A Study of Low English Proficiency Students' Attitude toward Online Learning

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Abstract

Students' English proficiency in technical colleges in Taiwan is lagging behind their education level. How these students can be helped has become a great concern for teachers and the education authorities. This study gauged students' attitude toward the use of CALL to supplement their learning in Freshman English class. The researchers created a website at the National Kaohsiung University of Applied Sciences, which contained six types of exercises based on the contents of the Freshman English textbook. Six classes of Level-I students, a total of 373 students, were encouraged to use the website for three months and then answered a question-naire. The results showed that (1) 66% of the students (N=247) had used the website; (2) 31.58 % of the users (N=78) visited the website for over two hours a week; (3) among the users, more than 70 % responded that the website helped them learn English more effectively; up to 90 % of those visiting the website for over two hours a week showed a positive attitude toward it; (4) around 40 % of the users and 90 % of those visiting for over two hours a week said that the website could boost their confidence and interest in learning English; and (5) a correlation analysis shows that the more frequently the users visited the website, the more favorable the attitude they held toward it. The results indicate that teachers can design textbook-related exercises to rein-force students' learning outside the classroom. Through repetitive training, students may get better test results and have a higher self-efficacy. This will increase their interest and confidence in learning English.

1 Introduction

College students' low English proficiency has received increasing attention in Taiwan these years. In 2000 and 2001, the LTTC (Language Training and Testing Center) involved 9,527 stu-dents from 85 technical colleges in Taiwan in a test equivalent to the GEPT beginners' level, a level junior high school graduates are supposed to reach. (GEPT, the General English Proficiency Test, is a standardized test developed by the government of Taiwan to encourage people to learn English and get an accreditation.) The result of the test indicated that, except in the department of foreign languages and of tourism, the percentage of college students who passed the test in all other departments did not exceed 20 %.

Since a majority of students on the technical education track lack adequate English proficiency, the school authorities have taken some actions. For example, a large number of universities require students to pass certain standardized English proficiency tests before graduation, called the "grad-uation threshold." Such a policy, however, is more stimulating to high English proficiency students.

For low proficiency students, the effects are rather limited (Hsu & Wang, 2006). Apart from the graduation threshold, various remedial courses are offered to help low proficiency students. Students are invited to join a course lasting several weeks to learn basic language skills or to review and reinforce what they learn in regular classes. As the class of remedial course is smaller, the teacher can give individual attention and assistance. Therefore, this kind of course is welcomed by students. Most importantly, the students' academic performance improves conspicuously after taking such a kind of course (Sheu, Hsu, & Wang, 2007).

Offering extra courses is certainly an effective way to improve students' language skills. But, due to the extra costs and limited staff, not many schools can do it regularly. Recently, a policy – ability grouping – has gained popularity among Taiwan colleges. Students are placed in different English classes according to their proficiency levels. In this way, high-proficiency students receive instructions that suit their level while the lower-proficiency ones are given easier materials to learn. This may benefit the low proficiency students, too. Taking into account both its advantages and disadvantages, this policy is favored by both teachers and students (Sheu & Wang, 2006, 2007).

Although ability grouping reduces learning pressure on low-proficiency learners, some problems remain. The large class, usually comprising over 50 students, prevents students from receiving individual assistance when needed. Moreover, the limited class time – two hours per week – make it impossible for students to get immersed in the language. When there are too many students but too little time, and extra courses are not available, teachers will have to find ways to engage students in reviewing and learning the course with as much time as possible outside the class, if they want to improve the students' English language skills. To achieve this purpose, web-based learning might be a good choice.

2   Literature review

2.1   Unsuccessful English learners

A great number of researchers have attempted to identify the problems confronted by low English proficiency students by examining the differences between successful and unsuccessful learners. These two groups of learners are usually distinguished by their academic performance in tests, examinations, or learning tasks. Studies found that major differences lie in aptitude (Skehan, 1998), learning strategies (Abraham & Vann, 1987; Gan, Humphreys & Hamp-lyons, 2004; Green & Oxford, 1995; Oxford, 1990; Wen & Johnson, 1997), beliefs (Huang & Tsai, 2003), and learning behaviors. For example, the behaviors of underachievers have some characteristics. They lack good learning attitude, motivation, or persistence. In class, they need more personal attention, take longer time to finish a learning task, often skip class or attend class late, and often delay or do not submit homework assignments (Chang, Chiu, & Lee, 2000; McLaughlin & Vacha, 1992; Slavin, 1989). The inability to use English learning strategies is also common among low English proficiency students. Ho (1999) surveyed students of a technical college in Taiwan and found that there exist significant differences between proficient and less proficient learners in their use of English learning strategies. Chen and Huang (2003) made a similar comparison and the results show that students with high English proficiency reported higher frequency in language learning strategy use than did low English proficiency students.

As learning is a culturally bound behavior, two studies shed much light on the issue by focusing on Chinese students as EFL learners. Huang and Tsai (2003) surveyed and interviewed 89 senior high school students in central Taiwan to compare the high and low English proficiency learners' beliefs. They discovered that low proficiency learners believed that they lacked the special abilities to learn English well, that learning English was really difficult, that translation was an important skill to help them grasp the meanings of English texts, and that they are not able to speak any English to communicate with others.

In a study similar to Huang and Tsai's, Gan, Humphreys, and Hamp-lyons (2004) examined learners' attitude, strategies, and motivation by engaging 18 college students from Hefei, China, through interviews and diaries to distinguish between successful and unsuccessful EFL students.

They found that unsuccessful students commonly put emphasis on vocabulary and grammar. These students "have a deep-seated belief that a basic vocabulary must be mastered before any other learning activity could take place" (p. 235). Moreover, the students generally experienced "a sense of learning helplessness" and "loss of confidence" (p. 236). As for strategies, unsuccessful students did not take any measure to reinforce their vocabulary or use cognitive strategies to preview and understand a lesson (p. 236). The study also pointed out that these learners lacked self-management ability and the initiative to improve their English through their own efforts. Finally, according to the study, due to their passive and frustrated learning process, the unsuccessful students had almost no motivational experiences to keep them moving on in learning.

2.2   Motivation and achievement

As the foregoing section shows, unsuccessful learners' lack of learning motivation hampers their learning. The word "motivation" refers to an inner drive that moves one to a particular action (Dornyei, 2001). Studies have found that motivation plays a significant role in deciding the learners' achievement in language learning. According to Gardner (1985) and Dornyei (2001), second language achievement is associated with language attitude, motivation, and anxiety. Another study revealed that achievement and motivation influence each other, particularly in some affective variables (Gardner, Masgoret, Tennant, & Mihic, 2004).

Psychologists have tried to define what constitutes motivation (Dornyei, 2001). Among the various theories, the self-efficacy theory deserves special attention because it explains the important role that confidence plays in a person's language learning. According to Bandura (1993), people's cognitive performance is related to their self-efficacy, which is determined by one's previous performance, vicarious learning, verbal encouragement by others, and one's psychological reactions (e.g. pleasure or anxiety). In other words, if people lack successful or pleasant learning experience, they will no longer believe in their own ability to learn and choose to give up quickly. As Ames (1986) pointed out, successful learning is related to earners' beliefs and perceptions toward their own learning. A study by Tuckman and Sexton (1990) also uncovered a clear connection between self-efficacy beliefs and academic outcomes.

To help unsuccessful learners, it is important to improve their self-efficacy, or to boost their confidence, making them believe in their own ability. But how? Since motivation and achievement influence each other, one may consider using achievement to elevate motivation. Under such circumstances, a better learning result serves as a form of extrinsic motivation. In contrast to intrinsic motivation, extrinsic motivation is usually considered unfavorable (Brown, 1994). Nevertheless, some studies consider it a positive force. Deci and Ryan (1985) discovered that some extrinsic rewards, if properly situated, can be internalized and self-determined, to go with intrinsic motivation. Tuckman (1999) also argued, without attitude (self-efficacy), there is no reason to believe that one is capable of the necessary action to achieve, and therefore there is no reason to even attempt it. But, without drive (e.g. a certain reward such as getting a high score in tests), there is no energy to propel that action, he added.

According to some scholars (Ellis, 1994; Gardner, 1985; McDonough, 1986; Skehan, 1989), second language learning is a cyclic process: strong motivation, positive self-efficacy, and effective learning efforts may lead to increased academic improvements and feelings of progress, which may in turn enhance motivation and facilitate further effort. Pintrich and Schrauben (1992) also proclaimed that the value of an outcome affects students' motivation; in other words, helping learners get a better academic outcome can enhance their motivation and lead to more progress.

2.3   Applications of computer-assisted language learning (CALL)

In 1983, the term computer-assisted language learning (CALL) was first used. The definition of the term is "any process in which a learner uses a computer and, as a result, improves his or her language …" (Beatty, 2003, p. 7). According to Kern and Warshauer (2000), CALL has gone through three phases and computers have been utilized in different ways for different purposes.

The first phrase was structural, or behavioristic. At that time, the computer was to provide drill and practice. The second phrase, or cognitive CALL, was prompted by the communicative approach to language teaching and learning. CALL programs emphasized interaction and offered communication exercises for learners to form a mental linguistic system. After 1990s, CALL moved into the current phase – integrative CALL, which is based on a sociocognitive view of language learning. Programs provide authentic discourse to help learners fit into the community.

In the three phases of CALL development, the computer played different roles, and the activities applied to language teaching and learning also varied. In the first phase, computer was presented as an interactive tutor evaluating students and providing subsequent activities (Fotos & Browne, 2004). With the pass of time, the activities became more diversified to include multiple-choice and true/false quizzes, gap-filling exercises or cloze, matching, re-ordering/sequencing, crossword puzzles, and simulations. The programs offering these activities were considered a supplement to classroom instruction rather than its replacement (Chapelle, 2001). In the second and the third phases of CALL, the computer is used as a tool or medium providing means for students to become active learners (Fotos & Browne, 2004). Applications of the computer include writing and word-processing, e-mail exchanges, use of multimedia, Web search, concordancing and referencing, test-taking, etc (Kern & Warschauer, 2000).

It is not without a reason that the computer in the first phase of CALL was compared to a tutor. The computer gives instructions for individual learners to follow. It adapts to learners' pace and gives feedback in response to their action. The feedback makes learners know immediately if what they did is right or wrong. With feedback like "Wrong, try again," the computer points out the existence of an error and urge learners to identify the problem by themselves, like in other types of CALL tasks. This will lead to greater learning gains (Chapelle, 2001). There are also comments to encourage learners or hints to help them out once they get stuck. Moreover, the feedback might contain further explanations of linguistic rules or other information to facilitate comprehension.

Although using online exercises to help student learn linguistic forms seems to belong to the early phase of CALL, such an application still has its value today. The first reason is that attention to form is essential for second language acquisition. Surveying many research studies, Chapelle (2001) pointed out that, even in tasks requiring meaningful language use, it is still necessary to direct learners' attention to linguistic forms. Fotos (2001) also proclaimed that drill programs for grammar practice can promote acquisition by exposing learners to the materials repeatedly.

Other than facilitating language acquisition, online drills or exercises also benefit learners in the affective domain. For example, Healy (1999) found that the computer, in providing immediate feedback and presenting materials at the learner's pace, encourages learner autonomy. Although exercises are not as interesting as games, they have something in common. Beatty's (2003) description of the advantages of games can be applied to online exercises, too. First, both of them can be designed to suit users of different levels, giving clues when necessary and rewards for solutions through points or visual stimulation. Second, the computer enhances the learning process by allowing repetition. "The computer is endlessly patient and never grows bored" (p. 54). Third, to learners, if exercises are designed in the form of quizzes, they "appear to illustrate a learner's progress and give some security against fear of more formal exams" (p. 54). Since the quizzes are not graded by teachers, the learners feel less threatened. In this way, they can be an effective tool to help low-efficacy and low-proficiency students.

Among the voluminous research on CALL, most focus on the use of the computer as a tool and medium. Very little attention has been paid to its role as a tutor through online exercises. The reason may be that the exercises are usually incorporated into an online course. For example, Murphy (2007) used multiple-choice reading comprehension exercises to prompt interaction between students in an online version of a reading program. In an action research study, Pilleux and Al-Ahamadi (2004) designed a website for students to access authentic materials after class and assessed comprehension with exercises. After all, both constructivist and behaviorist approaches can exist in the same course (Beatty, 2003). The fact that many English learning websites are using drills and practice to help learners, particularly in grammar learning, and that some researchers are

looking for ways to create more dynamic exercise systems in language learning (Galloway & Pe-terson-Bidoshi, 2008), online exercises still has a role to play in the current phase of CALL.

2.4   CALL and low English proficiency students

Studies have proved that using CALL in language learning has a positive effect. As Fotos and Browne (2004) pointed out, a large number of works for the past decade "strongly emphasize the significant role of CALL in developing linguistic proficiency and communicative competence in L2 learners as well as promoting increased levels of learner autonomy, motivation, satisfaction, and self-confidence" (pp. 8–9). Despite the generally favorable opinions, some researchers noticed the effects of CALL on students of different ability levels. The interaction of the effectiveness of CAI/CALL and ability level calls for continued analysis because of its importance for language minority learners, and EFL and FL learners (Dunkel, 1991). While some found no evidence of sig-nificant differences (Roblyer, Castina, & King, 1988), others suggested that slow learners and un-derachievers seem to make greater gains in learning as a result of using CAI than do higher-ability students (Fisher, 1983). Dunkel's study (1987) also revealed that CAI may help underachieving students catch up in a non-threatening instructional environment.

Researchers generally agree that CALL helps low English proficiency students, but how should it be used? For low English proficiency students, simple and basic skills in technology are a pre-requisite. They will find it easier to pay attention to the learning content and to get feedback quickly, which helps boost their interest and self-efficacy. For this reason, the tutorial aspect of CALL can be helpful. In fact, doing exercises online enhances students' cognitive ability. In an article to discuss learner training for effective use of CALL, Hubbard (2004) focused a section on tutorial CALL. According to him, tutorial exercises exemplify the key concepts of cognition: de-liberation following the computer prompt and consolidation following the program's feedback. While deliberation refers to the process from comprehending to acquiring long-term knowledge, consolidation is the process through which the learner reflects on the experience by raising ques-tions, raising awareness, or associating new material with existing knowledge structures.

The tutorial aspect of CALL suits Chinese students in several ways. First, it simplifies the learning process. As Huang and Tsai's research (2003) showed, low English proficiency students usually perceive English as difficult. Online exercises can make it seem easier. Secondly, the exer-cises are particularly useful for reinforcing vocabulary and grammar, which unsuccessful Chinese learners believe they must improve (Gan, Humphreys, & Hamp-lyons, 2004). Thirdly, low profi-ciency students are incapable of using language learning strategies (Chen & Huang, 2003), and doing online exercises helps them develop some of the strategies, including memory, cognitive, compensation strategies etc. Most importantly, practicing on the computer can improve students' academic performance, which is critical to their self-efficacy and motivation to learn. Given the above considerations, using computer to serve tutorial purpose should be tried, rather than dis-missed as "behavioristic."

2.5   Attitude

To evaluate the effectiveness of CALL, students' attitude should be considered. According to Chapelle & Jamieson (1991), researchers investigate students' use of CALL by posing questions concerning its effects on second language learning, students' attitudes toward using CALL, and the learning strategies students use during CALL activities (p. 38). Stevens (1984) pointed out that whether CAI is effective depends on the crucial variables associated with students' attitudes to-ward language. He suggested that researchers should begin to isolate and study cognitive and atti-tudinal variables and not just examine how a learner can do better in a multiple-choice test after taking a computer-based course.

This study, therefore, investigates low English proficiency students' attitude toward using computer to review English lessons and reinforce their learning. The researchers set up a website based on the contents of Freshman English at the National Kaohsiung University of Applied Sci-

ences. Then, a survey was conducted on students' perceptions of their own progress in linguistic knowledge and in confidence and motivation after using the learning website for over three months. The main purpose of this study is to better understand how teachers can help low English proficiency students by providing them with exercises online. This study intends to answer the following questions:

1. What is the percentage of users and non-users?
2. How much time do the users learn English on the website per week?
3. What is the users' attitude toward the website?
4. Does the learning website help boost confidence and interest in learning English?
5. Is the users' attitude toward the website related to the time they spent on the website?
6. Does significant difference exist between male and female users' attitude and among engineering, management, and humanities students' attitude?
7. What are the users' comments and opinions about the learning website?

3 "KUAS English Web Learning Level I"

3.1 Background

Freshmen at KUAS are required to take a two-hour course to learn English. Since 2005, the school has adopted an ability-grouping policy for the English course and put the students into one of three levels – I, II, and III – according to the results of a placement test. Moreover, the same English textbook was used in the academic years of 2005 and 2006. The course aims at improving students' reading skills and building up their vocabulary. But teachers who teach classes of lower level usually have to help students with pronunciation and grammar as well. For this reason, the researchers established "The KUAS English Web Learning Level I". It was part of a project sponsored by the Ministry of Education to enhance students' English proficiency. The aim of the website was to reinforce the linguistic knowledge that low proficiency students generally lack and believe they should acquire (Gan, 2004).

The website was housed on the school's server. The school allows faculty to apply for space to create personal webpages. The researchers used the space to set up the English learning website. With the aid of a professional homepage designer, the researchers completed the website in three months. They also used software such as Goldwave to record the pronunciation of the vocabulary and Hot Potatoes to create different types of exercises to be put onto the website. The researchers informed all the teachers of the English level I classes about the website. The teachers then recommended it to the students. After learning a lesson in class, students can visit the website to do exercises for the specific unit to review the lesson and consolidate their learning.

There are some features in the function of the KUAS Web Learning Level I. First, this website is targeted at a specific group of learners. It meets the learners' needs more precisely. Next, the website attracts low English proficiency students because the contents are identical to what they learn in the classroom. Third, the online exercises on the website allow low-proficiency students to practice repeatedly at their own pace. The lack of time pressure and threat makes learning more enjoyable. Besides, the layout of the website is simple and clear, making it easy to use. Last but not least, the website provides students with opportunities to use English learning strategies, such as context clues (memory), practicing repeatedly, recombining (cognitive), using clues (compensation), paying attention, focusing on listening (metacognitive), lowering anxiety (affective) and so on.

3.2 The design of the website

The learning websites comprises two sections: (1) "Freshman English" and (2) "Online Resources". In "Freshman English", there are 12 units based on the textbook Active: Skills for Reading, Book 2 (see Fig. 1).
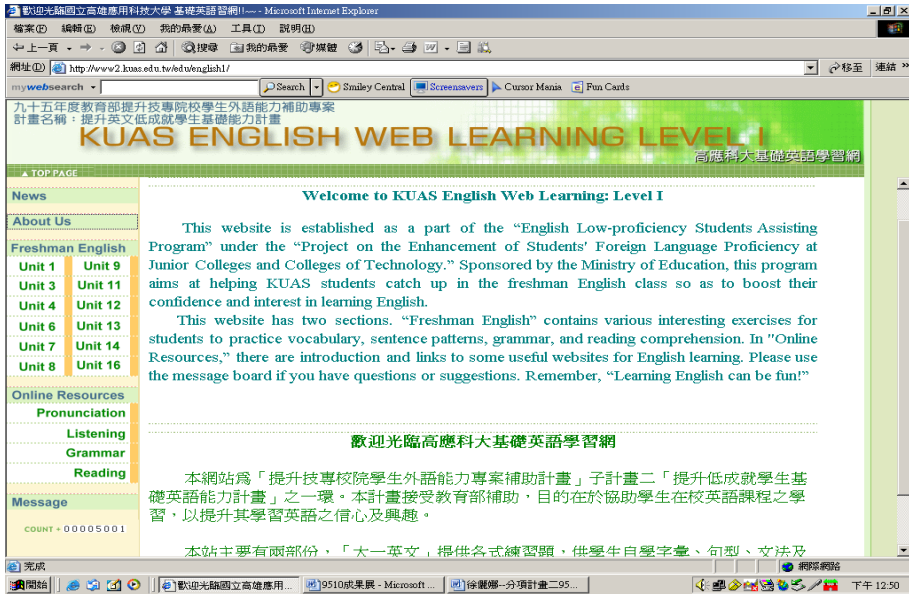
Fig. 1: The homepage of "KUAS English Web Learning Level I"

3.2.1 Freshman English

When a student clicks on a unit on the left side of the homepage, seven sub-sections of the unit will appear: vocabulary pronunciation, crossword puzzle, vocabulary match, preposition cloze test, grammar quiz, and reading comprehension (see Fig. 2).
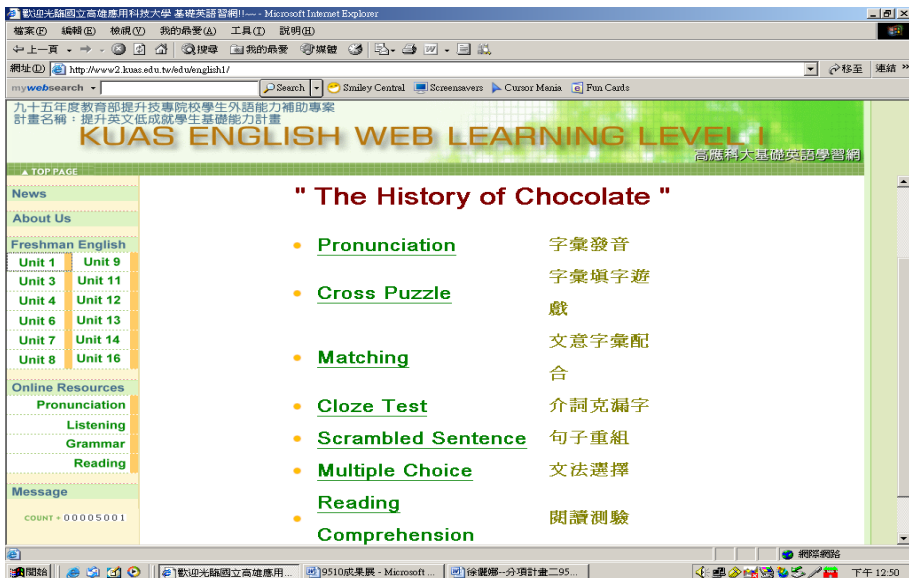

Fig. 2: The content of every unit in "Freshman English"

The first three parts help students learn vocabulary. The Pronunciation page shows a list of the new words in the lesson (See Fig. 3). The icon on the right side links to the pronunciation of the word recorded by the researchers. The students can learn the word by listening as well as pro-

nouncing repeatedly. This works like individual instruction, which is not available to students in a large class. Other than pronunciation, spelling is also stressed. After learning the new words, students can go to the Crossword Puzzle page to review them. If a student clicks a number in the puzzle, the clue comes out in the form of Chinese (See Fig. 4). If the student does not remember the word, a click on the button "Hint" provides the first letter of the word. After filling all the boxes, students click "check" to see what percentage of the answers is correct. Blanks with misspelled words will be left empty for students to try again.

Fig. 3: Vocabulary pronunciation

The third part is another exercise on vocabulary learning. It requires students to insert a word in a sentence. The Matching page shows sentences with a blank (See Fig. 5). Students click in the bar to get several choices. After picking up one choice for every sentence, students click the button "check" to see the answers. If the answer chosen is incorrect, it won't appear and the students have to pick another answer for the sentence. This exercise helps students use context clues to learn the usage as well as the meaning of the word.
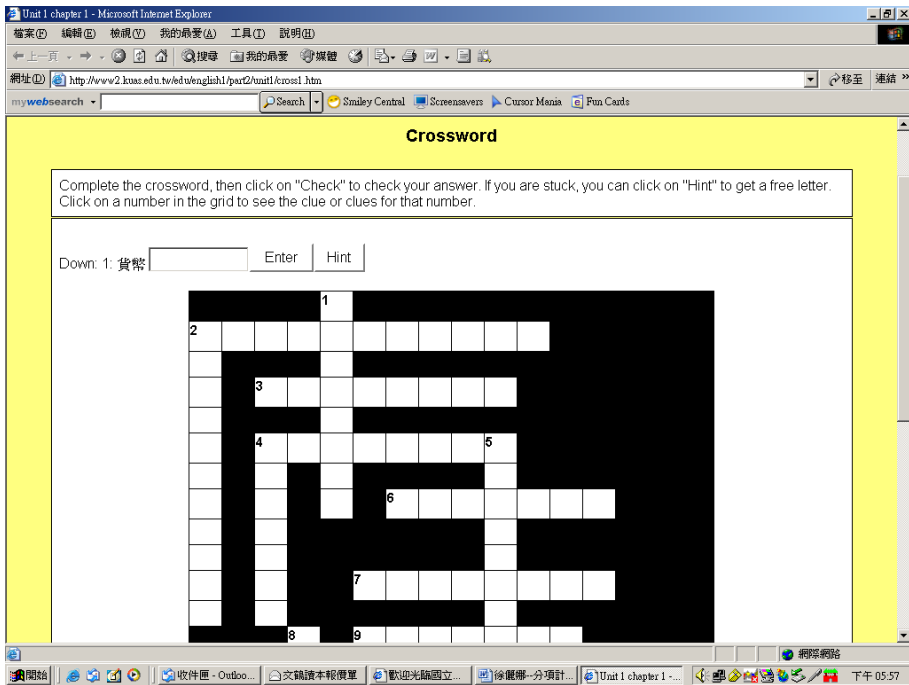
Fig. 4: Crossword puzzle: vocabulary
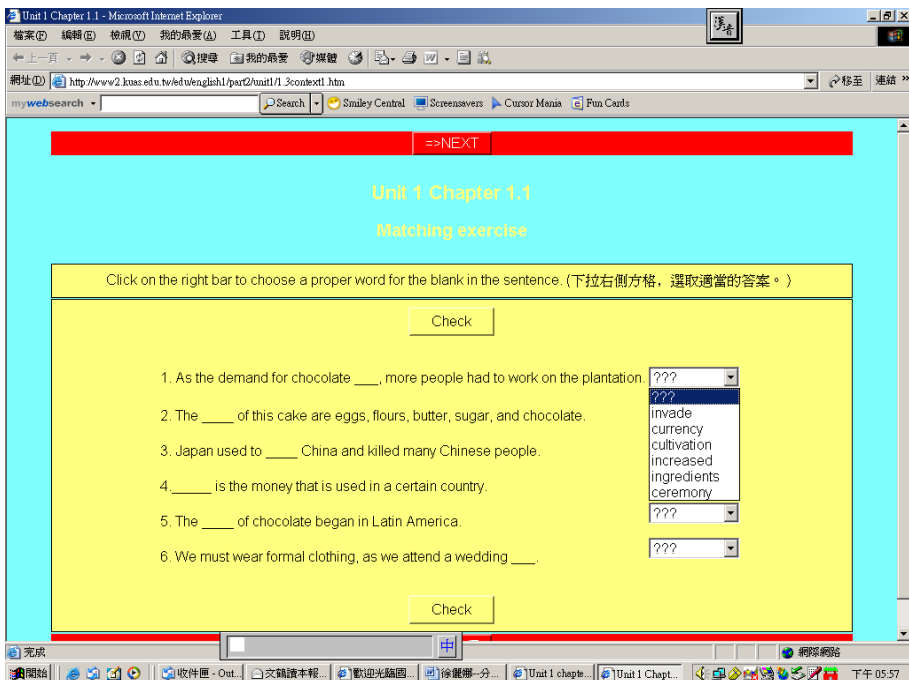
Fig. 5: Matching: context clues

The fourth part of exercise, Cloze Test, teaches prepositions (See Fig. 6). The passage is taken from the textbook. While doing the exercise, students not only think of prepositions but also re-

view the lesson. They have to fill in all the blanks in order to see the results. Again, an incorrect answer will be removed so that students can try thje blank again.
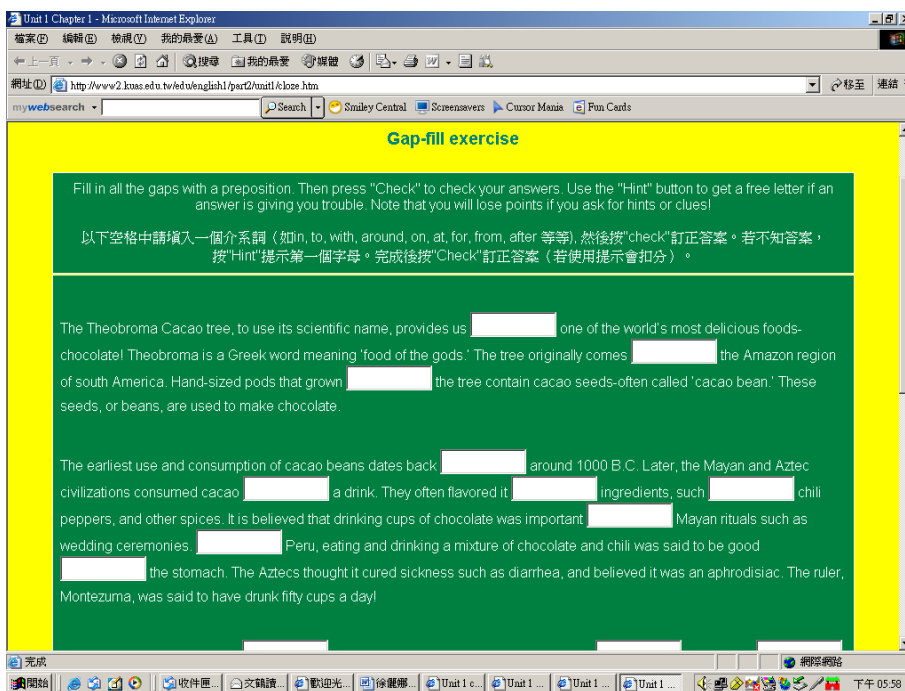
Fig. 6: Cloze test: preposition

The fifth part, Scrambled Sentences, focuses on sentence pattern. Some sentences from the lesson are divided into several parts (See Fig. 7). Students put together the parts to re-assemble a complete sentence. By using the function of "drag and drop", students can change the order of the parts easily. In the process of thinking and trying, students get a better sense of the structure of sentence. The sixth part, Multiple Choice, deals with basic grammar points that teachers may not have time to cover in the classroom. Instead of explaining grammar rules directly, the exercise takes the form of a quiz. Students click on an answer first and get feedback immediately. Meanwhile, a box will pop out to give some explanations, regardless of whether the answer is right or wrong (See Fig. 8).
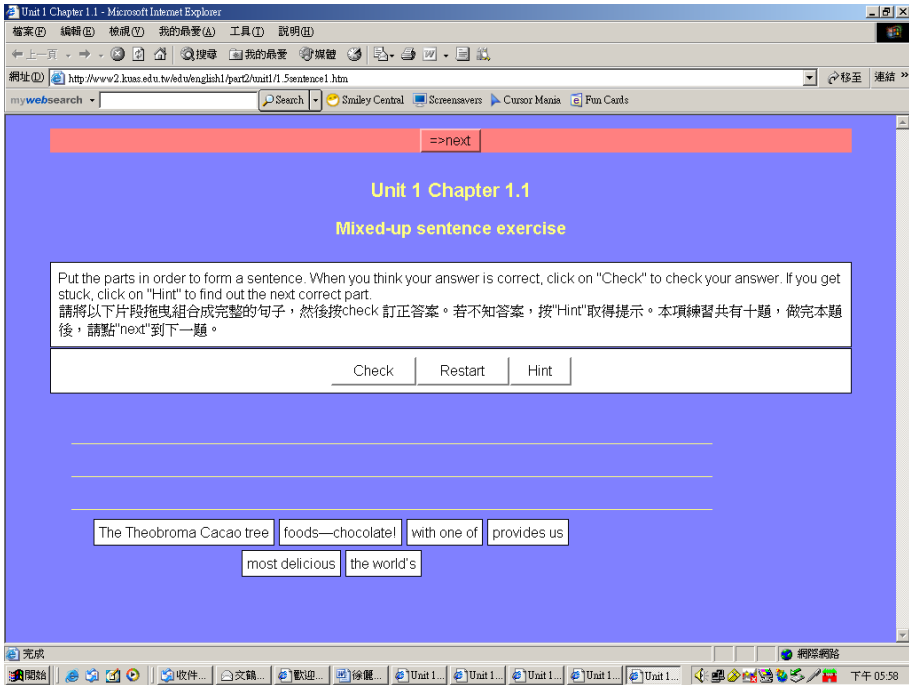
Fig. 7: Scrambled sentences
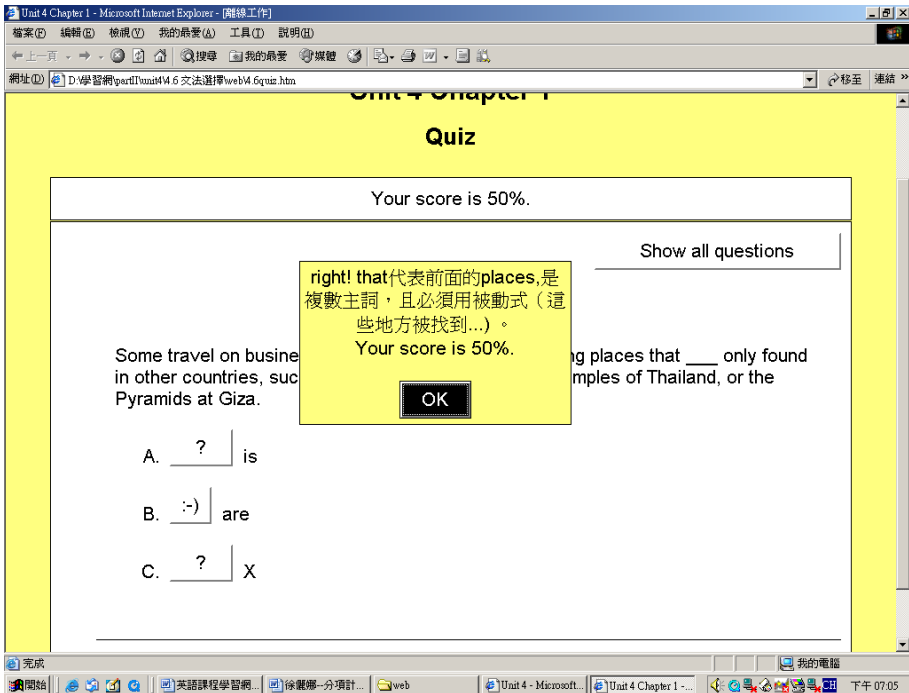
Fig. 8: Multiple choice: grammar quiz

The last part of exercise is Reading Comprehension. The lesson appears on the left of the screen and students can review the passage and answer the questions on the right (See Fig. 9).
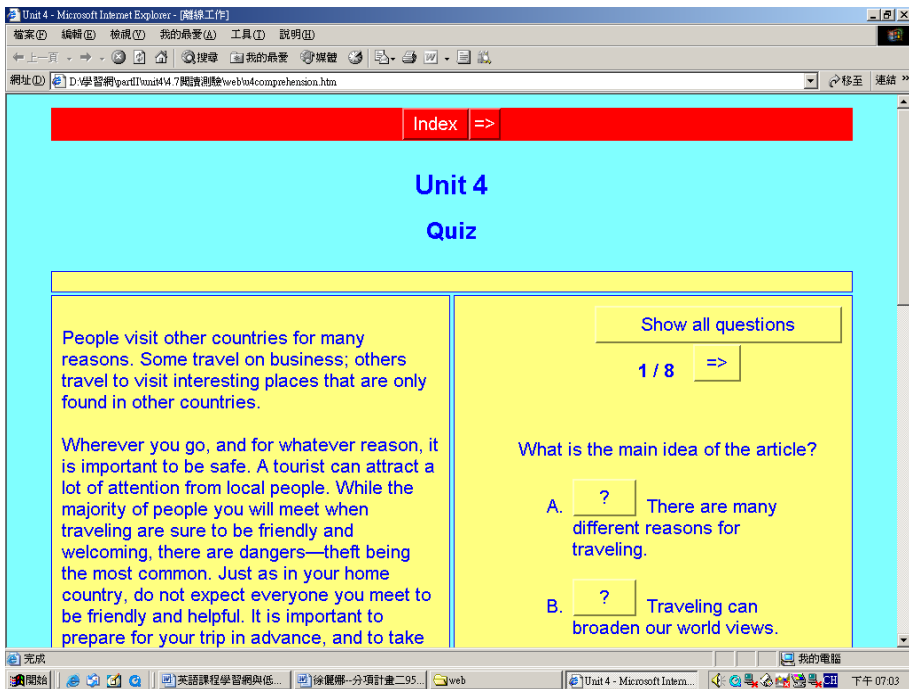
Fig.9: Reading comprehension

3.2.2 Online resources

To help student expand their learning, "Online Resources" provides a few links to websites for the learning of pronunciation, listening, reading, and grammar. For example, a link to a website on phonetics at the University of Iowa can help student learn pronunciation. (http://www.uiowa.edu/~acadtech/phonetics/english/frameset.html) For grammar, a link to http://perso.wanadoo.es/autoenglish/freeexercises.htm connects students to an inventory of grammar exercises at different levels. These websites were selected from a great number of English learning websites on the basis that they are not too difficult or complicated for low proficiency students.

4 Method

4.1 Subjects

The purpose of this study was to investigate low English proficiency students' attitude toward online supplementary exercises in order to better understand how teachers can help these students. For this purpose, the researchers chose the students of six level-I classes to answer a questionnaire. They were considered low proficiency students because their performance in the placement test at KUAS in 2006 was among the lowest 26 percent (eight out of thirty Freshman English classes were categorized as Level I that year). As there were more level-I classes in the Engineering College, four classes of the subjects were engineering majors, one consisted of management majors, and the other of humanities majors. A total of 373 students were surveyed. Among them, 126 said they had never visited the website and did not answer the rest of the questions. Therefore, valid sample number was 247 (Table 1), including 188 male and 57 female students with 2 cases miss-

ing data. Among them, 192 came from the Engineering College, 30 from the Management College, and 23 from the Humanities College. These students are the subjects for analysis.

	Male		Female		Total	
Engineering College	180	(73.5%)	12	(4.9%)	192	(78.4%)
Management College	8	(3.3%)	22	(9%)	30	(12.2%)
Humanities College	0		23	(9.4%)	23	(9.4%)
Missing data	0		0		2	
Total	188	(76.7%)	57	(23.3%)	247 (100%)	

Table 1: Demographic characteristics of subjects (users of the website)

The external validity of the study is enhanced as all the subjects only take two-hour English class every week, are of the same age, and have similar proficiency level and cultural background.

4.2   Instrumentation

This study used a questionnaire to explore student's attitude toward doing online exercises to learn English. The questionnaire was developed by the researchers (Appendix B). It contained eight questions. Question 1 was intended to ascertain the percentage of users and non-users, Question 2 examined the frequency with which the subjects used the website. The answers for Questions 3 to 7 used a five-point Likert scale. Questions 3 to 5 investigated the users' perceptions of the effects of the website. Questions 6 and 7 assessed the effects of the website in raising the users' confidence and motivation in English learning. In addition, the survey had one open-ended question (8) to elicit additional opinions from the students. In this study, the internal consistency/reliability for Questions 3 to 7 using Cronbach's alpha for the 247 subjects was 0.8243.

4.3   Procedure

This study seeks to ascertain students' attitude toward online self-learning outside the classroom.   First, the researchers asked the teachers of Freshman English to recommend and demonstrate the use of the English learning website to the subjects in class in the beginning of the first semester, in mid-September, 2006. After learning a lesson in the class, the subjects got online outside of the class to practice the pronunciation of new words. The matching exercise helped them to learn a word in the context. The cloze test called their attention to the use of proper prepositions. By doing scrambled sentences, they got acquainted with sentence patterns. They also reviewed basic grammar points by doing the quiz, which offered instruction on tense, voice, word form, conjunctions, transitions etc. The last exercise, the reading comprehension quiz, helped students grab the main ideas and the details of the lessons. After the website was open to them for three months, the subjects were requested to fill in a questionnaire in mid-December, 2006. In total, 373 questionnaires were returned.

4.4   Data analysis

The quantitative data collected through the questionnaire were analyzed using SPSS for Winodws 10.0 and presented as descriptive and inferential statistics. The number of students who actually visited the website and the time they spent on it every week are expressed in percentage terms. Next, the users' attitude regarding the effectiveness of the website in improving their linguistic skills and motivation is also displayed in percentage. As the researchers suspected that the answers of the users who seldom visited the website might not be reliable, they analyze the data separately in two groups – for those users who used the website for less than one hour and those who visited for more than two hours per week. The results were listed side by side in percentages

to show the differences. An independent T-test was applied to see if there is a significant difference in the attitude between the two groups of users. The results of the test should converge with those of the descriptive analysis.

Although many students used the website, some visited it often while others accessed it from time to time. To see if the time they spent on the website has an effect on their attitude toward the website, Pearson correlation was applied. The users were divided into four groups: (1) those visiting for less than one hour; (2) one to two hours; (3) for two to three hours; and (4) for over three hours per week. Responses were made on a scale from 1 to 5, representing "strongly disagree" to "strongly agree". The analysis was done to see if the users felt more positive toward it, the longer they used the website. Besides, the difference in attitude between male and female users was investigated through an independent T-test. ANOVA was applied to see if users of different majors – engineering, management, and humanities – held different attitudes toward the website.

The qualitative data collected from the open-ended question were categorized and saved in Word format. The answers were divided into comments and suggestions. Comments here represent general expressions which do not refer to any specific part of the website. Suggestions were further divided into three sub-categories: content, mechanical problems, and promotion. First, the answers were grouped using the sections of the online exercises as the codes. Next, the statements in every group were placed in one of the categories. For example, opinions about vocabulary pronunciation were put together. If they referred to the content of the sections, they were placed under the category of "content". If they had something to do with the function of computer, they fall into the category of "mechanical problems."

5 Results and discussions

5.1 The percentages of users and non-users

The first research question – "What is the percentage of users and non-users?" – is answered by Table 2. The users constitute 66% of the respondents and non-users account for 34 %. Two-thirds of the students were willing to get online to learn English. As the website comprises exercises and resources, this means online exercises based on classroom materials and the resources have an appeal to most low proficiency students. Using them to complement classroom instruction is feasible.

Description	Yes N(%)	No N(%)
1. I have used the learning website. (http//:www2.kuas.edu.tw/edu/english1)	247 (66%)	126 (34%)

Table 2: Numbers of users and non-users

5.2 The time the users spent on the website per week

The second research question – "How much time do the users learn English on the website per week?" – is answered by Table 3. Although two-third of the subjects (N=247) accessed the website, only 31.58% (N=78) spent over two hours on it every week. Most users, 52.63 % (N=130), would spend between one to two hours on the exercises per week. Obviously, this kind of exercises and resources on the learning website could engage most students for two hours or three hours at most a week.

2. I use the learning web-site	<1 hour	1~2 hours	2~3 hours	> 3 hours
	N (%)	N (%)	N (%)	N (%)
	39 (15.79)	130 (52.63)	58 (23.48)	20 (8.10)

Table 3: Time spent using the website (hours/week)

5.3 The users' attitude toward the website

The third question – " What is the users' attitude toward the website?" – is answered by Tables 4 and 5. Table 4 shows that, among the 247 users, more than 70% agreed that the website helped them learn English more effectively. Around 70% reported that it helps in their vocabulary and preposition learning; around 60% considered it helpful in spelling, sentence structure and grammar learning. Besides, 60% of them responded that the online resources linked to the website were useful. These numbers mean that the textbook-based exercises and the online resources have won favorable responses from students. Regarding the question of whether the website can improve their proficiency, only 57% of the tudents responded positively. The students had used the website for only three months. Perhaps that's why they were not sure of its effects on their English ability.

	SA* N(%)	A N(%)	NU N(%)	DA N(%)	SD N(%)	Missing data
3. The website can help me learn English more effectively.	44 (18.03)	132 (54.10)	63 (25.82)	5 (2.05)	0	3
3.1 The website can help me learn pro-nunciation.	34 (13.82)	97 (39.43)	90 (36.59)	25 (10.16)	0	1
3.2 The website can help me learn spell-ing.	36 (14.57)	114 (46.15)	85 (34.41)	12 (4.86)	0	
3.3 The website can help me learn vo-cabulary.	41 (16.60)	144 (58.30)	57 (23.08)	5 (2.02)		
3.4 The website can help me learn prepo-sition.	40 (16.19)	132 (53.44)	68 (27.53)	6 (2.43)	1 (0.40)	
3.5 The website can help me learn sen-tence structure.	43 (17.41)	120 (48.58)	76 (30.77)	7 (2.83)	1 (0.40)	
3.6 The website can help me learn gram-mar.	35 (14.17)	117 (47.37)	85 (34.41)	10 (4.05)		
4. The online resources can help me learn English.	38 (15.51)	110 (44.90)	89 (36.33)	8 (3.27)		2
5. The website can help improve my Eng-lish proficiency.	37 (14.98)	104 (42.11)	97 (39.27)	7 (2.83)	2 (0.81)	

*SA=strongly agree   A=agree   NU=neutral   DA=disagree   SD=strongly disagree

Table 4: Users' attitude toward the learning website

As the researchers were afraid that the answers of the students who hardly visited the website might not be reliable, they divided the users into two groups to analyze their answers separately: one consists of users who visited the website for over two hours a week and the other of those who visited the website for less than one hour a week. The results are positive. As Table 5 indicates, over 90% of the users in the former group showed a positive attitude toward the effectiveness of the learning website on their learning of English, particularly vocabulary. Moreover, 93.59% of them agreed that the online resources are helpful and 93.59 % said that the website can help them improve their English proficiency. In comparison, only 35.9% of the users visiting for less than one hour a week considered the website helpful.

Description	Visiting > 2 hours / week				Visiting <1 hour/ week		
	Positive (SA+A)	Neutral	Nega-tive (DA+SD)	Missing Data	Positive	Neutral	Negative
3.The website can help me learn English more effectively.	75 (97.40%)	2 (2.60%)	0	1	14 (35.90%)	20 (51.28%)	5 (12.82%)
3.1 pronunciation	73 (93.59%)	3 (3.85%)	2 (2.60%)		13 (33.34%)	7 (17.95%)	19 (48.72%)
3.2 spelling	73 (93.59%)	4 (5.13%)	1 (1.28%)		13 (33.34%)	17 (43.59%)	9 (23.08%)
3.3 vocabulary	74 (94.87%)	4 (5.13%)	0		14 (35.90%)	22 (56.41%)	3 (7.69%)
3.4 preposition	28 (35.90%)	44 (56.41%)	5 (6.41%)	1	28 (71.80%)	11 (28.21%)	0
3.5 sentence structure	25 (32.05%)	48 (61.54%)	4 (5.13%)	1	28 (71.80%)	10 (25.64%)	1 (2.56%)
3.6 grammar	24 (30.77%)	46 (58.97%)	8 (10.26%)		27 (69.23%)	12 (30.77%)	0
4. The online resources can help me learn English.	73 (93.59%)	5 (6.41%)	0		11 (28.21%)	21 (53.85%)	7 (17.95)
5. The website can help improve my English profi-ciency.	73 (93.59%)	5 (6.41%)	0		9 (23.09%)	22 (56.41%)	8 (20.51%)

Table 5: A comparison of the attitudes of users with different durations of time spent on the website

5.4 The effect of the learning website on confidence and interest

The fourth question 4 – "Does the learning website help boost confidence and interest in learning English?" – is answered by Tables 6 and 7. In Table 6, among the 247 users, 45.34% of the users said that the website could boost their confidence. 45.34 % of the respondents were un-sure. The numbers reveal that doing online exercises can make at least half of the low proficiency students more confident in learning English. This is important because, if students believe they have the ability to learn English well, they are more likely to obtain better academic outcomes (Tuckman & Sexton, 1990). The outcomes will in turn strengthen the motivation and effort to learn, and lead to further achievements (Ellis, 1994; Gardner, 1985; McDonough, 1986; Skehan, 1989). The online exercises also had some effect in creating an interest in learning English, though this is rather limited, with 38.37% of the users responding positively. How online exercises can be made more interesting is, therefore, a challenge for teachers.

Description	SA N (%)	A N (%)	NU N (%)	DA N (%)	SD N (%)	Missing Data
6. The website makes me more confident in learning English.	29 (11.74)	83 (33.60)	112 (45.34)	21 (8.50)	2 (0.81)	
7. The website makes me more interested in learning English.	28 (11.43)	66 (26.94)	128 (52.24)	19 (7.76)	4 (1.63)	2

Table 6: Effects of the website on confidence and interest

As evident in Table 6, the prospect of the online exercises boosting students' confidence and interest does not look promising. Nevertheless, as one looks at the responses of the users visiting for over two hours a week in Table 7 and compares them with the responses of those visiting for less than one hour, the results are again overwhelming. Over 90% of the former group of users recognized the effects, while only around 15 % of the latter group did so. It means for most of the users visiting more frequently, using the website not only improved their linguistic skills but also enhanced their motivation to learn as both their interest and confidence increased.

	Visiting > 2 hours / week				Visiting <1 hour/ week		
Description	Positive (SA+A)	Neutral	Negative (DA+SD)	Missing Data	Positive	Neutral	Negative
6. The website makes me more inter-ested in learn-ing English.	72 (92.30%)	4 (5.13%)	2 (2.56%)		6 (15.38%)	15 (38.46%)	18 (46.16%)
7. The website makes me more confi-dent of learn-ing English.	68 (89.47%)	7 (9.21%)	1 (1.32%)	2	5 (12.82%)	16 (41.03%)	18 (46.16%)

Table 7: Difference in confidence and interest between users with different durations of visiting time

To further verify the results of the difference between group I and group 2, the researchers analyzed the data though an independent T-test. As Table 8 signifies, there are significant differences between the two groups of users ($p < 0.01$) in all items. The Mean value demonstrates that the over-two-hour users said that the website helped them learn English more effectively (4.48), improve their English proficiency (4.33), and boost their confidence (4.23) and interest (4.20). But, in the linguistic skills, the two groups favored different items. While the users visiting for over two hours a week found more help in pronunciation (4.28), spelling (4.29), those visiting less than one hour a week considered the parts of preposition (4.23), sentence structure (4.23) and grammar (4.15) more useful. Besides, most of the users visiting for over two hours a week responded positively on having higher interest (4.23) and confidence (4.20) in learning English. In contrast, the users visiting for less than one hour a week did not report that the website could raise confidence (2.67) or interest (2.59). Generally speaking, users spending more time on the website held a more positive attitude toward the website, but why were their responses to the exercises of preposition, sentence structure and grammar not so fervent? This will be discussed in the following paragraph.

Descriptions	Mean		T	P
3. The website can help me learn English more effectively.	> 2 hours (N=78)	< 1 hour (N=39)	9.693	0.000**
	4.4805	3.2821		
3.1The website can help me learn pronunciation.	4.2792	2.8974	8.906	0.000**
3.2 The website can help me learn spelling.	4.2949	3.1538	8.243	0.000**
3.3 The website can help me learn vocabulary.	4.3718	3.3590	8.062	0.000**
3.4 The website can help me learn preposition.	3.3846	4.2308	-5.129	0.000**
3.5 The website can help me learn sentence structure.	3.718	4.2308	-5.090	0.000**
3.6 The website can help me learn grammar.	3.3077	4.1538	-5.249	0.000**
4. The online resources can help me learn English.	4.3590	3.1538	9.225	0.000**
5. The website can help improve my English proficiency.	4.3333	3.0769	8.718	0.000**
6. The website makes me more confident in learning English.	4.2308	2.6667	10.817	0.000**
7. The website makes me more interested in learning English.	4.1974	2.5897	10.890	0.000**

* p < 0.05   **p < 0.01

Table 8: Significant mean difference between over-two-hour users and under-one-hour users

5.5   *The relation between users' attitude and the time they spent on the website*

The fifth research question – "Is the users' attitude toward the website related to the time they spent on the website?" – is answered by Table 9. The users spent different durations of time on the website: less than one hour, one to two hour, two to three hours, and over three hours a week. The analysis with Pearson correlation shows that their attitude toward the website varied accordingly. In Table 9, there exists a significant correlation (p=0.000) between the duration of time spent using the website and the users' attitude toward it. The positive correlation values indicates that the more time the users spent on the website, the more favorable attitude they held toward it in the learning of vocabulary, the use of online resources and the boosting of confidence and interest.

Other than the positive correlation, there were also negative correlations in the learning of preposition, sentence structure and grammar. (This is consistent with the results of comparison in Table 8) One possible reason for the negative correlations is that there still exists differences in proficiency among the users. The more frequent users might contain more lower proficiency students who need help in more basic skills like pronunciation and vocabulary. Moreover, the exercises to learn sentence structure and grammar might still be too difficult for them. On the other hand, the users visiting less often might be a little more proficient. Pronunciation and vocabulary might not be a big problem for them. In addition, they found the preposition exercise, scrambled sentences and grammar quiz more useful to them. Whether the users' level of proficiency and the difficulty level of the exercises lead to the results requires further examination.

	Item	Frequency of visit		
		Pearson correlation	P	N.
3.	The website can help me learn English more effectively.	0.686	0.000**	116
3.1	The website can help me learn pronunciation.	0.656	0.000**	117
3.2	The website can help me learn spelling.	0.622	0.000**	117
3.3	The website can help me learn vocabulary.	0.642	0.000**	117
3.4	The website can help me learn preposition.	-0.448	0.000**	117
3.5	The website can help me learn sentence structure.	-0.426	0.000**	117
3.6	The website can help me learn grammar.	-0.485	0.000**	117
4.	The online resources can help me learn English.	0.678	0.000**	117
5.	The website can help improve my English proficiency.	0.658	0.000**	117

* : $p < 0.05$ ** : $p < 0.01$

Table 9: Correlation between frequency of visit and attitude

5.6   The differences in attitude between gender and among different majors

The sixth question – "Does significant difference exist between male and female users' attitude and among engineering, management, and humanities students' attitude?" – is answered by Tables 10 and 11. Table 10 shows that female users held a significantly more positive attitude toward the website than male subjects in all items. Since most of the male students were from Engineering College while the female students mostly belonged to Management and Humanities College, the implication of the result will be discussed in the following paragraph about the students' majors.

	Descriptions	Mean		t	P
3.	The website can help me learn English more effectively.	Male	Female	-8.642	0.000**
		3.6882	4.5000		
5.	The website can help improve my English proficiency.	3.4894	4.2712	-7.287	0.000**
6.	The website makes me more confident in learning English.	3.2447	4.1864	-8.543	0.000**
7.	The website makes me more interested in learning English.	3.1497	4.1552	-9.097	0.000**

*: $p < 0.05$ **: $p < 0.01$

Table 10: Significant mean difference in attitude between male and female users

In addition to gender, the subjects' major also played a role in terms of their attitude toward the website. The difference is significant. Asked if the website helped them learn English more effectively, students from Management College responded more positively than those from Engineering College; and students from Humanities College were more certain than those from Management College. Asked if the website made them confident and interested in learning English, the same results were obtained. As for the item of improving English proficiency, the results are basically

the same, except that there is no significant difference between engineering and management majors. In short, the engineering majors acknowledged the effectiveness of the website the least. Since most engineering students are male, this result corresponds with that in Table 10. What deserves more attention is that despite the comparatively larger number of male users (188 out of 247), they did not seem to be as satisfied with the website as their female peers. Is it because they felt more urgency to improve their English and harbored higher expectations of the website to help them that they were less satisfied? This remains to be investigated.

Item	College Mean		Mean difference	P	F
3. The website can help me learn English more effectively.	E 3.6963	M 4.2222	-0.5259	0.000**	43.59
	E 3.6963	H 4.8696	-1.1732	0.000**	
	M 4.2222	H 4.8696	-0.6473	0.001**	
5. The website can help improve my English proficiency.	E 3.5079	H 4.7826	-1.2748	0.000**	35.36
	M 3.7666	H 4.7826	-1.0159	0.000**	
6. The website makes me more confident learning English.	E 3.2565	M 3.8000	-0.5435	0.001**	40.30
	E 3.2565	H 4.5652	-1.3522	0.000**	
	M 3.8000	H 4.5652	-0.8087	0.000**	
7. The website makes me more interested in learning English.	E 3.1579	M 3.8333	-0.6754	0.000**	46.64
	E 3.1579	H 4.5652	-1.4073	0.000**	
	M 3.8333	H 4.5652	-0.7319	0.001**	

Table 11: Significant difference in attitude among users of different majors

5.7   The users' comments and suggestions

The last research question – "What are the users' comments and opinions on the learning website?" – is answered by Table 12. The users' comments and suggestions for the website were collected from the open-ended question. As Table 12 indicates, the overall comments on the website are positive. The qualitative data therefore converge with the quantitative data. Moreover, there are suggestions on the content and the mechanical problems the users are confronted with. Regarding the content, the users were most concerned about pronunciation and grammar. They hoped to obtain more assistance, such as KK phonetic symbols, as well as more exercises in these two areas. Most importantly, they requested that some Chinese be used to help them understand the lessons and the instructions. These suggestions reveal what low proficiency students are looking for in their attempt to improve English.

The other category of suggestions is about mechanical problems. In the section of "vocabulary pronunciation", students would like to have a clearer and louder voice from the recording speaker. Moreover, the users complained about the low transmission speed, poor sound effect, and poor Internet access quality. Some users also expected the exercises to be more interactive. Therefore, the designers of the website must overcome the obstacles of technology before they can produce a more refined learning website. In short, as far as the design of the course-related online exercises is concerned, the users expressed positive opinions and highly recommended it to other students.

I.   Comments
      1. Great, keep going
      2. Very nice
      3. The website was well made, fulfilling the functions of learning and entertaining.
      4. It is very helpful to me.
II.   Suggestions
   A. Content
   1. Overall:
     a . There should be more exercises.
     b. More materials should be added to the website.
     c. The answers have mistakes.
     d. There should be more instructions on how to use the website and do the exercises.
     e. There can be Chinese translation for every paragraph of the lesson.
     f. Hope there is Chinese translation for the sentences.
   2. Vocabulary pronunciation
     a. Hope it can teach KK phonetic symbols.
     b. English definitions for the vocabulary could be added.
     c. The vocabulary list can be shorter.
   3. Grammar quiz
     a. There can be more grammar exercises.
   B. Mechanical problems
   1. Overall
     a. The speed is slow sometimes.
     b. It cannot be accessed sometimes.
     c. It's not interactive enough.
     d. Hope there can be regular maintenance.
     e. Cannot see the answers after doing the exercises.
   2. Vocabulary pronunciation
     a. The sound effect can be improved.
     b. The sound has too much interference.
     c. The sound can be a little louder.
   C. Promotion.
   1. It's a good website and should be introduced to more people.
   2. There's too little promotion of the website.

6 Conclusions

A conclusion that may be drawn from this research study is that the teacher-designed website can help low proficiency students learn English more effectively and boost their confidence and interest. The results bring out several pedagogical implications.

6.1 *Text-book based learning website & underachievers*

The first implication concerns English learning. It has been a big challenge for EFL teachers to work out effective ways to help poor language learners. Web-based learning has drawn great attention these years for its flexible access in time and place; however, how to "make" students access the web voluntarily outside the classroom is another big challenge. In this teaching experiment, the teachers designed textbook-related exercises to attract low proficiency students, hoping they will access the website and learn independently. The results show that among the 247 users, over 70% responded positively to the teachers' self-designed learning website, which includes 97% of users who visited the website for more than two hours a week. Although three types of exercises got lower acknowledgement from these users visiting for over two hours a week, the favorable results suggest that teachers can try to design textbook-related exercises online to reinforce students' learning outside the classroom.

The findings here echo previous finding that through repetitive training, students may get bet-

ter test results, which may lead to higher self-efficacy and increase their interest and confidence in learning, and then facilitate further efforts (Ellis, 1994; Gardner, 1985; McDonough, 1986; Skehan, 1989). The good outcome of tests is a good way to change learners' beliefs, elevate their self-efficacy, and facilitate their learning. When they find that web-based practice can enhance their learning in the classroom, they could be more willing to access it.

6.2   Interest and confidence

The second implication concerns students' interest and confidence. Although 66% of the subjects used the website, there remained 34% non-users despite the teachers' recommendation. Moreover, only 31.58% of the users visited the website for over two hours a week, while 15.79% seldom got online to learn. The reason that students were reluctant to use the website could be severalfold: It might be that the design of the website could not attract their interest; the difficulty level of the exercise did not match students' level; their learning style did not match the hands-on nature of the CAI (Oxford, 1990); or technical problems could not be overcome. Also, some comments stated that the website made using Hot Potatoes was not interactive or interesting enough. Whatever the reasons might be, a very important finding is that the more frequently the users visit the website, the more favorable attitude they hold toward it. These results indicate that attracting reluctant users would be an effective way to boost their learning. As the website was designed to extend students' learning,   enhancing the intrinsic or extrinsic motivation of users who visit less often or who never visited the web becomes a vital and challenging task. In this respect, it is suggested that teachers look for more interactive software to design more interactive activities or exercises. Moreover, they may offer some rewards to encourage online learning.

6.3   Teachers as web designers

A third implication concerns teachers' role. Teachers are encouraged to be web-designers because they know students' English level and learning pace the best. They can monitor students' learning and adjust the website materials whenever necessary. However, designing web exercises takes a lot of time. It is highly recommended that several teachers teaching the same level of students work together. This not only allows them to brainstorm more ideas but also eases the workload.

7   Limitations

As this is the first online learning website established by the researchers, some technical problems remain to be overcome. It might also be one of the reasons why some students would not access the website. With more technical support, the website can be refined and the results might be different. For future research, the focus may be put on the difference in students' English proficiency before and after using the website for a period of time and on the difference in progress between users who visit the website often and those who seldom access the website.

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Appendix

A Questionnaire on Using KUAS English Learning Web

I. Personal Information
    1. gender : 1.□ male   2. □ female
    2. college : 1.□ engineering 2. □ management   3.□ humanities
II. Use of the Website
    1. I have used "KUAS English Learning Web" (www2.kuas.edu.tw/edu/english1)
        □ Yes   □ No
     (If you have never visited this website, don't answer the following questions.)
    2. I use "KUAS English Learning Web"   (hours per week)
       1.□ not often(less than 1 hour)   2.□ neutral（1~2 hours）
       3.□ often（2~3 hours）   4.□very often   (over 3 hours)

	Strongly Agree	Agree	NU	Disagree	Strongly Disagree
3. The website can help me learn English more effectively.					
(1)It can help me learn pronunciation	□	□	□	□	□
(2) It can help me learn spelling	□	□	□	□	□
(3) It can help me learn vocabulary	□	□	□	□	□
(4) It can help me learn preposition	□	□	□	□	□
(5) It can help me learn sentence structure	□	□	□	□	□
(6) It can help me learn grammar	□	□	□	□	□
4. The online resources can help me learn English.	□	□	□	□	□
5. The website can help improve my English proficiency.	□	□	□	□	□
6. The website makes me more confident in learning English	□	□	□	□	□
7. The website makes me more interested in learning English	□	□	□	□	□
8. My suggestions on the website: _____	□	□	□	□	□