



### Research on Innovative Practice of Blended Intelligent Foreign Language Teaching Model Based on Unipus

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#### Abstract

This study adopts a combined method of quantitative and qualitative analysis to conduct a comprehensive analysis of two classes of non-English major students from a certain university in Grade 2022. It aims to understand the students' recognition of the college English teaching model and various teaching components, and explores the impact of information technology on college English teaching, especially the implementation and effects of a blended intelligent foreign language teaching model based on the Unipus Intelligent Teaching Cloud Platform (hereinafter referred to as Unipus). Through questionnaires, interviews, and data analysis, the study reveals the weaknesses students face in the process of learning English, as well as the practical effects of the blended teaching model in promoting students' autonomous learning, mobile learning, and inquiry-based learning. The results indicate that the blended teaching model significantly improves students' English proficiency and enhances their motivation and autonomy in learning. It is hoped that this research will provide valuable insights for future reforms in college English teaching.

**Key words:** Blended teaching model; Unipus; Information technology; English teaching

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#### 1. INTRODUCTION

With the rapid development of globalization, foreign languages have become a bridge of communication and an important tool of cultural exchange. With the global economic integration, the communication between countries becomes more and more frequent, and the demand for foreign language talents becomes diversified. Under this background, the traditional foreign language teaching model has gradually revealed its limitations, especially in non-English major colleges and universities, there is a great contradiction between the teaching effect and the learning needs of students. How to improve students' foreign language ability and cultivate their intercultural communication ability has become an important issue for educators to solve urgently.

As a new teaching concept, blended learning fully integrates the advantages of traditional classroom learning and online learning, and provides new ideas for the reform of foreign language teaching (Meng Siying, 2018). Blended teaching can not only enhance the flexibility and interest of teaching, but also stimulate students' awareness of autonomous learning and enhance their sense of academic participation (Han Bing, 2022). Especially with the rapid development of modern information technology, using the network platform for foreign language learning has become an effective way of learning. Through the combination of online and offline learning, students can maintain interaction with teachers and classmates while learning independently, thus promoting the internalization and application of knowledge (Huang, Hann, et al, 2017).

Among the many online learning platforms, Unipus has become a highly respected tool in the education sector with its good user experience and rich functions (Shen and Wang, 2018). Unipus not only provides convenient

learning resources, but also fully supports instant communication and cooperation between teachers and students (Chen, 2020). With the help of this platform, teachers can combine traditional teaching content with multimedia materials, design diversified teaching activities, and enhance classroom interaction; Students can choose their own learning style according to their own learning pace and interests. Such a teaching environment not only improves students' learning motivation, but also provides personalized learning support for different students' needs (Chen, 2010).

However, in the process of implementing blended teaching, there are still many challenges. How to scientifically integrate the content of traditional classroom and online learning, how to rationally design courses to improve students' participation, and how to effectively evaluate the effect of blended teaching are the focus of current research (Wang and Yu, 2015). Therefore, this study aims to explore the blended intelligent foreign language teaching model based on Unipus, and find an effective path to solve these problems in combination with actual teaching innovation practice.

# 2. RESEARCH STATUS AT HOME AND ABROAD

Foreign scholars generally believe that blended teaching is a teaching method implemented in different learning environments, which combines online learning with classroom teaching. Driscoll (2002) defines blended teaching in four ways: 1. Combine a variety of network technologies to achieve educational goals; 2. Combine learning theory and use learning technology to produce the best learning results; 3. Combine any kind of learning technology with face-to-face teacher guidance; 4. Combine learning techniques with practical work tasks to keep learning consistent with work (Driscoll, 2002). Allen and Seaman (2003) define blended teaching as classroom teaching and online learning, combining two independent modes of learning: classroom teaching and online learning (Allen and Seaman, 2003). Osguthorpe and Graham (2003) pointed out that blended teaching combines face-to-face teaching and distance learning systems, not referring to the use of websites to display content in the classroom, but the use of blended teaching to maximize face-to-face teaching and online learning (Osguthorpe and Graham, 2003).

The research and practice of blended teaching in China has been carried out for a long time, which was first proposed by Professor He Kekang at the 2003 Global Chinese Computer Application Conference in Education. He Kekang (2003) believes that blended teaching combines the advantages of online learning and traditional teaching methods, it can promote learners' initiative, creativity and learning enthusiasm, and reflect the leading role of teachers in encouraging, guiding

and monitoring the whole learning process (He, 2003). In recent years, with the development of online learning, domestic scholars have begun to explore blended teaching, and carry out blended teaching. Li Kedong and Zhao Jianhua (2004) define blended teaching as the organic combination of two methods: classroom teaching and online learning. The core concept of blended teaching is to adopt different problem-solving methods and use different media and information transmission methods to learn according to different problems and requirements, and this problem-solving method needs to obtain the maximum benefit at the lowest cost (Li and Zhao, 2004). Huang Ronghuai, Ma Ding, Zheng Lanqin and Zhang Haisen (2009) believe that blended teaching is a form or strategy of learning and teaching. Group teaching model is more suitable for traditional learning, while online learning based on individual learning is more suitable for autonomous, dynamic learning environment. The combination of these two learning styles can better exert each other's advantages and thus achieve better results (Huang and Ma, et al, 2009).

Combined with the research purpose of this study and the blended teaching of domestic and foreign scholars, the researchers believe that blended teaching is a kind of classroom teaching that combines independent online learning and multiple teaching elements (including learning theory, learning style, teaching resources, teaching activities, teaching design and teaching evaluation, etc.), and it is implemented under the leadership of teachers.

#### 3. RESEARCH SIGNIFICANCE

#### 3.1 Research purpose

The purpose of this study is to explore and practice a new foreign language teaching model to meet the challenges faced by modern education, especially how to improve the language ability and comprehensive quality of foreign language teaching more effectively in the context of the rapid development of information technology.

- 1) This study aims to construct a blended teaching model based on Unipus environment. Blended teaching combines the advantages of traditional face-to-face teaching and online learning, and it is expected to provide students with more flexible and diversified learning methods. In this model, teachers can make use of the Unipus platform to provide rich multimedia resources and online interaction, so that students can learn independently after class and improve their learning initiative and enthusiasm.
- 2) The study explores how to integrate the concept of intelligent education into foreign language teaching. Intelligent education emphasizes personalization, intelligence and data-driven, and the study hopes to understand students' learning progress and mastery through the analysis of their learning data, so as to customize personalized learning programs for each

student. This student-centered teaching method helps to improve students' learning efficiency and language application ability.

- 3) The study also focuses on the changing role of teachers in blended intelligent teaching. Teachers are no longer just transmitters of knowledge; they have become facilitators and designers of learning. The study will explore the teaching methods and evaluation methods of teachers in this new teaching model, and how to effectively use the intelligent teaching tools provided by Unipus to improve the classroom effect.
- 4) The purpose of the study also includes evaluating the practical effects of the blended intelligent teaching model. Through the analysis and feedback of the implementation effect, the experience and lessons for other educational institutions are summarized to promote the reform and innovation of foreign language teaching.

#### 3.2 Innovative points of the research

- 1) The roles of both teachers and students are equally important. Traditional English classroom teaching has placed too much emphasis on the teacher's leading role, long neglecting the student's status as the main subject, which has led to a lack of initiative among students. The blended teaching model, which relies on the Unipus online education platform, simultaneously focuses on both teachers and students, leveraging the dual subject roles of both. On one hand, it ensures that teachers, as one of the main subjects, can scientifically organize and correctly guide various aspects of the online and offline teaching processes; on the other hand, it respects the position of students as the subjects of learning, stimulating and nurturing their motivation and initiative in learning English.
- 2) The teaching process is more targeted. Students differ greatly in knowledge reserve, language ability, cognitive level and other aspects. In order to ensure the effectiveness of English teaching, this project is based on the weak aspects of students' foreign language learning, so that every student can learn something.
- 3) Teaching evaluation is timely, so that students can find their shortcomings in time and carry out follow-up learning in a targeted manner.
- 4) Based on the goal of talent training, this study reflects the teaching concept of "highlighting the main body of students, respecting individual differences, and paying attention to multiple interactions", It truly realizes the reasonable connection between "teaching" and "learning" in education, as well as the students' "in-class learning" and "out-of-class learning".
- 5) In the era of "Internet +", this study starts from the current situation of college students' English learning and discusses the use of information technology to carry out blended teaching model. This research will improve the flexibility and convenience of teaching and learning, meet the needs of students' personalized learning, and gradually promote the transformation of education to "lifelong

education oriented by cultivating students' lifelong learning ability". The experience and achievements obtained by the study have extensive application value.

#### 4. RESEARCH CONTENT

#### 4.1 Research subject

This study selected students majoring in International Economics and Trade (experimental class) and Logistics Management (control class) from the School of Economics and Management of a university in 2022 as the research subjects, with a total of 131 students (there is no significant difference between the two classes in terms of English foundation, teachers, teaching materials and gender ratio, etc.) to explore the impact of information technology development on college English teaching, and the effect of promoting students' learning ability such as autonomic learning, mobile learning, fragmented learning and inquiry learning. In the later stage, this teaching model will be promoted according to the effect of research, and the benefit area of students will be expanded.

#### 4.2 Research ideas

In this study, students in the experimental class and the control class are fully analyzed in terms of student learning situation and student group differences, so as to understand students' identification level with college English teaching model and various teaching processes. The research tools used are questionnaire survey and interview. The questionnaire is used to measure the average level of college English learning and the weak aspects of each learning process of students. The author selects 9 students from the research subjects to interview, so as to analyze the degree of students' understanding of the blended online and offline teaching model. After the questionnaire survey and interview, SPSS Statistics 26.0 was used to analyze the data of the questionnaire, and the content of the interview data was analyzed. Based on this, and combined with the current classroom teaching mode, this research summarizes the weaknesses of college students in various aspects of foreign language learning, focuses on the problems existing in college students' foreign language learning, and applies the online and offline blended teaching model based on Unipus to the whole teaching process, then evaluates the effect of this model.

#### 4.3 Research process

#### 4.3.1 Select the subject

As a whole, 131 students majoring in International Economics and Trade and Logistics Management in the Grade 2022 were selected. There was no significant difference between the two classes.

# 4.3.2 A preliminary questionnaire survey was conducted

The students of these two classes were surveyed by questionnaire to investigate their evaluation of traditional classroom teaching and suggestions on teaching model, find out their average level of college English learning and weak aspects of each learning link, and analyze their understanding of the blended online and offline teaching model. A total of 124 valid questionnaires were received. Some of the survey results are shown in Table 1.

Table 1 Part of the questionnaire survey results

Question	Opinion	Number	Proportion	
What is your overall assessment of traditional classroom teaching?	Satisfied	9	7.25%	
	Ordinary	33	26.63%	
	Dissatisfied	82	66.12%	
	Teaching content is unattractive	63	50.81%	
In which of the following aspects do you think traditional classroom teaching has shortcomings?	Teachers have little interaction with students	29	23.39%	
	Study schedule is not reasonable	8	6.45%	
	Lacking personalized guidance	24	19.35%	
What's your weakest point in college English learning?	Listening comprehension	38	30.65%	
	Oral expression	44	35.48%	
	Reading comprehension	14	11.29%	
	Writing ability	28	22.58%	
What are your expectations for the blended teaching model?	Improve learning interest	30	24.19%	
	Provide rich learning resources	22	17.75%	
	Improve learning results	72	58.06%	
Do you know "Blended Intelligent Foreign Language Teaching Model based on Unipus"?	Yes	48	38.71%	
	Heard but don't know	53	42.74%	
	Don't know	23	18.55%	
How often do you use	Every day	11	8.87%	
the Unipus platform	Sometimes	108	87.1%	
for English learning?	Never	5	4.03%	
Please give your suggestions on the blended intelligent foreign language teaching model:	Increase the interaction of online courses	18	14.52%	
	The content should be closer to the actual situation of students	23	18.55%	
	Enhance the ease use of the platform	36	29.03%	
	More feedback and evaluation mechanisms should be provided	47	37.9%	
How much do you think the combination	Impact is very significant	88	70.97%	
of offline classes and online learning has	Ordinary	27	21.78%	
helped you improve your learning?	Impact is not significant.	9	7.25%	

#### 4.3.3 Statistical analysis

According to the questionnaire survey data, we can see that the vast majority of students (66.12%) are not satisfied with traditional classroom teaching, and only 7.25% of students are satisfied, which indicates that the traditional teaching mode is facing a large room for improvement; In terms of the shortcomings of traditional classroom teaching, the unattractive teaching content is the main problem pointed out by the majority of students (50.81%), which shows that students have insufficient interest in the course content, and the interaction between teachers and students is also an aspect that needs attention. Speaking (35.48%) and listening (30.65%) comprehensions are generally considered as the two weakest aspects in college English learning. This may have something to do with current teaching methods and emphasis; As for the expectation of blended teaching mode, improving the learning effect is the most expected goal, which shows the desire of students to improve the learning effect; As for the understanding of blended teaching mode on Unipus, although 38.71% of the students said they understood this teaching mode, more than half of the students still did not know enough about it, indicating that publicity and publicity should be strengthened when promoting this teaching mode; In terms of the frequency of use of Unipus platform, most students (87.1%) sometimes use the platform, which indicates that the platform has a certain frequency of use in daily learning, but some students still fail to make use of this resource; As for the suggestion of the blended intelligent foreign language teaching mode, the students most want to provide more feedback and evaluation mechanism (37.9%), which is obviously very important to improve the learning effectiveness and learning enthusiasm; As for the help brought by the combination of offline classroom and online learning, most students (70.97%) believe that this model is of great help to learning improvement, it indicates that the blended teaching model is welcomed by students.

On the whole, students have a low evaluation of traditional classroom teaching and think that the teaching content is not attractive and interactive enough. Speaking and listening are still the weak points, and the expectation of improving the learning effect is obvious. Although some students have a certain understanding of the blended teaching model, they pay more attention to the richness and interaction of teaching content and the suggestion of feedback mechanism. Most students believe that the combination of online and offline learning methods can significantly improve the learning effect, indicating that the future teaching reform needs to adjust around these feedbacks to improve the learning experience and effect of students.

#### 4.3.4 Find the problem and develop the plan

On the basis of the analysis of the questionnaire results, the factors affecting the English learning effect of students are found, and the causes are classified and summarized. According to the causes, the online activities in pre-class preview, classroom explanation and discussion, after-class review and evaluation in the implementation of this topic are formulated.

#### 4.3.5 Experimental process

Control class: The traditional offline classroom teaching model is adopted, that is, the online learning function of Unipus is not combined in the teaching process.

In the first stage, "preview before class", teachers only assign words and texts in certain unit of the textbook for students to preview independently. In the second stage, "Classroom explanation", the teacher explains the text, words and grammar knowledge of the unit according to the teaching objectives and teaching difficulties. In the third stage, "review and evaluation after class", teachers assign exercise tasks and find out students' problems through exercises explanation and give evaluation.

Experimental class: The online and offline blended teaching model based on Unipus is adopted.

In the first stage of "pre-class preview", English teachers need to use the "Unipus" platform to deeply understand the situation and characteristics of students, combine teaching content, resources and pre-determined teaching goals, collect and produce high-quality teaching materials through the network, and release them to the "Unipus" platform in a task way to guide students to independently carry out online preview. Students are urged to use scientific and diversified ways to understand the relevant knowledge system in advance, and choose independent exploration, group cooperation and other ways to participate in learning tasks according to their own characteristics. If there is a difficult problem that cannot be solved, students need to make a record and leave it for the class to ask questions or feedback to the platform for the teacher to answer. In the pre-class preview stage, students should become the core of learning activities, and teachers are mainly responsible for supporting, guiding and supervising work.

The second stage is "in-class explanation and discussion". The in-class discussion activities mainly include teacher guidance, problem discussion, knowledge teaching, exploration and discovery, results reporting and comments. Teachers have the flexibility to adjust according to different teaching objectives and priorities. The teaching activities in this stage include solving the difficult problems that students cannot solve independently in the learning process of the Unipus platform and guiding and explaining the next learning activities. In the class discussion, teachers pay full attention to students' dominant position, create more opportunities for them to express and communicate, encourage students to actively display their learning results on the Unipus platform, cooperate with students to evaluate the learning results, organize students to discuss difficult problems

encountered in the learning process, and finally complete the task of answering questions and explaining.

In the third stage, "review and evaluation after class", teachers should make full use of the online test function of the Unipus platform. The teacher extracts the key points and difficulties in the teaching content, sets them as the assessment content, and assigns online test tasks for students. Through the test, students can summarize what they have learned, reflect on it under the guidance of teachers, and further build a knowledge system.

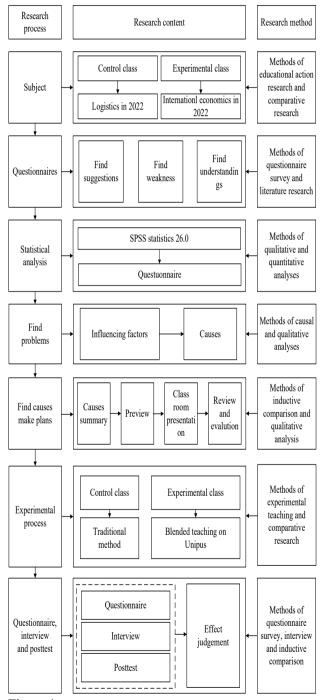


Figure 1 Technical flow chart of the research process

#### 5. RESULTS AND ANALYSIS

#### 5.1 Questionnaire analysis after the experiment

After a semester of implementation of the blended intelligent foreign language teaching model based on Unipus, we conducted a questionnaire survey for 51 students majoring in International Economics and Trade in Grade 2022, and collected 46 valid questionnaires. The survey aims to comprehensively assess students' feedback and feelings about this new teaching model. Through the analysis of the questionnaire results, it can be seen that the vast majority of students give a positive evaluation to this blended teaching mode.

According to the results of the survey, about 85% of students said they liked the model of integrating online and offline teaching very much. They believe that this way of teaching has a significant impact on the effectiveness of learning. In particular, the use of Unipus platform makes students experience the convenience of learning. They generally said that the platform supports personalized learning, can better meet their learning needs, close to the actual situation and learning progress of students. In addition, Unipus also provides students with multichannel and systematic learning resources, so that they can obtain more high-quality materials in the learning process, which is widely welcomed by students.

Further analysis reveals that approximately 78% of students believe that this new teaching model effectively promotes their ability for autonomous learning and inquiry-based learning. They said that through this teaching method, their learning initiative outside the classroom has been significantly improved, and they can more actively conduct extracurricular research and thinking, thus deepening their understanding and mastery of knowledge. Among them, about 91% of the students said that through repeated learning and practice, they found their weak points and made significant improvements through continuous efforts.

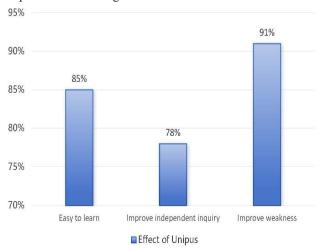


Figure 2
The relatively obvious effect of Unipus

To sum up, the blended intelligent foreign language teaching model based on Unipus has not only been widely praised by students, but also demonstrated its superiority in many aspects such as improving learning effect and promoting autonomous learning ability. This model not only provides students with a richer learning experience, but also explores a new direction for future foreign language teaching, which is worth promoting and applying in a wider range.

#### 5.2 Interview analysis after the experiment

In order to have a deeper understanding of the learning status of students in the experimental class, the author selected students at there levels for interview according to the final test results, the levels are students who are excellent, good and pass. Three representative students from each level are selected respectively. The interview focuses on the influence of the blended intelligent foreign language teaching model based on Unipus on their learning, including learning interest, inquiry learning, autonomic learning, cooperative learning effect, and the improvement of practical language application ability.

The results revealed by the survey are encouraging, and students at three different levels agreed that the blended teaching model combining online and offline effectively breaks through the limitations of traditional education in time and space, and provides them with a personalized and flexible learning style. Specifically, students realize that through this model, they can not only choose the time and place of learning, but also learn in fragments according to their own needs and pace, thus achieving higher learning efficiency and effectively improving the practical application of the language.

For students at the pass level, they say that the current learning model has significantly increased their confidence and interest in learning a foreign language. These students mentioned that completing relevant tasks before class created conditions for classroom interaction and helped them to be more proactive in actual communication, thus improving their receptivity to new knowledge. Through this arrangement, they not only behave more actively in class, but also experience a positive learning atmosphere.

Good students go even further, believing that their understanding of learning goals and tasks has become clearer by engaging in diverse and systematic learning activities. They stress that this clarity allows them to concentrate more during the learning process, which in turn makes the knowledge more firmly retained. In the process of learning, these students gradually strengthen their language skills, gain more confidence, and effectively improve their ability in foreign language.

For those who are excellent, they shared a more profound experience. They said that under this blended teaching model, the teaching content is easy to understand, and the interaction between teachers and students in the classroom greatly stimulates their enthusiasm for learning.

Through this form of interaction, students have a greater sense of participation, and teachers also make students fully reflect the main body status through the way of joint evaluation. This positive learning environment not only promotes their language skills, but also enhances their critical thinking and creative learning skills.

In general, this interview fully demonstrates the positive results achieved by the blended intelligent foreign language teaching model based on Unipus among students at different levels. Whether it is the improvement of learning interest, autonomous learning or practical application ability, the students all agree that this innovative teaching model brings new opportunities for their language learning. Through personalized learning experience and good interactive communication environment, students not only benefit greatly in the acquisition of knowledge, but also improve self-confidence and comprehensive ability in the process of learning. In the future, this blended teaching model may continue to play an important role in helping students move forward on the road of language learning.

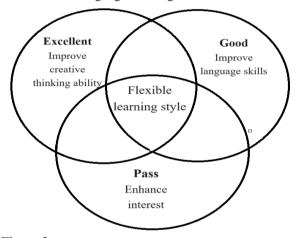


Figure 3
Effects of Unipus on students at three levels

#### 5.3 Comparative analysis of final test results

In order to evaluate the effectiveness of the blended intelligent foreign language teaching model based on Unipus, a detailed comparison was made between the experimental class and the control class in the final score of College English course. The purpose of this study is to explore the impact of the new teaching model on students' academic performance, so as to provide data support for future teaching practice. We used software SPSS Statistics 26.0 to conduct a systematic statistical analysis of all the collected performance data. The independent sample t-test was used to compare the results of experimental class and control class. This method can effectively judge the mean difference between two different groups and its statistical significance. The results of the final analysis are presented in the figure below, and the data clearly reflect the possible effects of implementing the blended intelligent foreign language teaching model. Such research not only helps to optimize English teaching methods, but also provides valuable references for educators to improve curriculum design and enhance student learning experience and achievement. It is hoped that this data analysis can promote the innovative development of foreign language education in universities.

Table 2 Final scores comparison

Class	Number	Mean	Std. Deviation	T	P
Experimental class	51	74.67	5.08	-2.434	0.032
Control class	80	70.73	7.26		

After an in-depth analysis of the results of the experimental class and the control class, we found that after implementing the blended intelligent foreign language teaching model based on Unipus for a semester, the final exam scores of the experimental class had significantly improved. The specific data show that the P-value is 0.032, which is lower than 0.05, meeting the criteria of statistical significance, and further demonstrating the effectiveness of this teaching model in improving students' English level.

This innovative teaching model combines online and offline learning activities, allowing students to take full advantage of modern educational technology while learning flexibly. Students who participate in this model are more active in learning English, have frequent classroom interaction, and their interest in learning is significantly enhanced. Through a variety of learning resources and forms, students are able to practice the language in a real context, which provides them with a better application platform.

In addition, the students in the experimental class showed stronger autonomous learning ability in the learning process, and gradually formed good learning habits and methods, which contributed to a higher learning effect. Therefore, the blended intelligent foreign language teaching model based on Unipus not only improves students' academic performance, but also plays a positive role in stimulating learning motivation and cultivating autonomous learning ability, providing a feasible reform direction for future foreign language teaching.

#### 6. CONCLUSIONS

This research explores the effect of blended intelligent foreign language teaching model based on Unipus on non-English majors in Grade 2022. The results show that this model not only significantly improves students' English ability, but also effectively enhances their learning initiative and autonomy. Through questionnaire survey and interview, we have identified the weak points of students in English learning, which provides an important basis for

future teaching improvement. The blended teaching model can effectively promote students' autonomous learning, mobile learning and inquiry learning, which shows the important value of information technology in education. Based on the research results, we hope to provide a practical reference for future college English teaching reform, and encourage educators to carry out more indepth exploration and innovation in teaching methods, so as to better meet the learning needs of students and improve the overall quality of English teaching.

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