchronous peer feedback can give the students the chance to provide more accurate and global comments on their peers' texts. In addition, the synchronous condition provided second language learners with the chance to negotiate the meaning of the comments and have a better understanding of them to apply them into their texts. Thus, as the bottom line of this study, teachers are recommended to benefit from both asynchronous and synchronous peer feedback conditions to maximize the benefits of the peer feedback activity. A possible solution is to have two rounds of peer feedback. One of the rounds can be done in the form of asynchronous feedback to help them analyze the texts deeply and give each other high-quality comments, and the second round can be in the form of synchronous feedback to negotiate the meaning of comments and have a full understanding of comments.

Acknowledgement

I would like to thank my highly educated professor Dr. Azizeh Chalak who has always supported me kindly and my cherished friend Hamid Rohani Raftar.

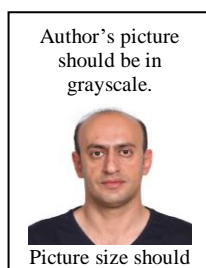
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