

Research on Public English Blending Teaching Reform for Post-Graduate Students based on Network Platform

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Abstract: The integration of the public English flipped classroom with the Superstar Learning App introduces innovative ideas and inspiration for educational reform. This study employs student questionnaires and tests to demonstrate that this model effectively enhances students' practical English skills. It has been shown through practice that the blended teaching approach facilitated by the Superstar Learning App has significantly transformed and provided new insights into our methods of English learning and teaching.

Keywords: Superstar Learning APP; Flipped Classroom; Blending Teaching

1. Introduction

As a new classroom teaching mode and organization form, the public English flipped classroom blending teaching mode based on superstar learning app provides new ideas and inspiration for educational reform. Flipped classroom emphasizes the stimulation of students' learning interest and the cultivation of autonomous learning ability and collaborative innovation ability. These characteristics of flipped classroom coincide with the requirements of public English reform. The concept of flipped classroom combines with blending teaching, which can not only give full play to the advantages of blending teaching, but also change the single learning method and stimulate students' learning enthusiasm and initiative. This new type of blending teaching provides new ideas for our English teaching reform. Therefore, it is of great significance to

carry out the blending teaching of public English flipped classroom based on superstar learning app^[1].

2. Research Design

This research primarily aims to validate the hypothesis regarding the effectiveness of the blended teaching model for public English flipped classrooms, utilizing the Superstar Learning App in English instruction. This study lasted for one year, and the textbook adopted is the New Era Academic English for Graduate Students^[2].

2.1 Hypothesis

Null hypothesis: The blending teaching based on network platform is not effective in public English teaching^[3].

Hypothesis1: The blending teaching of public English flipped classroom based on super star learning app is very effective in public English teaching. The performance of the experimental class students is much higher than that of the control class students, which can improve and promote public English teaching^[4].

2.2 Subjects

120 students with similar English proficiency were selected from four parallel classes in the 2022 grade, totaling 60 students per class. One class utilized the blended public English teaching method incorporating the Superstar Learning App, while the other class followed traditional English teaching methods. From the table below, $p=0.538 > p=0.005$, the difference in English level between the two groups is not significant^[5]

Table1. The Difference in English Level between the Two Groups

Group	N	Mean	Std. Deviation	P values
Experimental group	60	73.94	17.15	0.583
Control group	60	72.10	18.12	

2.3 Control of Experimental Variables and Irrelevant Factors

Independent variable: In the experimental group, the independent variable is the blended teaching model of the public English flipped

classroom using the Superstar Learning App. For the control group, the independent variable remains the school's traditional teaching method [6-7].

Dependent variable: The CET-6 serves as both the pre-test and post-test, offering reliable and valid data to assess students' progress in English learning. For both the experimental and control groups, the dependent variable is the CET 6 scores of the students.

2.4 Experimental Tools or Methods

To ensure the experiment's objectivity and credibility, it was conducted using a combination of tests, questionnaires, and interviews.

2.4.1 Test:

Both the pre-test and post-test utilized real CET 6 questions provided by the National Test Center. The exam consists of four sections: writing, listening, reading comprehension, and translation.

At the start of the first semester, all participants took a unified English proficiency test for the National Public English Test Level 6 in June 2022.

At the end of the second semester, the end of the experiment, all participants took the national CET-6 in December 2022. This score served as the post-test score for the experiment, aiming to assess whether students had met the basic requirements after a semester of study.

Both pre-tests and post-tests are comprehensive English proficiency tests, which can provide reliable and effective data for students' progress in English learning.

2.4.2 Questionnaire survey

The whole research process lasted for two semesters, and the questionnaire was conducted at the beginning of the first semester and the end of the second semester. The questionnaire includes the basic information of students, such as their online learning time, their views and attitudes on online learning, and their learning activities using the Internet, etc. The aim mainly for the experimental class is to understand the situation of students after blending learning and the use of learners' meta-cognitive strategies.

2.4.3 Interview

During the semester break, students from the experimental class were interviewed to understand their attitudes towards the new teaching model, identify the problems they

encountered, and gather their suggestions for improvement. These interviews provided valuable insights that helped in gradually refining the new model.

2.4.4 Design of blending learning mode in public English

The Public English course is a required general course for all graduate majors. Currently, the teaching organization emphasizes a language teaching model that combines theoretical instruction with practical application. This model integrates practice, face-to-face teaching, tutoring, in-class and extracurricular activities. The aim is to develop students' abilities in listening, speaking, reading, writing, and translating. This approach strengthens the comprehensive application of English, with a particular focus on training listening and speaking skills, see Figure 1.

Currently, public English teachers have progressively transferred teaching materials, including courseware, multimodal resources, homework, discussions, and supplementary materials, to the teachers' course network platform. This shift has essentially integrated online and offline public English classroom resources. The teaching resource network enables students to preview and consolidate course content, expand their knowledge base, enhance English skills, and engage in independent learning after class. This platform also facilitates teacher-student interaction, significantly boosting students' enthusiasm for learning. The blended teaching mode, which combines online and offline methods, is structured around "pre-class guidance + process supervision + comprehensive education" and has been implemented in public English courses. The details are as follows:

1)Pre-class guidance: Teachers prepare pre-course guidance and supplementary teaching materials related to the course content through various channels. They establish the guidance tasks and objectives for each unit and chapter. The development and digitalization of pre-class learning resources connect course text materials with online multimodal resources and digitize practice/tests. This foundation of resources supports the development of independent learning before public English courses.

2)Whole-course education: Relying on the course platform, teachers have enriched learning resources, provided learning support,

and assisted students in the online autonomous learning process. Utilizing the Superstar Learning App and WeLearn platform, teachers have established a public English course portal. This portal includes multimodal resources, homework, discussions, and supplementary materials, all integrated into the teacher's course network platform. This setup provides students with language and program support to enhance learning efficiency, achieving

seamless integration of public English classroom resources online. The network of teaching resources allows students to preview and consolidate course knowledge, expand their understanding, enhance English skills, consult materials after class, and engage in independent learning. It also facilitates teacher-student interaction, effectively boosting students' enthusiasm for learning.

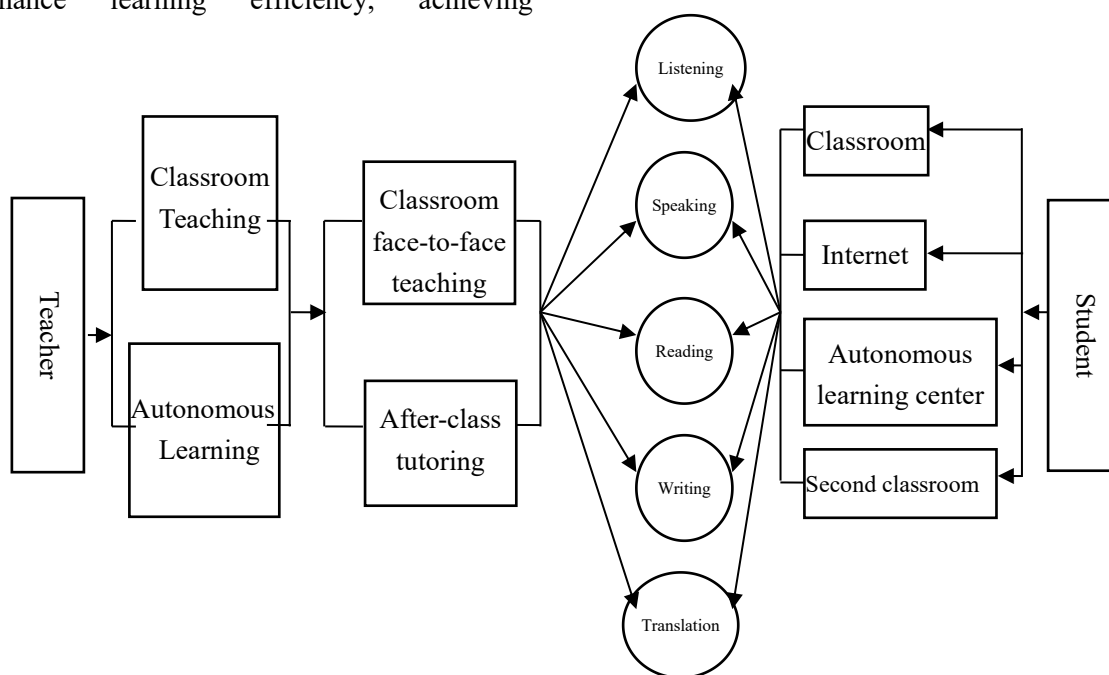


Figure 1. Design of Blending Learning Mode in Public English

3)Process inspector: At present, teachers mainly supervise the learning process based on the one learning level and three-end intelligent teaching platform. The three-end intelligent teaching platform can obtain big data such as students' participation in various class discussions, homework completion, browsing duration and frequency of task points in each unit, to generate students' online learning/performance evaluation results. The data show that students in all class can participate in various teaching activities of the learning communication platform, and the teaching effect is good.

Blended teaching and learning have two fundamental characteristics: it harnesses the teacher's leading role in traditional classroom instruction while also empowering students' active participation in online learning. In the classroom, teachers can integrate the abundant multimedia teaching resources available on the online platform with traditional blackboard teaching. After class, students can engage in

online learning and communication. This model distinguishes online teaching from traditional classroom teaching by breaking the conventional school education model and overcoming the limitations of traditional teaching, which often lacks effective communication. It represents a new mode of teaching and learning.

3. Results and Discussion

3.1 Questionnaire Survey

In order to timely understand the teaching situation and the students' feedback, we conducted a questionnaire survey on the students in the experimental class at the end of the second semester. The survey includes the time that students use online learning, students' views and attitudes on online learning, learning activities carried out by students using the Internet, and views on the effect of public English blending learning teaching mode. Using the group test method, 102

questionnaires were distributed, and 102 valid questionnaires were recovered, and the effective recovery rate was 100%. Statistical

analysis of the data was performed using SPSS 10.0.

Table2. Questionnaire Survey (I=item P=percentage A, B, C, D, E=choice item)

I \ P	A%	B%	C%	D%	E%
Question 1	30 (29.4%)	35(34.3%)	23(22.5%)	8(7.8%)	6(5.9%)
Question 2	37(36.3%)	23(22.5%)	14(13.7%)	13(12.7%)	15(14.7%)
Question 3	45(44.1%)	21(20.6%)	15(14.7%)	10(9.8%)	11(10.8%)
Question 4	4(3.9%)	6(5.9%)	18(17.65%)	31(30.4%)	43(42.1%)
Question 5	15(14.7%)	11(10.8%)	22(21.6%)	38(37.3%)	16(15.7%)
Question 6	23(22.5%)	35(34.3%)	12(11.7%)	14(13.7%)	18(17.6%)
Question 7	12(11.8%)	24(23.5%)	26(25.5%)	32(31.4%)	8(7.8%)
Question 8	28(27.5%)	34(33.3%)	21(20.6%)	16(15.7%)	3(2.9%)
Question 9	19(18.6%)	23(22.5%)	35(34.3%)	23(22.5%)	2(1.9%)
Question 10	4(3.9%)	24(23.5%)	27(26.5%)	26(25.5%)	21(20.6%)
Question 11	3(2.9%)	10(9.8%)	31(30.4%)	19(18.6%)	39(38.2%)
Question 12	2(1.9%)	6(5.8%)	28(27.5%)	42(41.1%)	24(23.5%)
Question 13	1(1%)	5(4.9%)	26(25.4%)	32(31.4%)	38(37.3%)
Question 14	4(3.9%)	24(23.5%)	28(27.5%)	31(30.4%)	15(14.7%)
Question 15	18(17.6%)	25(24.5%)	35(34.3%)	20(19.6%)	5(4.9%)
Question 16	5(4.9%)	15(14.7%)	24(23.5%)	27(26.5%)	32(31.4%)
Question 17	2(1.9%)	18(17.6%)	24(23.5%)	31(30.4%)	27(26.5%)
Question 18	24(23.5%)	21(20.6%)	18(17.6%)	27(26.5%)	12(11.7%)
Question 19	14(13.7%)	18(17.6%)	18(17.6%)	21(20.6%)	31(30.4%)
Question 20	0	0	0	18(17.6%)	84(82.4%)
Question 21	5(4.9%)	8(7.8%)	12(11.8%)	32(31.4%)	45(44.1%)
Question 22	0	2(1.9%)	12(11.8%)	25(24.5%)	63(61.8%)
Question 23	0	7(6.8%)	11(10.8%)	38(37.3%)	46(45.1%)
Question 24	0	5(4.9%)	4(3.9%)	32(31.4%)	61(59.8%)
Question 25	4(3.9%)	8(7.8%)	12(11.8%)	22(21.6%)	56(54.9%)
Question 26	24(23.5%)	28(27.5%)	31(30.4%)	15(14.7%)	4(3.9%)
Question 27	25(24.5%)	35(34.3%)	20(19.6%)	5(4.9%)	18(17.6%)
Question 28	15(14.7%)	24(23.5%)	27(26.5%)	32(31.4%)	5(4.9%)
Question 29	18(17.6%)	24(23.5%)	31(30.4%)	27(26.5%)	2(1.9%)
Question 30	21(20.6%)	18(17.6%)	27(26.5%)	12(11.7%)	24(23.5%)

According to the questionnaire survey, most of the students in the experimental group agreed with the blending teaching mode of flipped classroom in public English based on super star learning app. They believed that this mode helped to improve the initiative and consciousness of English learning, enhance the awareness of participation, and have a significant effect on improving English performance.

The main purpose of Q1-15 is to understand students' attitudes towards online learning. The results show that the vast majority of students have a positive attitude to online learning, which provides flexible and diverse learning forms, rich and practical learning content, stimulate their interest; 50% think that because

of the teachers directly participate in online learning forum and personal website, which enhances the friendly relationship between teachers and students. Q16-30 aims to understand the learning effects generated by online learning. Many students have given a positive evaluation to the new teaching model, they think that they benefit from online learning, their listening, speaking, reading and writing ability has been significantly improved.

3.2 Pretest and Post Test Scores Before the Test

In this study, SPSS10.0 statistical software was used to test whether the two groups were different from the new mode of public English blending learning teaching mode and the

traditional teaching mode. The t-test statistics of the samples are shown in the following table

Table3. Group Statistics

	Group	N	Mean	Standard deviation	Standard error
pretest	control group	102	76.4800	10.51634	2.10327
	experimental group	102	76.1600	6.39453	1.27891
Post test	control group	102	69.7667	7.90322	1.62981
	experimental group	102	75.5667	6.73479	1.40271

From the table above, we can see that there was no significant difference in the pre-test scores between the two groups of students. The average English scores for the control and experimental groups were 76.4800 and 76.1600, respectively. The standard deviations for these groups were 10.51637 and 6.39453, indicating a wide variance.

In the post-test, the mean English scores for the control and experimental groups were 69.7667

and 75.5667, respectively, with the experimental group's average score being significantly higher than that of the control group. This difference is evident after the experiment. The standard deviations were 7.90332 for the control group and 6.73479 for the experimental group. To determine the significance of this difference, we first examine the T-test results of the two samples. See the table below.

Table4. Two-sample T-test

unequal Variances		Levine's homogeneity of variance test		A T-test of whether the two means are equal						
		F-value	P-value	T-value	N	P-Value (two-tailed)	value of the difference	Standard error of the difference	the 95% credible value of the difference	
									lower limit	upper limit
Pretest	assumed homogeneity of variance	6.511	.064	.130	100	.897	..3200	2.46157	-4.62932	5.26932
	assumed unequal variance			.130	39.613	.897	..3200	2.46157	-4.62932	5.26932
Post test	assumed homogeneity of variance	.055	.403	-2.89	100	.012	-5.880	2.02991	-9.96162	-1.79838
	assumed unequal variance				47.903	.006	-5.880	2.02991	-9.96162	-1.79838

It can be seen that the result is divided into two parts: The first part is Levine's homogeneity of variance test, which is used to judge whether the two overall variances are homogeneous. The test results here is $F=6.511$, $P=0.064$, so the variance is homogeneous, and the second part gives the T test results when the total variance of the two groups are uneven. The $t=130$ is listed in the above line, $P=0.0897$, and thus the final statistical result is at the $\alpha=0.05$ level, rejecting the null hypothesis. We can conclude that the students in the experimental group got very high grades. At the end, there are some other indicators, such as the credibility interval of the mean of the two

groups, to have a more intuitive understanding of the difference situation.

The Levine's test of homogeneity of variance:

1) Levine's test of homogeneity of variance

If P value is greater than 0.05, the overall difference is the same, it depends on the result of the assumed equal variance, but rather depends on the result of the assumed uneven variance. In the pretest and post test, the P-values of both groups were respectively 0.064 and 0.403, which both exceeded 0.05, indicating that the overall difference is the same before and after the experiment, so we need to look at the results of the assumed homogeneity of variance.

2) In this experiment, because the overall difference was the same, the pretest t-value was 0.130, the post-test t-value was -2.897, and the control group score was lower than that of the experimental group, so the t-value was negative. Similarly, the mean difference in the post-test was -5.8800.

3) P value is less than 0.05 indicates that the difference between the two groups is significant, while otherwise, the difference is not significant. In the pretest, $P=0.897 > 0.05$, but not significant; in the posttest, $P=0.012 < 0.05$ was significant.

4) The 95% credible interval of the variance is the 95% credible value of the mean difference. The differential significance of the mean difference exists if 0 is excluded within the credibility interval, but otherwise does not. In the pretest, the confidence interval ranged from -4.62932 to 5.26932, including 0, so the mean difference was not significant. However, in the post-test, the confidence interval ranged from -9.96141 to -1.79859, excluding 0, so the difference of mean difference exists.

From the above analysis, we can conclude that in the pre-test, the P-value for the control and experimental groups was 0.064 ($P=0.064$), which is greater than 0.05. The 95% confidence interval of the variance includes 0, indicating no significant difference. However, in the post-test, the P-value was 0.012 ($P=0.012$), which is less than 0.05. The 95% confidence interval of the variance excludes 0, indicating a significant difference. This suggests that the performance of students in the university English flipped classroom varies significantly.

4. Conclusion and Implication

In the study, we found that blending teaching is better than traditional teaching in terms of teaching interaction, teaching content and teaching space and time. Blending teaching can improve students' knowledge acceptance, learning content satisfaction and students' interaction level. However, in the implementation process of blending teaching, the teacher's teaching strategy, guidance strategy, course management strategy and teaching evaluation strategy's influence on blending teaching are very important.

The results of this study support and verify the validity hypothesis of the blending teaching mode of public English flipped classroom based on superstar learning app in English teaching from both theoretical and practical aspects. Blending learning is just an attempt for English teaching, whether it is the concept of teachers and students, or the learning plan and implementation, there are many places worth discussing. In the future research, how the teachers monitor the implementation of the blending teaching mode in the public English teaching will be our future research direction.

Acknowledges

This paper is one of the stage achievements of 2023 English teaching reform research project of Colleges and universities in Gansu Province (Project Number: Y202303); The 14th Five-Year Plan for Gansu Province Educational Science in 2023 (Project Number: GS [2023] GHB1358).

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