A Study of Applying Computer-assisted Language Learning to English Course for Junior College Students in Taiwan

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Abstract

This study aims to explore the impact of the integration of Computer-assisted language learning (Call) into traditional English course on the learning effectiveness at Junior college in Taiwan. To achieve the above purpose, this study adopts the pre-experimental design with one-group pretest-posttest design. This study adopts quantitative for data analysis. The results indicated the application of Computer-assisted English learning has positive and significant progress on students' English learning effectiveness and learning motivation.

Keywords: Blended Learning, Learning Effectiveness, English course, Computer-assisted language learning (Call).

1. Introduction

Blended learning integrates the advantages of traditional face-to-face teaching and online learning, enters the mainstream course. How to combine face-to-face course and online course to enhance students' learning effectiveness? The purpose of this study will discuss what may be the suitable balance of activities in English blended learning settings. Therefore, this study aims to explore the impact of the integration of Computer-assisted language learning system into English teaching resources on the learning effectiveness at Junior college in Taiwan.

2. Literature Review

Learning in this century should not be constrained to the fence of a classroom, nor does it simply begin and end at an arranged hour. The development of information technology and the Internet, online learning has become a new emerging learning channel. The online learning has provided as alternative forms of education that has brought traditional in-class learning platforms offered in education out of the four walls of the classroom into the realm of cyberspace(Fedynich,2014). But the anecdotal evidence indicates that blended course instruction both offers more choices for content delivery and may be more effective than courses that are either fully online or fully classroom-based (Singh, 2003). According to Garnham and Kaleta (2002), blended learning is simply those in which a significant portion of the learning activities have been moved online, and time traditionally spent in the classroom is reduced but not eliminated.

The goal of blended courses is to combine the best features of in-class teaching with the best features of online learning to promote active independent learning and reduce class seat time (Garnham & Kaleta, 2002). "Blended courses offer the convenience and flexibility of wholly online courses without the loss of faculty or student interaction" (Sitter, Carter, C., Mahan, Massello, & Carter, T., 2009, p. 42).

While many of disciplines already offer online coursework, adding blended courses has the potential to

meet the diverse learning needs of students and maximize available campus resources, especially in English learning. There are so many online English learning courses on the Web site. They can be used in Computer-assisted English learning system to motivate the students through interactive learning, and enhance student's learning effectiveness by immediate online learning feedback.

3. Research Method

3.1. Research Design

This study adopted the pre-experimental design with one-group pretest-posttest design.

3.2. Subject

There were one lecturer and 22 Junior college low achievement students as the subjects.

3.3. Research Materials

There was a step-by-step curriculum layout, which guided the students to arrange their own study schedule based on their own English proficiency.

3.4. Research Steps

The students would take the pretest in the beginning. Then the students experienced a 120 minutes per-week traditional face-to-face English courses for 18 weeks and finally took the posttest. The students had to report their learning journals to show their own progress every week. Finally, the posttest and a learning feedback questionnaire was conducted at the end of semester.

3.5. Data Analysis

The data were collected from pretest and posttest of English, the selection and compilation of Computer-assisted English learning resources, students' online learning records, the percentage of progress. This study adopted quantitative methods for data analysis. The SPSS statistical software package was used for quantitative analysis. First, descriptive statistics would be computed. Next, correlation and dependent sample t-test were calculated.

4. Results

4.1. Pretest and Posttest

The results indicated that pretest score on the average (M=45.09, SD=12.463) was lower than the posttest score (M=67.18, SD=12.765). The posttest was higher than the pretest score. The correlation between the pretest and posttest of English score was 0.545, (p=0.009< 0.05). It means the pretest and posttest of English score were significant related. Table1 shows the mean between the pretest and posttest of English score was -22.091, t =-8.539 (df =21, p =0.000< 0.05). There were significant differences between the pre-test and posttest English scores, and the posttest was significantly higher than the pre-test.

Table1 paired sample T-test

		Paired Differences					t	Df	Sig(2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
pair1	Pretest Posttest	-22.091	12.134	2.587	-27.471	-16.711	-8.539***	21	.000

4.2. the Percentage of Progress and Time Spent

Table2 correlation for percentage of progress and student time spent in online course

		Percentage of progress	Time spent in online course
Percentage of progress	Pearson Correlation	1	.439*
	Sig (2-tailed)		.041
	N	22	22
Student time spent in online course	Pearson Correlation	.439*	1
	Sig (2-tailed)	.041	
	N	22	22

*. Correlation is significant at the 0.05 level(2-tailed)

Table2 showed the correlation between the percentage of progress and the time students automatically spent on the Computer-assisted English learning course was 0.439 (p< 0.05). There was a statistically significant difference for actual time spent and for student learning, as measured by the percentage of progress of English score. It means when the students automatically spent more

time on the Computer-assisted English learning course, the more percentage of progress they made.

5. Discussion

The results showed that the blended learning improved students' English proficiency. The average posttest was significant higher than the pretest. And the more time students spent on the Computer-assisted English learning course, the more progress they made. The application of Computer-assisted English learning system into traditional face-to-face course was positive and significantly effective. That is, the blended learning mode was efficient in English Learning.

5.1. Student

Garnham and Kaleta (2002) found that the principle reason that 80% of the students gave high level of satisfaction was the time flexibility provided by the blended mode. Time flexibility is defined as the ability to control the pace of one's learning, the convenience of scheduling coursework and a decrease in time spent in commuting. In this experiment, 81% students strongly agreed that one of the main benefits of blended learning was that they had more flexibility in their study time and they could arrange the pace of their own learning. An important aspect of blended learning is that students should be able to learn independently and spend more time doing self-directed learning.

Blended learning increases the opportunities for self-directed learning and develops project and time management skills (Spilka, 2002). Participating in a blended course requires students to be self-directed learners with effective time management skills. From the students' learning journals, many students reported that blended learning enhanced them in self-directed learning and improve time management skills.

But it is not generally common for Asian students. Prangpatanpon (1996) reported there is a lack of self-directed learning activities among Thai students, because they are used to authoritarian practice, and are willing to accept what their teachers said without questioning. It is different from the result of Spilka's experiment. In this case, Taiwanese students hope to have more flexible time and arrange their own learning progress.

However, a change from a face-to-face classroom to student-centered active learning can constitute a radical change for some students. If students who wish to take a traditional face-to-face study take a blended learning course, this form of learning may be disappointing and frustrating. Especially those students who are not used to being responsible for their own studies. So the student' characteristics will influence their acceptance of blended learning mode, and their learning effectiveness. It may be a new direction for future research.

5.2. Teacher

In order to teach a successful blended course, the teacher must invest a significant amount of time and effort into the redesign of the class (Garnham and Kaleta, 2002). The study found the blended instruction was a greater workload than face-to-face instruction. The lecturer indicated that she spent much more time on blended instruction and on individual communication than she had in any face-to-face instruction.

In order for true blending learning to occur, the structure of the course must be carefully evaluated to determine which instructional objectives can best be met in an online environment and which are better suited to a traditional classroom environment (Lloyd-Smith, 2010).

The blended learning needs to combine the face-to-face course and the Computer-assisted course to enhance students' learning effectiveness. The instructor needs to redesign course, and to think about what may be the appropriate balance of activities in English learning settings. It is important to take into consideration of activities which objectives can be met via Computer-assisted learning and those which will be enhanced in a traditional face-to-face format. The redesign of the curriculum also requires review of the teaching strategies and assessment models as well as the limitations of existing curriculum management techniques and systems.

The Computer-assisted English learning systems would be used to enhance students' vocabulary, pronunciation, and communicative skills. Using the Computer-assisted English learning system, the instructor had the flexibility to arrange the curriculum, exam type and difficulty levels, as shown in Figure 1. She could create exams from the test bank of the website. Through managing exam types, time and frequency, she could fully understand the students' learning status.

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Fig. 1. examination management on the Web site

The students could arrange their own study schedules based on their own English proficiency and tested themselves when they were ready. The instructor could clearly know the grades, percentage of progress, correct rate, spending time, and the learning schedule of each student from the Web site, as depicted in Fig.2. The students could view their own progress and grades anytime. Besides, the instructor could really grasp the extent of the progress of the student's grades, and then modified the content and progress of the teaching. When some students had problems in certain area, the instructor could help them individually.
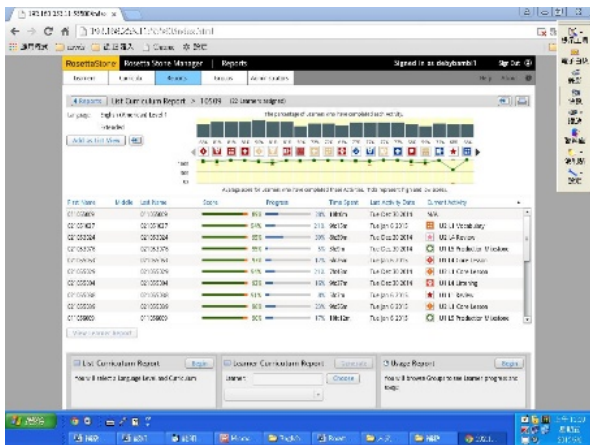

Fig. 2. the learning schedule and spending time of each student.

The instructor also indicated that she always worked alone because other colleagues were seemingly frightened by the new technology and refused to apply Computer-assisted learning to the courses. She coaxed

into the teaching training, built the course and learned to use what had become one of her best teaching tools.

6. Conclusion

Entering Education 4.0, learning has become highly customized and individualized. The Computer-assisted learning system used interactive approach as instruction method to enhance students' learning effectiveness. Through the hyperlink and AI calculus analysis from the online education platform of big data, we can accurately meet the needs of students, create customized courses and textbooks, and provide students with personalized courses in language learning.

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