

Research on Computer-Assisted Task-Based Instruction in College English Writing Teaching

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Abstract: *In the digital era, the application of Computer-Assisted Language Learning (CALL) in the field of foreign language teaching has been explored by many researchers. In addition, Task-based instruction (TBI) is also a widely accepted method in language teaching, which requires language learners to complete a series of meaningful tasks to improve their language abilities. In this research, I will combine the CALL and TBI teaching method, drawing on the advantages of both methods, aiming to enhance students' writing skills and studying interest by introducing technological means. This paper also explores the effectiveness of the application of a combination of CALL and TBI in improving college English writing teaching.*

Keywords: Computer-Assisted Language Learning, Task-based instruction, Feynman Learning Method, College English writing.

1. Introduction

College English writing has long been regarded as a difficult point for a majority of college English teachers and students. The fundamental reasons behind this are students' lack of writing abilities and teachers' poor teaching methods. In traditional English writing classes, the teaching methods adopted by teachers are often teacher-centered and lack interaction, which leads to a monotonous and boring class and makes it difficult to effectively stimulate students' writing interest and improve their writing abilities. However, with the development of information technology, Computer-Assisted Language Learning (CALL) has been increasingly applied in the field of teaching English writing, which allows students to gain more related information about the target writing task and fully prepare for it. The enhancement of confidence in finishing the target task can help to activate students' interests in English writing. This paper aims to explore the research on computer-assisted language learning and task-based instruction in college English writing teaching, with the hope of providing beneficial references for the reform of English writing teaching.

2. Theoretical Basis

By applying Computer-Assisted Language Learning (CALL), learners can have access to the abundant online resources so that they can make full preparations for the target learning content before their classes. Both domestic and international research results show that the utilization of CALL and network resources in English classes can contribute to providing an authentic language writing environment for college students, and be beneficial to improving the writing abilities of students.

In exploring the application of CALL in group activities within English writing classrooms, Blatt (2000) and Paige (2004) conducted relevant research to determine that student interaction and collaboration are significantly enhanced in computer-assisted writing environments, which helps improve their writing abilities. Mabrito (1991) focused on research on general peer feedback through email draft exchanges and ensured that collaborative writing via email

provides learners with effective opportunities to enhance learning outcomes. Furthermore, Giovanni and Nagaswami (2001) pointed out that online peer reviews have advantages over face-to-face peer reviews because students feel more relaxed and confident in computer-based writing environments.

Task-based instruction has been applied in China's foreign language education since the 1980s, and its "learning by doing" teaching philosophy effectively shifts the teacher-centered teaching approach in writing instruction to a student-centered one. Qian Shuqing (2019) found through a study comparing an experimental class and a control class that the experimental class using task-based instruction showed a significant improvement in English language proficiency, and also discovered that task-based instruction has a positive impact on enhancing students' learning motivation and self-confidence. Zhang Haiyun (2009) adopted a method in teaching and research where topics were given first, students were grouped, and required to accumulate viewpoints using the internet, keep diaries, etc. Before writing, they constructed mind maps to form a writing structure. Afterwards, students collaboratively completed the first draft, reviewed and revised within the group, and finally the teacher assessed to ensure high-quality completion of the essay. This approach helps students master more grammatical knowledge and writing skills.

These studies indicate that computer-assisted task-based instruction is effective in improving students' English writing abilities. It not only enhances their writing skills but also stimulates their learning interest and motivation.

3. Research and Design

This study began at the start of the 2023 semester, applying the teaching method involved in this research to students in Dance Class 1 and Environmental Design Class 1 of the 2023 grade at Jiangxi University of Technology. A questionnaire survey and interviews were conducted on the teaching effectiveness, investigating and analyzing the learning and teaching situations of college English, as well as assessing their English writing abilities at the beginning of the semester and after the experiment, with analysis results obtained.

3.1 Research Subjects

I mainly selected the students who major in Dancing and Environmental Design of the 2023 grade at Jiangxi University of Technology as my research subjects. The Dance Class 1 is selected as the experimental class. In this class, I adopted the teaching method proposed in this research for college English writing teaching to teach the students. On the other hand, I use traditional writing teaching methods to teach students in Environmental Design Class 1, which is the control class.

3.2 Experimental Variables

3.2.1 Independent Variable

In my research, teaching methods are the independent variables. I use two kinds of teaching methods, including traditional English writing teaching methods and computer-assisted task-based teaching methods.

3.2.2 Dependent Variables

There are two dependent variables in my research, which are the writing abilities of target students and their interests in English writing. Students' writing abilities are designed to be assessed by their test scores of pre-test and post-test. The method of questionnaires was applied to evaluate students' interests in writing.

3.3 Research Questions

This research aims to explore the effectiveness of applying the computer-assisted language learning (CALL) and task-based instruction (TBI) teaching method in college English writing teaching and I intend to draw conclusions by discussing the following questions:

- (1) What is the effect of CALL and TBI on college English writing? Compared to traditional college English writing teaching methods, what are the differences in the teaching effectiveness in the target research method?
- (2) What do students think about CALL and TBI in college English writing?
- (3) In what aspects does CALL and TBI enhance students' abilities?

3.4 Research Tools

This research adopted the method of questionnaire surveys. I distributed 109 questionnaires to the students in two classes by a mini program on Wechat and received 96 valid questionnaires. The questionnaire contains 10 questions related to the effectiveness evaluation of CALL and TBI in college English writing.

The comparative research method is employed to conduct the research. Students were assigned to finish a pre-test at the beginning of the first semester and a post-test after studying for a whole year. The scores of pre-test and post-test are

placed together to contrast to analyze.

3.5 Experimental Procedures

3.5.1 Pre-test

A pre-test with a CET-4 writing task related to the topic of education was conducted on students from both classes to assess their initial writing levels before the research. The students were required to complete the task of "What do you think of college education" in 120 words within 30 minutes.

3.5.2 Experiment Implementation

Students from Environmental Design Class 1 were arranged to receive instruction through traditional writing teaching methods. In contrast, students from Dance Class 1 were taught by using CALL and TBI teaching methods.

Traditional Writing Teaching Method: The teacher first guide students to read the writing task, analyze some key words in the title. Then the teacher presents some writing examples to analyze some writing skills used in these examples. Finally, the teacher assigns a writing task for students to imitate the examples. The teacher collects students' composition and give teacher feedback to the students' writing works.

Computer-Assisted Task-Based Teaching Method: The teacher designs a series of writing tasks, which students should complete on the computer under the teacher's guidance. For example, searching related information about writing task on the Internet and complete an outline with their group members together. The task aims to stimulate students' writing interest and improve their writing abilities step by step.

3.5.3 Post-test

In order to examine the effectiveness of the research teaching method, a post-test was conducted on the same students from both classes to assess their changes in their English writing levels after studying a year. The writing task of the post-test the same as the pre-test. Students were required to complete the task of "What's your suggestions to college education?" in 120 words within 30 minutes.

3.5.4 Questionnaire Survey

After the research, a questionnaire survey with 10 questions was conducted on students from the control class in order to collect the information about students' acceptance and satisfaction with CALL and TBI teaching method.

4. Data Analysis and Discussion

1) Microsoft Excel was used to analyze the data collected by questionnaire surveys. The percentage for each question in the questionnaire are calculated, by which the effectiveness of CALL and TBI teaching method in college English writing was analyzed and discussed in details.

Table 1: Effectiveness of CALL and TBI in College English Writing

1. Do you think the application of CALL and TBI in college English writing classes exert a significant influence on your mastery of the structures for a variety of English writing tasks?	68%
2. Do you think the application of CALL and TBI in college English writing instruction enable you to effectively master the use of coherent and cohesive words?	66%
3. By applying CALL and TBI in college English writing classes, do you think whether your ability to reasonably utilize different argumentation methods to support your viewpoints has been improved?	62%
4. By applying CALL and TBI in college English writing classes, do you think whether your ability to express your viewpoints accurately and appropriately in your writing has been improved?	60%
5. By applying CALL and TBI in college English writing classes, do you think whether your ability to effectively use computer technology to acquire relevant information for college English writing and apply it in your writing has been improved?	81%
6. By applying CALL and TBI in college English writing classes, do you think whether your ability to use the tool of PPT to present your understanding of how to effectively write an English composition in class has been improved?	50%
7. By applying CALL and TBI in college English writing classes, can you debate with your classmate smoothly on the English writing topics?	51%

Table 1 presents seven questions related to the effectiveness of computer-assisted task-based instruction in college English writing. The data shows that more than half of the students responded positively to the seven questions, indicating that computer-assisted task-based instruction has varying degrees of positive effects on helping students effectively master the article structures of various types of CET-4 writing questions, use logical connectives to make articles clear and coherent, employ different argumentation methods to support viewpoints, express opinions using accurate and appropriate expressions in articles, effectively use computer technology to obtain relevant information for college English writing and apply it in writing, design and present PPTs in class to showcase their understanding of writing knowledge points, and smoothly and naturally debate on English writing argumentative topics.

Table 2: Impact of CALL and TBI on Learning Motivation and Methods

8. Has the application of CALL and TBI in college English writing caused you any stress in your English learning?	51%
9. Has the application of CALL and TBI in college English writing instruction increased your interest and motivation in learning?	70%
10. Has the application of CALL and TBI in college English writing instruction helped you master more English learning methods and skills?	71%

Table 2 investigates the impact of applying CALL and TBI teaching methods on English writing classes on learning motivation and methods. For above-mentioned three questions, 51% of students believe that CALL and TBI teaching methods causes some pressure on their learning. However, 70% of students believe it improves their interest and motivation in learning English, and 71% of students think this teaching method can help them improve their English learning methods. These results indicate that while CALL and TBI brings some mental pressure to students, it also brings positive influences on students' language learning, such as rising learning motivation and improved learning method.

2) Comparison of Scores Before and After the Experiment

The English writing test scores of two classes before and after the experiment were analyzed using the statistical software SPSS. Below is a comparison of the data.

(1) Comparison of English Writing Test Scores for Experimental and Control Classes at the Beginning of the School Year (see Table 3).

Table 3: Comparison of Baseline English Writing Test Scores for Experimental and Control Classes

Class	Number of Students	Average Score	Standard Deviation	T-test Value	Standard Error
Experimental	54	6.79	1.62	-	0.32743
Control	55	6.65	1.87	0.425	0.29743

As shown in Table 3, the experimental and control classes had comparable English writing proficiency scores before the start of the school year. After a year of experimental teaching activities, both classes participated in a unified English writing test. Below is a comparative analysis of the post-experiment English writing proficiency test scores for the experimental and control classes.

(2) Comparison of Post-Experiment English Writing Proficiency Test Scores for Experimental and Control Classes (see Table 4)

Table 4: Comparison of Post-Experiment English Writing Proficiency Test Scores for Experimental and Control Classes

Class	Number of Students	Average Score	Standard Deviation	T-test Value	Standard Error
Experimental	54	7.74	1.53669	-	0.31705
Control	55	7.21	2.00832	1.719	0.36667

It can be seen from the Table 4 that the standard deviation for the control class was 2.00832 in the post-test, increasing by 0.138. In contrast, the standard deviation for the experimental class decreased from 1.62 to 1.53669 by 0.08331. The result indicates that after a year of studying, the score gaps among students in the control class were widened more, while the differences between students in the experimental class were relatively narrow than those in control class.

As is demonstrated in Table 4, after a year's teaching and learning practices, the average English writing score of students in the experimental class exceeded the average score of students in the control class.

5. Conclusion

This research adopted the traditional English writing teaching method and a combination of CALL and TBI to teach different classes for a year, aiming to examining the effectiveness of CALL and TBI teaching method in the experimental and control classes. The research results show

that students who received CALL and TBI made great improvements their writing ability, especially using online resources to searching information on writing tasks, mastering article structures, coherent and cohesive words, argumentation methods. Students' interest and motivation on studying English are also enhanced in this process. In addition, there are large differences between students in the experimental class and control class. In experiment class, the differences in scores among students gradually narrowed. In contrast, despite the fact that students in the control class performed better in their grades in post-test than in pre-test, the individual differences in scores among students gradually widened. The research results prove the effectiveness of applying CALL and TBI in English writing teaching classes, which can not only effectively improves students' English writing skills but also activates their learning interest, thereby enhancing overall teaching levels. Therefore, this research may prove that CALL and TBI teaching method is worth promoting in college English writing classes.

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