

Cultivation of College Students' Applied Writing Ability Based on Task-based Teaching Mode Supported by Information Technology

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Abstract: College English writing teaching in the information age is inseparable from the support of information technology. This study uses comparative experimental methods to integrate the teaching resources platform supported by information technology into the practice of college English writing teaching, and to evaluate the writing ability in four dimensions: writing quality, writing accuracy, writing fluency and vocabulary richness, and to explore the impact of the application of the teaching resource platform on the development of students' writing ability. The research results show that the experimental teaching effectively promotes the development of students' writing ability, which is manifested in the significant improvement of writing quality, writing fluency, writing accuracy and vocabulary richness. The application of information technology-supported teaching resource platform in English writing teaching has a positive impact on the development of students' writing ability.

1. Introduction

As an important productive skill, the importance of English writing is beyond doubt. Professor Wang Shouren, the chairman of the College Foreign Language Teaching Steering Committee, believes that oral English is important in the process of communication. English writing is equally important, even more important, and more occasions are used. However, in the past years, the writing scores of the fourth and sixth grade candidates were the lowest. The traditional English writing teaching with "proposition → composition → correction / comment" has become one of the factors restricting the development of students' writing ability. On the one hand, traditional writing teaching can not provide students with effective language input for writing teaching. The language schema, structure schema and content schema required for writing are insufficient. On the other hand, traditional writing teaching ignores the learner's cognition[1]. The main role, students lack active exploration of knowledge, active discovery and active construction of the meaning of the knowledge learned. It can be seen that in the era of ever-changing information technology, making full use of information technology to reform English teaching, designing English writing teaching mode based on information technology, and improving students' writing ability is an urgent task for college English teaching, and it has become a hot topic of teaching research. One.

2. Research design

2.1 Research questions

Using contrastive experimental methods, this study mainly examines the differences in writing ability between experimental and control students after the teaching experiment from the four dimensions of writing quality, writing accuracy, writing fluency and vocabulary richness, aiming at exploring information technology support. The influence of the application of teaching resources platform in college English writing teaching on the development of students' writing ability[2].

2.2 Introduction to the experimental teaching environment

The experimental teaching uses an automatic evaluation system-teaching resource platform

jointly developed by the Higher Education Press and Tsinghua University. The system has three categories of “classic resources” and “course resources” in the “Fan Wen, courseware, homework”. The former is a digital resource for paper-based textbooks. Nearly 200,000 words of writing essays and student assignments come from real student groups. Many of the essays have partial revisions of professional teachers, endorsements in the text, and comments at the end of the text. The latter are high-quality teaching resources involving “basic writing”, “application writing”, “innovative writing” and “academic writing”. The teacher of the system provides teachers with resource management, job management, team management, online monitoring and automatic evaluation of composition. The automatic evaluation function includes automatic scoring (mainly based on article length, word repetition rate, word type, average sentence length and average word length), automatic evaluation, automatic generation of end comments and article medical report. The student side of the system provides students with resource management, assignment management, practice tests, and statistical analysis of the essay (including article length, total number of words, word type, average sentence length, average word length, etc.) and comparative research.[3]

2.3 Research objects

The subjects were two natural parallel classes from the second grade of non-English majors in a key university in Beijing. One of the classes was randomly assigned to the experimental class (32) and the other class was the control class (39). Both classes are taught by the same teacher.

2.4 Experimental design

In the early stage of the teaching experiment, we conducted a time-limited (40-minute) writing test, which was written in a non-oriented paper. Subsequent teaching experiments. The teaching experiment lasted one semester (16 weeks). The experimental class and the control class have the same number of hours of teaching, two hours per week. The writing tasks of the two classes are the same, and each of the six essay writing tasks is completed (see Table 1 for specific writing teaching information).

After the end of the teaching experiment, we conducted a post-test, and the test method was exactly the same as the pre-test. We conducted a questionnaire survey on students participating in the teaching experiment. A total of 32 questionnaires were distributed and 32 valid papers were returned. The questionnaire uses a closed grading scale structure, which is divided into 5 levels, ranging from 1 (very agree) to 5 (very disagree). Six students were randomly selected for semi-open interviews. After obtaining their consent, we recorded the interviews to analyze the relevant data.

Table 1. English writing teaching composition information

Writing	Theme
Pre-test	Fast Food
Writing 1	Advantages of Five-Day week
Writing 2	On Overseas Study
Writing 3	Is failure a bad thing?
Writing 4	Positive and negative aspects of sports
Writing 5	Can Money buy Happiness
Post-test	Global shortage of fresh water

2.5 Data collection and analysis

For pre-test and post-test, we use “integrated teacher evaluation, system automatic analysis and RANGE software analysis” to collect data, from writing quality, writing accuracy, writing fluency and vocabulary richness to writing ability. Analyze and analyze the influence of the application of teaching resources platform in college English writing teaching on the development of students' English writing ability.

“Integrated Teacher Evaluation” means that the teacher gives a comprehensive score based on the quality of the student's writing. According to the CET-4 grading standard, the total scores of the two tests were set to a maximum of 15 points, and the score was completed by two teachers. When

the difference in the scores of the same composition is large, the two teachers agree on each other to give the final score.

The number of hundred words of error reflects the accuracy of writing. The researchers used Chandler [10]'s hundred-word error calculation method, that is, the number of errors/article length \times 100, the less the number of hundred words, the higher the writing accuracy. For errors in the pre- and post-testing, we use the way of error labeling to examine the changes in writing accuracy. The error labeling is shared by the two teachers, and each article is checked twice to ensure the accuracy of the labeling.

“Automatic system analysis” refers to the use of the analytical statistics function of the teaching resource platform to count the length of articles before and after the students are measured. We use the vocabulary analysis software RANGE to analyze the vocabulary richness of student assignments.[4]

3. Research results and discussion

3.1 Research results

3.1.1 Writing quality

Test scores are the most direct indicator of the quality of a student's writing. It can be seen from Table 2 that there is no significant difference in the mean value of the pretest scores between the experimental class and the control class ($P=0.936>0.05$), and the writing level is equivalent. The average scores of the post-test scores of the two classes were improved by different degrees. The improvement of the experimental class was greater than that of the control class. The independent sample T test showed that the difference between the two classes was significant ($P=0.035<0.05$), and the writing quality of the students in the experimental class. Significantly higher than the control class.

Table 2. Comparison of pretest and posttest results

Category	Class	Number of people	Mean	STD	T-value	P-value
Pre-test	Experimental class	32	0.880	0.198	-0.0104	0.1217
	Control class	39	0.883	0.200		
Post-test	Experimental class	32	1.196	0.169	0.2796	0.035*
	Control class	39	1.113	0.156		

Note: * means $P<0.05$; ** means $P<0.01$, the same below

3.1.2 Writing fluency

The "writing long method" demonstrates the effect of increasing the number of words on the ability to write English. It can be seen from Table 3 that the average length of the article in the experimental class and the control class is almost the same in the pre-test, and there is no significant difference in the independent sample T test ($P=0.811>0.05$). There was a small increase, no significant difference ($P=0.080>0.05$).

Table 3. Comparison of lengths of pretest and posttest articles

Category	Class	Number of people	Mean	STD	T-value	P-value
Pre-test	Experimental class	32	170	30	0.0313	0.1054
	Control class	39	168	33		
Post-test	Experimental class	32	183	27	0.2311	0.0104*
	Control class	39	172	30		

3.1.3 Lexical richness

The lexical diversity, lexical complexity, lexical density, and number of lexical errors are considered to be the four elements for assessing lexical richness. We examine the changes in students' vocabulary richness from the two dimensions of lexical diversity and lexical complexity. Using the analytical data of the RANGE software, this study uses the Uber index calculation formula to analyze lexical diversity, namely:

$$Uber\ index = \frac{(\log\ tokens)^2}{\log\ tokens - \log\ types} \quad (1)$$

This formula is not affected by text size and provides a relatively accurate measure of vocabulary diversity.

Table 4 shows that, in the pretest, the mean vocabulary diversity of the control class was higher than the experimental class, and the independent sample T test showed no significant difference between the two classes ($P=0.098>0.05$). After the test, the vocabulary diversity of the experimental class increased slightly compared with the previous test, and the control class decreased slightly. The two classes showed significant differences ($P=0.023<0.05$).

Table 4. Comparison of vocabulary diversity between pretest and posttest

Category	Class	Number of people	Mean	STD	T-value	P-value
Pre-test	Experimental class	32	2.048	0.413	-0.2181	0.0127
	Control class	39	2.222	0.451		
Post-test	Experimental class	32	2.189	0.308	0.3025	0.023*
	Control class	39	1.999	0.368		

From the perspective of students, 87.5% of them believe that their writing ability has improved after the experimental teaching, and 12.5% of the students think that the improvement is not obvious. This shows that most students believe that experimental teaching promotes the development of their writing ability. 100% of students believe that their writing speed is faster, 83% of students think that the number of language errors is reduced, 91% of students think that their vocabulary richness increases, and 97% think that the composition content is richer than before. The results of the questionnaire support the findings of the above-mentioned experimental class students whose writing ability has been significantly improved.

3.2 Discussion

Introducing educational technology into traditional classrooms is not a simple technical issue, but a systematic change involving both teaching and learning. The application of the information technology-supported teaching resource platform in the teaching of college English writing changes the teaching methods and means, enriches the teaching content, optimizes the teaching environment, and creates a new teaching model, prompting students to make full use of information resources in a collaborative learning environment. Engage in every aspect of writing teaching, give full play to their learning autonomy and creativity, and improve writing skills through process and interactive learning processes.

First of all, the teaching resource platform provides a set of local policies that integrates pictures, texts, sounds and images, close to the students' life and cognition level, and targeted information. These policies effectively promote the development of school-based training and The teacher's attempt to apply the training knowledge has promoted the transfer of the project concept to the teaching practice skills. For example, Shifang Experimental Primary School timely reported the teacher's learning situation according to the platform's academic performance, and effectively supervised the teacher's learning activities. And the school has established a teaching management

system, requiring teachers to upload courseware and instructional design to the system one day in advance, to check at any time, and then organize the teaching and research room teachers to prepare lessons, brainstorm and share.

4. Conclusion

Through a one-semester comparative experiment, this study found that compared with traditional English writing teaching, the application of information technology-supported teaching resource platform can significantly promote the development of students' writing ability, its writing quality, writing accuracy, writing fluency and The vocabulary richness has been significantly improved. The application of the teaching resource platform highlights the main role of students in the learning process, effectively stimulates students' interest in writing, and actively participates in the process of focusing on process and collaboration, and the multi-feedback mechanism increases student autonomy and collaboration to modify composition. The number of times has reached the goal of "promoting learning by evaluation". Of course, teachers must also clearly understand that information technology is not a panacea. The reasonable intervention and guidance of teachers is one of the key factors for information technology to play its advantages. The further improvement and application of the teaching resource platform, which combines rich teaching resources, advanced teaching concepts and automatic evaluation functions, will promote the development of foreign language teaching in the direction of informationization, personalization and autonomy, and further promote college English teaching.

Of course, there are some shortcomings in college English writing teaching based on the teaching resource platform. For example, the number of student samples is not large and the beneficiary groups are small. The follow-up study will expand the scope of research, and further explore the impact of the application of information technology-supported teaching resource platform in the teaching process on the teaching process and results, and provide a new way and a broader space for college English writing teaching.

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