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Cyber Asynchronous versus Blended Cyber Approach in Distance English Learning

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ABSTRACT

This study aims to compare the single cyber asynchronous learning approach with the blended cyber learning approach in distance English education. Two classes of 70 students participated in this study, which lasted one semester of about four months, with one class using the blended approach for their English study and the other only using the cyber asynchronous approach. Students' final scores were collected and processed at the end of the semester. The null hypothesis was that there would be no significant differences in the outcomes of the two approaches. But the data obtained repudiates the null hypothesis and shows that although both approaches improved students' performance, the blended approach could bring a significantly better result for adult e-learners in their English study than the single cyber asynchronous approach. The questionnaire survey at the end of the study indicates that cyber synchronous learning can provide students with some unique help which cannot be obtained in cyber asynchronous learning.

Keywords

Cyber synchronous learning, Cyber asynchronous learning, Blended cyber approach, Online courses

Introduction

With the fast development of broadband Internet and computer technologies, online courses and thus cyber asynchronous learning have been employed more and more often for exchanging information between instructors and students, and between students and their peers (Hew et al., 2010). Cyber asynchronous learning allows students to have more freedom to conduct their learning process without the constraints of time and space. Meanwhile, the more traditional cyber synchronous learning through TV or satellite broadcasting or some other teaching systems is now gradually disappearing. At least, this is true in China, especially with Chinese adult e-learners (Ge, 2011). Cyber synchronous learning in China usually requires that students conduct their learning by attending real-time lectures through some sort of videoconference system. After all, most adult e-learners have regular jobs and may not meet the time requirements of cyber synchronous learning. Besides, more and more e-learning institutions have begun to encourage their students to utilize the cyber asynchronous learning environment instead of waiting for cyber synchronous instruction.

Cyber asynchronous learning supporters cry out the advantages of this learning approach. They point out that cyber asynchronous learning allows students to study through emails, blogs, etc., and students can make out their own schedule, without live interaction with the instructor (Kruse, 2004). Cyber asynchronous learning allows learners to determine whether or when to participate in course activities without considering whether other learners or the course instructor is present in the virtual learning system. So the obvious advantage of cyber asynchronous learning is convenience. As most adult e-learners are often busy with their jobs, this kind of convenience is really very precious for them. Besides, students often have to rely on themselves in a cyber asynchronous learning environment, for their teachers cannot always wait for them online. This actually can improve one's personal ability in learning (Robert & Dennis, 2005). Asynchronicity can also enhance educational assessment of students' learning processes. Cyber asynchronous teaching platforms normally can keep records of a student's online learning activities, including discussion threads and his or her interactions with peers and/or the instructor, which can be an important source of data for the assessment of the learner (Tanimoto et al., 2002; Shi et al., 2006; Hew et al., 2010). Moreover, these records can enable the student to review his or her learning activities at any time, and this kind of reviewing and reflection can help enhance the student's higher level learning, such as analysis and evaluation (Newman et al., 1997). On the other hand, cyber asynchronous learning does not necessarily mean that real-time interaction cannot happen. A good case in point is a threaded discussion, which is asynchronous in nature but also involves intensive interaction. Seeing these advantages, many e-learning institutions have begun to develop online learning courses, which are the most important part of a cyber asynchronous learning environment. In addition, online learning systems may also enable them to employ fewer faculties and thus cut their costs.

Meanwhile, some other scholars hold different opinions. They have shown great concern about the learning outcomes of cyber asynchronous learning. They are wondering whether learners can really follow the teaching plans set by their instructors. They think that the quality of instruction and the ability of students to master courses should be observed and assessed as new technologies are involved (DiPiro, 2003). The most troublesome problem in a cyber asynchronous learning environment is that students may have few chances or little desire to interact with their peers or teachers. Some scholars claim that limited student contribution is a persistent and widespread problem in cyber asynchronous discussion (Hewitt, 2005; Hew et al., 2010). Without enough contribution or interaction, students' learning can hardly produce satisfactory results and students will often feel isolated and out of the learning communities (Haythornthwaite & Kazmer, 2002).

It is generally believed that synchronous interaction is essential to second language acquisition (SLA) (Lee, 2002). The cyber synchronous learning environment can duplicate the capabilities found in a physical face-to-face classroom (Keegan et al., 2005; Shi et al., 2006). As summarized by Desmond Keegan and some other scholars (2005), the benefits of cyber synchronous learning include "(i) the familiarity of the classroom model, (ii) learners receive immediate feedback from other learners and the leader, (iii) the ability to create content quickly in the classroom". The study of Pfister (2005) indicates that synchronous net-based discourses among learners, or among learners and instructors can greatly improve understanding of complex subject matters. Pilkington and Walker's work (2003) even suggests that non-native English speakers working collaboratively through a virtual learning environment can outperform face-to-face students in group work on the same course.

But scholars on the opposite side have pointed out the disadvantages of cyber synchronous learning. They say the instructor and the students may often feel pushed by the time limit in a cyber synchronous environment. The instructor wants to cover all he or she has prepared and a student will try hard to grasp all the instructor has covered. So the focus of cyber synchronous learning is often on quantity rather than quality (Hrastinski, 2008). Lee's study (2002) also indicates that cyber synchronous exchanges among non-native speakers of English tend to encourage fluency rather than accuracy. Lee insists that synchronous online exchanges should maintain a balance between function, content, and accuracy (ibid.). Besides, cyber synchronous learning requires all students to be available at a certain time for the synchronous videoconferencing, and this is often regarded as the major disadvantage of this learning approach (Mirza, 2007).

The present study

Everything has two sides. Now, we have three choices. The first is to adhere to the more traditional cyber synchronous learning approach and shrug off the more popular cyber asynchronous learning approach, the second is just the opposite and the third is to keep both and combine the two together. As to the first choice, normally we will cast it away, as it is obviously against the trend of modern educational technologies. As a result, we have two choices left. Evidence suggests that learners often prefer the blended approach that includes both forms (Gregory, 2003). The blended approach can fulfill different types of needs and foster the participation of people with different capabilities and competencies (Ligorio, 2001). The current e-education practice in China, however, tends to reduce the use of cyber synchronous means and let the cyber synchronous learning approach be dominant (Ge, 2011). So the question is whether there is a possibility that one (the single cyber asynchronous approach) is better than two (the blended cyber approach)? This paper aims to address this question through an empirical study.

The researcher of this paper expected all the participants would improve their English abilities after this 4-month experiment. Participants would take a post-experiment test to examine their learning outcomes and they would also be required to respond to a questionnaire survey at the end of the study, with the aim to obtain their perceptions of the two learning approaches. The data analysis and the survey would be conducted to address the following questions:

- Did all the participants improve their English abilities and which approach could bring a better result?
- What attitudes did the participants have toward the two approaches?
- What problems might occur in the participants' study through the two approaches?

Methods

Participants

The participants consisted of two classes of adult e-learners (23-35 years old) who came from a network education

college of a university situated in Beijing. The learners were newcomers in the college and they did not have any previous experiences in e-learning. The course instructor, however, is an experienced professional in e-education, who had been teaching English courses for about 10 years. Consent was obtained from the college and the participants prior to the conduct of this study, which lasted one semester of about 4 months. Class 1 was composed of 34 students (24 males and 10 females) and Class 2, 36 students (22 males and 14 females). All the students were full-time job holders and about 10 percent in each class were high school graduates, with the rest below this level. Both classes were majoring in Computer Science. Class 1 was taken as the control group for the study and Class 2, the experimental group.

Procedure

Both classes were introduced to the asynchronous online course of College English Level 2. The online course provided students with prerecorded video lectures, downloadable materials, online quizzes and exercises, an online discussion forum, etc.

The students could access the online course by using their office or home computers according to their own time arrangement. The course could also be accessed through a Wap browser in mobile phones, which made mobile learning a new choice for the students. The students could study on their own by watching the prerecorded video lectures and doing the online exercises. They might also want to communicate to others by reading or writing posts on the online forum. The teacher would regularly organize some asynchronous online discussion activities on the forum.

Only one English teacher was there to cater for the English teaching and assistance to the two classes, whether synchronously or asynchronously. The online materials were enough for students to complete the course and pass the final examination. There was no special requirement as to how to use these materials, so students could make their own judgments about when or how to use them. The cyber asynchronous learning system could track the online activities of the students such as the frequency of their participation. Students were required to study online for at least four hours a week, and this requirement was to ensure that they really carried out their study. After all, online activities are easier to inspect than offline ones.

Students in Class 2 would also attend some synchronous videoconference classes. The synchronous videoconference system is called Webex (http://www.webex.com.cn), which is a very powerful videoconference system that can transmit audio and visual signals across the Internet. The cyber synchronous classes were organized into eight 3-hour lectures. There would be two 15-minute intervals during each lecture, that is to say, each lecture would be divided into three sessions with each session lasting about 50 minutes. There would be two lectures in each month. In cyber synchronous classes, the teacher would spend about half of the time summarizing the most important knowledge points of the course such as grammatical structures and the rest of the time would be used for interaction with the students. The interaction would normally include some questions for the students to answer. Students were encouraged to volunteer to answer the questions. If there were no volunteers, the teacher would randomly choose a student to talk to, but would try to ensure every student to have a chance to participate in the activities.

Students might respond by typing on keyboards or talking directly with the teacher through the microphones connected to their computers. The interaction between the instructor and the students normally included three or more turns. A typical interaction followed the pattern shown by Table 1.

Table 1. Turn-taking in the cyber synchronous classes

• Turn 1:
Instructor (speaking through the microphone): Greeting (for example, “Hi, Wang Lei (student’s name). Glad to meet you online. I have some questions for you.”)
Student (speaking or typing): Greeting (for example, “Hi, teacher! Happy to talk with you online.”)
• Turn 2:
Instructor: Asking a question
Student: Answering the question
• Turn 3:
Instructor: Evaluating the student’s answer

Student: Responding to the evaluation
The interaction may end here, or the instructor may continue to ask the student another question, and then the interaction goes on.

The interaction could involve various kinds of topics (mostly related to the textbook). Students could speak Chinese or English during interaction, as most of them were poor in spoken English. These activities were to make sure that the students had necessary interaction with their teacher. The teacher had a microphone and a video camera connected to his computer. All the students were required to equip their computers with a microphone, with a video camera as an option. This technological requirement was to ensure the effectiveness of the cyber synchronous interaction. But of course, if the students didn't want to talk directly to the teacher, then they could use keyboards to type out their messages.

There would be ten obligatory online assignments for the two classes to do. Nine were about multiple choice questions and one was essay-writing. The multiple choice questions were checked by a built-in function of the online course and the essay-writing assignment was marked by the teacher. At the end of the semester, all the students would attend a final examination.

The students' scores of the final examination (final scores) would be processed and analyzed to see the outcomes of the two learning approaches. Besides, two different questionnaires were distributed to the two classes respectively after the final examination. The purpose was to obtain their perceptions of the two approaches.

At the beginning of the study, all the students' English scores of the entrance examination (entry scores) were processed for Levene's Test for Equality of Variances in SPSS. See Table 2.

Table 2. Levene's Test of the entry scores of the two classes

				Levene's Test for Equality of Variances			
class	N	Mean	Std. Deviation	F	Sig.		Sig.(2-tailed)
class1	34	49.7941	11.00628	2.543	.115	.327	
class2	36	47.3333	9.83579				

From table 2, we can see the standard deviations of both classes are very large. This shows that the students within the two classes were very different in their English levels. On the other hand, the mean difference (49.7941 - 47.3333 = 2.4608) between the two classes is very small, which shows that the two classes were similar in the overall English level, with Class 1 being better. Levene's Test for Equality of Variances shows that the scores between the two classes have equal variances. ($F = 2.543$, $p = 0.115 > 0.05$). The 2-tailed p-value is 0.327, which means that there was no essential difference between the scores of the two classes and that the two classes were suitable for the study.

Null hypothesis

The null hypothesis of this study is that there are no significant differences between the final scores of those doing their study with the single cyber asynchronous learning approach (Approach 1) and those with the blended cyber approach (Approach 2).

Results

All the students of the two classes completed the course, so their final scores were all valid for the following analysis. Their final scores were processed for an analysis of covariance in SPSS. See Table 3-4.

Table 3. Descriptive statistics of the final scores

class	N	Mean	Std. Deviation
class1	34	58.2059	9.95377
class2	36	62.8056	8.46444

Table 3 shows us the following information:

Compared with Table 2, the means of the final scores of both classes have been greatly improved. Class 1 has increased by 8.4118 (58.2059 - 49.7941 = 8.4118), and Class 2 has increased by 15.4725 (62.8056 - 47.3333 = 15.4725). This improvement shows that both Approach 1 and Approach 2 have exerted a positive impact on students' learning, and Approach 2 has produced a better result.

The mean difference of the entry scores shows Class 1 was better than Class 2 in the overall English level, but the mean difference of the final scores just shows the opposite. This reverse of the relationship indicates that Approach 2 has exerted a more positive impact on students' learning than Approach 1.

The standard deviations of the final scores of both classes have decreased (Class 1 decreased by 1.05251, and Class 2 by 1.37135). This shows that the difference in English levels within the two classes has been narrowed.

Table 4. Test of between-subjects effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4243.239[a]	2	2121.619	74.662	.000
Intercept	1922.919	1	1922.919	67.669	.000
Entry score	3873.294	1	3873.294	136.305	.000
class	702.117	1	702.117	24.708	.000
Error	1903.904	67	28.416		
Total	262970.000	70			
Corrected Total	6147.143	69			

Note. Dependent Variable: final score.
R Squared = .690 (Adjusted R Squared = .681)

Table 4 shows that both the independent variable, namely the teaching approaches (F = 24.708, P = 0) and the covariate, namely the entry scores (F = 136.305, P = 0) have brought about significant differences in the final scores.

If the effect of the covariate is excluded, then we can get the adjusted effects of the independent variable on the final scores. See Table 5-6.

Table 5. Estimated marginal means

			95% Confidence Interval	
class	Mean	Std. Error	Lower Bound	Upper Bound
class1	57.289[a]	.918	55.458	59.121
class2	63.671[a]	.892	61.892	65.451

Note. Dependent Variable: final score.
Covariates appearing in the model are evaluated at the following values: score1 = 48.5286.

Table 6. Pairwise comparisons

					95% Confidence Interval for Difference [a]	
(I) class	(J) class	Mean Difference (I-J)	Std. Error	Sig.[a]	Lower Bound	Upper Bound
class1	class2	-6.382*	1.284	.000	-8.945	-3.819
class2	class1	6.382*	1.284	.000	3.819	8.945

Note. Dependent Variable: final score
Based on estimated marginal means
* The mean difference is significant at the .05 level.
[a.] Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments)

Table 5 shows that the adjusted means for Class 1 and Class 2 are 57.289 and 63.671, and Table 6 shows that the mean difference is significant (P = 0) at the 0.05 level, which implies that the two approaches can exert significantly different impact on the final scores when the effect of the covariate is excluded. Hence, the null hypothesis is repudiated.

Questionnaires

The questionnaires were distributed and collected through e-mails after the final examination. The students were told that their answers to the questionnaires would not influence their course grades, which was to ensure that the students would express their real attitudes toward their learning experience. Besides, the collected questionnaires were cross-checked by two teachers. All these were to ensure the validity and reliability of the questionnaire data. All the students of the two classes responded to the questionnaires. Appendix A is the calculation of the questionnaire for Class 2, and Appendix B is about the questionnaire for Class 1.

Questions 1-5 in Appendix A are about content delivery of the course and the rest are about course evaluations. Some information can be concluded from Appendix A:

Most of the students (75%) thought they needed the cyber synchronous classes and only a few students (16.7%) thought they could do their learning without the cyber synchronous classes. This shows that adult e-learners still preferred the more traditional learning mode and most of them might lack the confidence in self-studying in the cyber asynchronous environment. Although they could improve a lot by using the cyber asynchronous learning approach (shown by Table 3), most students might still want to have some cyber synchronous communication with their teacher or peers.

About 83.3 % students thought each cyber synchronous session should not exceed 30 minutes, 13.9% students thought the time should be confined between 30 to 50 minutes, and only 2.8% students wanted longer sessions. This is possibly because the English level of most of the e-learners was so low that they might not take in too much in a long session.

Most students wanted the teacher to spend more time on vocabulary, grammar and exercises. An examination of their test papers showed that most of the students were weak at vocabulary and grammar, so they might expect the cyber synchronous classes to solve these problems. A relatively small group of students would spend time in reading articles in the text book. Some of them reported in the open question (Question 9) that some articles in the textbook were hard for them to understand, so they wanted the instructor to explain the articles in detail. Still fewer students would like to have listening and speaking practices. This might reveal another weakness in their English study. They were so poor in English listening and speaking abilities that they did not want to have such practices.

Surprisingly, most students (41.7% + 52.7% = 94.4%) would like to have more turns when interacting with the instructor. This seems to contradict their responses to question 3 that they did not want to focus more on listening and speaking. But a careful examination of their responses to Question 9 revealed that they cherished the rare chances to communicate with the instructor, though most of them had no confidence in spoken English. Besides, they were allowed to speak Chinese during the interaction, which might also encourage their participation.

Most of the students (44.4% + 16.7% + 11.1% = 72.2%) thought they were not active in the cyber synchronous classes. This shows the real side of adult e-learners with low English level. Adult e-learners often lack confidence in their English (whether spoken or written), so they are often afraid of showing their English abilities in public. But there were a few students (10 students) who were very active in the cyber synchronous classes. This is probably because these students had more confidence in their English. Although most of the students were not active in the classes, they might have paid attention to the interaction between the teacher and those active learners. So they, in some sense, were auditing the classes. This might also have exerted a positive effect on their study.

As to the organization of the cyber synchronous classes, most students (58.3% + 16.7% = 75%) held a positive attitude. But about 25% students did not approve the organization.

About 83.4% (72.2% + 11.2%) students thought the cyber synchronous classes had improved their English level, but still a few students thought the classes had no positive effect on their English study.

All of the students thought they had obtained some unique knowledge in the synchronous classes. This indicates that the single cyber asynchronous learning approach could not fully meet the needs of e-learners.

Appendix B shows Class 1's responses to the questionnaire concerning their cyber asynchronous learning experiences.

Most students (76.5%) thought they could not do the study only through asynchronous means. This is echoed by their responses to Question 3 and 8, as most of them expressed their willingness to interact synchronously with the instructor and all of them wanted to attend some cyber synchronous classes.

As to the use of the online discussion forum, most of them (55.9% + 35.3% = 91.2%) contributed too little. We were disappointed that 61.8% students had never written or answered any post in the online discussion forum. But some statements in the open question (Question 9) show that although they contributed nothing to the forum, they had actually read some of the posts, which, in some sense, is also a form of participation.

When asked who or what they would turn to when in trouble with study, most of them (61.8%) chose to ask for the instructor's help. Only a few would take advantage of the Internet. This finding is contrary to our initial thought that these Computer Science majors would definitely prefer to use sources on the Internet in their study.

As to the use of the online teaching materials, a relatively large number of students (17.6% + 20.6% = 38.2%) did not make full use of the materials, though most of the students had downloaded (82.4% + 8.8% = 91.2%) the materials and thought (44.1% + 23.5% = 67.6%) these materials were enough for their study.

Discussion

The present study aims to compare the single cyber asynchronous learning approach with the blended cyber approach in distance English learning. The popularity of cyber asynchronous learning in China may surprise some scholars in other parts of the world, as in their mind it is cyber synchronous learning that has become more and more popular with the improvements in technology and increasing bandwidth capabilities (Kinshuk & Chen, 2006). The e-learning industry in China is somewhat different from that in some other countries. It is common for China's e-learning institutions to enroll too many students, which may exceed their teaching capabilities but can bring them more profits in money. Thus the student-faculty ratio is often very large (Ge, 2009), and they have to rely more on asynchronous means in teaching.

The investigation here compares the single cyber asynchronous learning approach with the blended cyber approach. This kind of comparison may shed some light on the study in this field, as previous studies usually compared synchronous learning and asynchronous learning separately.

The result of this study shows that the blended approach can bring a better outcome. This finding indicates that the single cyber asynchronous approach lacks something in the blended cyber approach. Cyber synchronous learning obviously has brought something new to the asynchronous one. In cyber synchronous classes, students will have a chance to interact directly with the teacher and with their peers and the teacher can also assign a lot of activities for the students to do. Many of these activities such as topic debates are not so easy to carry out asynchronously. Moreover, students will develop a sense of belonging in cyber synchronous learning but not feel isolated and out of the learning community, which is typical of an asynchronous e-learning environment (Haythornthwaite & Kazmer, 2002). This conclusion is consistent with previous observations that asynchronous and synchronous e-learning complement each other and "the combination of these two types of e-learning supports several ways for learners and teachers to exchange information, collaborate on work, and get to know each other" (ibid.). The conclusion is also confirmed by the questionnaire survey conducted at the end of the study, as most students thought they had obtained from the cyber synchronous experience some knowledge which was missing from the asynchronous learning environment and those working only with asynchronous means also demanded some cyber synchronous learning classes.

The questionnaire survey for Class 2 shows that most students seemed not so active in the cyber synchronous classes. This finding is partly inconsistent with the predictions of scholars such as Haythornthwaite and Kazmer (2002), Robert and Dennis (2005). They predicted that cyber synchronous communication could increase students' psychological arousal and motivation. The reason of the inactivity of these students may lie in the fact that they were so poor in English that they had no confidence in taking part in the synchronous activities. On the other hand, only

10 students were very active in the cyber synchronous classes. Their entry scores and final scores indicate that these students were good at English. They were the so-called high-ability students. So they normally had more confidence in their English, and they possibly wanted to show off their abilities among their peers. If so, then this finding can verify the conclusion of Hrastinski (2008) that the focus of synchronous communication is often on quantity rather than on quality—that is, trying to say something quickly because "someone else will say what I was going to say."

Another finding of the survey is that most students would pay more attention to the teaching of grammar and vocabulary but not listening, reading or writing in the cyber synchronous classes. Some students' statements in the open question reveal that they often felt very weak at grammar and vocabulary, which are two basic requirements for language learning, so they wanted the instructor to spend more time on these two parts. They tended to believe that their listening, reading or writing abilities were impossible to get great improvement due to the time limit of the cyber synchronous classes. This may confirm previous observations that cyber synchronous learning is more appropriate for less complex information exchanges (Hrastinski, 2008), as grammar and vocabulary are generally easier than listening, reading and writing in language learning, but may contradict some other findings that cyber synchronous learning may greatly enhance understanding of complex subject matters (Pfister, 2005). The differences in these findings may lie in the differences in subject matters and participants.

The survey also shows that most students would prefer short cyber synchronous teaching sessions. This finding may also be useful for future course planning.

As to the questionnaire survey toward Class 1, a prominent finding is that most of the students did not make full use of the cyber asynchronous resources and means, such as the downloadable materials and the online discussion forum. Research of some other scholars also has the same finding (Wan & Johnson, 1994; Guzdial, 1997). This finding may in part explain why Class 1's performance on the final examination was not as good as that of Class 2. A careful examination of the posts in the online forum shows that the students would respond more to topics related to assignments and final examinations. This finding is similar to prior studies by Fung (2004), and Khan (2005), which indicate that students' interest or familiarity with the topic being discussed can make them contribute more in an online discussion. But language learning should not always center on assignments or examinations. The instructor needs to direct students' learning to overall language acquisition.

The findings of this study generally suggest that the blended cyber approach is a better choice for distance English learning, as asynchronous and synchronous e-learning can cater to different needs of e-learners, which are summarized in Table 7.

Table 7. Comparison of the benefits of asynchronous and synchronous e-learning

Asynchronous e-learning	Synchronous e-learning
·Promoting cognitive participation	·Promoting personal participation
·Suitable for discussing complex issues	·Suitable for discussing less complex issues
·Without time and space constraints	·Involving more interaction between instructors and students and between peers
·Increasing e-learners' ability to process information	·Developing a sense of belonging
	·Quick feedback
	·Easier for monitoring e-learners' participation

Note. Adapted from Hrastinski's model (2008)

Conclusions

The findings of the study indicate that the blended cyber approach can bring a better result for adult e-learners in their English study than the single cyber asynchronous approach. Many Chinese adult e-learners are very poor in English, and they may still need cyber synchronous learning to offer them additional help. Many of them cannot obtain satisfactory results by only doing cyber asynchronous learning. So a cyber synchronous learning environment should still be provided to them, although this may cost distance education providers more money.

Cyber asynchronous and cyber synchronous learning can complement each other in teaching and learning. Cyber asynchronous learning can promote e-learners' cognitive participation, as asynchronous communication can often

increase one's ability to process information (Robert &Dennis, 2005). Cyber asynchronous learning is more suitable for discussing complex issues, in which time for reflection is needed (Hrastinski, 2008). The obvious advantage of cyber asynchronous learning is that learners can often carry out their study without the constraints of time and space. On the other hand, cyber synchronous learning can promote e-learners' personal participation, as it is argued that synchronous communication is "more like talking" compared with asynchronous communication and students will become more motivated (ibid.). Besides, students will develop a sense of belonging, as much interaction between instructors and students and between peers is involved in synchronous communication. In addition, cyber synchronous learning is more suitable for discussing less complex issues, because quick feedback is expected in a cyber synchronous class and there is often no much time for thinking and reflection. A more desirable English e-learning course should fully consider the different benefits of the two learning modes, so that it can meet e-learners' various needs and solve different problems in teaching and learning.

There are some limitations of this study that need to be recognized. First, the experiment lasts only one semester and thus cannot be considered as a longitudinal study. The data collected in one semester may not fully reflect the real situations of the two approaches. More definitive conclusions might have been drawn if the study had been conducted over a longer period of time. Second, it is indicated that students' perceptions of cyber asynchronous and cyber synchronous learning were collected at the end of the study, so there was no time for adjusting the organization of the two learning modes. What results would have come up if there had been some adjustment? All these questions need to be explored by further research.

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Appendix A
Responses concerning synchronous learning classes

Questions	Percentage				
1. Do you think you can do the study in the asynchronous environment without attending the cyber synchronous classes?	No		Have no idea		Yes
	75% (27 students)		8.3% (3 students)		16.7% (6 students)
2. How long should each cyber synchronous learning session last?	Less than 30 minutes		between 30 minutes to 50 minutes		More than 50 minutes
	83.3% (30 students)		13.9% (5 students)		2.8% (1 student)
3. What should the teacher spend more time on in the cyber synchronous classes? (more than one answer can be selected)	vocabulary	grammar	Articles	Exercises	listening and speaking
	83.3% (30 students)	83.3% (30 students)	41.7% (15 students)	88.9% (32 students)	16.7% (6 students)
4. The appropriate number of turns for an interaction should be:	Less than 3 turns		Between 3 to 5 turns	More than 5 turns	
	5.6% (2 students)		41.7% (15 students)	52.7% (19 students)	
5. Were you actively involved in the cyber synchronous activities?	Yes	Not too much	Very little	never	
	27.8% (10 students)	44.4% (16 students)	16.7% (6 students)	11.1% (4 students)	
6. Do you think the course was well organized?	SA	A	N	D	SD
	58.3% (21 students)	16.7% (6 students)	13.9% (5 students)	11.1% (4 students)	
7. Do you think the cyber synchronous lectures have improved your English level?	SA	A	N	D	SD
	72.2% (26 students)	11.1% (4 students)	11.1% (4 students)	5.6% (2 students)	
8. Do you think you have learned something you can never obtain through the asynchronous approach?	SA	A	N	D	SD
	83.3% (30 students)	16.7% (6 students)			
9. Write anything you would like to comment on the cyber synchronous learning experiences:	(An open question)				

Note. SA=strongly agree; A=agree; N=neutral; D=disagree; SD=strongly disagree

Appendix B

Responses concerning asynchronous learning experiences

Questions	Percentage				
1. Do you think you can do the study only through asynchronous means?	No	Have no idea	Yes		
	76.5% (26 students)	5.9% (2 students)	17.6% (6 students)		
2. How often do you write or answer a post in the online discussion forum?	None in one week	One to three times in one week	More than three times in one week		
	61.8% (21 students)	29.4% (10 students)	8.8% (3 student)		
3. Do you want some live online interactions (such as chatting) with the instructor?	SA	A	N	D	SD
	82.4% (28 students)	8.8% (3 students)	8.8% (3 students)		
4. Who or what do you turn to when you have trouble with English study?	The instructor	Classmates or friends	Internet or books		
	61.8% (21 students)	26.5% (9 students)	11.7% (4 students)		
5. Have you downloaded the teaching materials?	All of them	Most of them	Very little	never	
	82.4% (28 students)	8.8% (3 students)	5.9% (2 students)	2.9% (1 students)	
6. Have you frequently used the teaching materials in your study?	All of them	Most of them	Very little	never	
	14.7% (5 students)	47.1% (16 students)	17.6% (6 students)	20.6% (7 students)	
7. Do you think the teaching materials are enough for your study?	SA	A	N	D	SD
	44.1% (15 students)	23.5% (8 students)	5.9% (2 students)	17.6% (6 students)	8.9% (3 students)
8. Do you want to attend some cyber synchronous classes?	SA	A	N	D	SD
	88.2% (30 students)	11.8% (4 students)			
9. Write anything you would like to comment on the asynchronous learning experiences:	(An open question)				

Note. SA=strongly agree; A=agree; N=neutral; D=disagree; SD=strongly disagree