Research on Strategies for Improving the Quality of English Blended Teaching in Vocational Colleges through Network Informatization Resources

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Abstract. The blended teaching mode of "online+offline" has gradually become a widely used teaching mode due to its flexible teaching form and rich and vivid course resources. In the blended teaching mode, this article mainly focuses on how to improve the teaching quality of vocational English courses. Firstly, an analysis was conducted on the learning situation of English courses among vocational college students, including their source structure, learning characteristics, and current development status of English courses. In order to facilitate a structured analysis of students' learning ability in English courses, a learning ability analysis model for vocational college students was constructed, and a survey questionnaire was designed to analyze their learning behavior and data. Finally, through data analysis, it was found how to use network information resources to improve the quality of English blended learning courses.

Keywords: blended teaching, vocational colleges, network informatization, questionnaire

1 Introduction

With the development of network technology and the explosion of new media, the ways to obtain information and knowledge have become diversified. Lifen Jin pointed out that the Internet is affecting all aspects of human learning, work, and life [1]. Cisco fully recognizes the importance of online learning and points out that it breaks the boundaries of time and distance, creating networked, on-demand learning opportunities for countries, businesses, and individuals [2]. Therefore, new technologies have brought about significant changes in the learning environment, learning culture, and even learning methods in the field of education. A single traditional teaching model is insufficient to meet current learning needs, thus online learning has emerged.

After the rise of online education, the disadvantage of online education itself - the inability to effectively guarantee learning efficiency and effectiveness - has also emerged, and a new learning model closely aligned with the concept of educational informatization - blended learning has gradually emerged. The blended learning mode combines the advantages of online and offline learning, improves learning flexibility, and enhances the fun of courses. Therefore, the blended learning mode is widely used in vocational education [3]. This article focuses on how to maximize the role of information technology in English courses in vocational colleges. The work done is as follows:

1) Firstly, an in-depth analysis was conducted on the common learning characteristics of vocational college students, in order to formulate corresponding and reasonable policies based on these learning characteristics;

2) In order to study the improvement of student learning ability by information technology and course resources, a student learning ability analysis model was established. The applicable analysis model is used to analyze the influencing factors of course resources, mainly in the form of a survey questionnaire, and the composition of the survey questionnaire questions is introduced;

3) Finally, based on the research findings, improvement strategies are proposed for the blended teaching mode of English courses in vocational colleges to guide the course implementation.

The composition and structure of this article are as follows:

Chapter 2 analyzes the problems that vocational college students currently face in learning English courses, while Chapter 3 mainly constructs an analysis model of the teaching effectiveness of English courses under the

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blended teaching model, and analyzes the degree of influence of various factors on the model. Chapter 4, Design of Survey Questionnaire, Collection of Questionnaire Results and Data Analysis. Chapter 5 proposes targeted strategies for improving the teaching effectiveness of vocational English education. Chapter 6 is the conclusion section, summarizing the research content and methods of this article, and discussing the shortcomings of the research.

2 The Characteristics of Vocational College Students and the Current Situation of Vocational English Curriculum

With the diversification of enrollment methods in higher vocational education and the introduction of policies to cancel the proportion of vocational school graduates, vocational colleges mainly focus on the situation where the source of general high school students and vocational school students are equally important. In recent years, the source of vocational college students has diversified, including general enrollment (through the unified college entrance examination), matched single enrollment (through the vocational school matched single enrollment examination), and early enrollment (qualified high school students who have not passed the college entrance examination) With the increasing proportion of vocational school students, the existing teaching system designed with the characteristics of general high school students is no longer able to adapt to the current situation of student enrollment, such as meeting the basic requirements for enrollment [4]. Both in terms of student group characteristics and differences in learning habits, there is a mismatch between the curriculum of vocational education and individual students.

2.1 Characteristics of Vocational College Students

The emotional cognition of vocational college students towards the curriculum directly affects their learning behavior and effectiveness, and ultimately determines the final effectiveness of classroom teaching [5]. From the perspective of vocational college students' learning, this emotional cognition is reflected in their judgment of the organization and execution ability of the action process required to achieve learning activity goals in their learning activities. Through comparative analysis, vocational college students have a moderate level of emotional cognition towards the curriculum.

Compared to professional theoretical courses, students have a higher recognition of their skill level. They believe that their professional performance is currently at a poor level and still needs improvement. This evaluation is basically consistent with the actual situation of vocational college students, but there are also certain differences in the learning foundation of different majors.

There are differences in emotional cognition and learning initiative among different students, but there is no significant difference between them. The possible reasons for the higher level of learning motivation among ordinary high school students are: on the one hand, their cultural foundation is good, and they have relatively less difficulty in learning theoretical knowledge of vocational majors. On the other hand, from teacher interviews, it can be seen that compared to other students, some high school graduates believe that "they only failed the exam before entering vocational schools." Therefore, such students will also differentiate themselves from students from other sources through learning motivation.

The effective transformation of learning content is a manifestation of students' ability to apply professional knowledge, which is the ability to process the information obtained during the learning process. This ability is mainly reflected in whether students can apply the learned knowledge and skills to different application scenarios. The evaluation of this ability is mainly conducted through teacher interviews. Through interviews, it was found that most teachers believe that vocational college students are weak in content conversion, and that "professional course learning will not be extended, what they learn is what they learn, and they will not think.". In the absence of inspiration and guidance, some vocational college students face certain difficulties in knowledge transformation.

Another characteristic of vocational college students is reflected in the difference in enrollment sources. From the current distribution of students in vocational colleges, about 65% of the total number are admitted through the college entrance examination. Single enrollment is a form of college entrance examination enrollment organized solely by the state for fresh graduates from middle and high vocational colleges. After admission, candidates do not participate in the college entrance examination, and the number of single enrollment students accounts for

about 30% of the total number [6]. There are obvious shortcomings in cognitive selection and organization between single enrollment students and high school graduates. High school students are more focused or proficient in theoretical learning, and have a stronger ability to accept theories, algorithms, and formulas that appear in professional courses. However, compared to vocational school students, there are obvious shortcomings in practical skills such as practical courses and skill competitions.

2.2 The Current Situation of English Curriculum in Vocational Colleges

1) The English course content is single. The textbooks used in English teaching in vocational colleges are mostly Public English Textbooks. Although these textbooks can keep up with the times in terms of content arrangement, they have not been suitable for all types of students in all schools. In addition, traditional English teaching often focuses on paper-based teaching materials for teaching activities, with the main content being English reading and writing. Students lack interest in this traditional teaching method and a single teaching activity.

2) The integration between English and major is poor. Based on the current teaching situation, English teaching generally has a phenomenon of detachment from reality, mainly reflected in the detachment of English knowledge from students' majors and the large gap between job requirements, which is not conducive to improving students' learning level. However, the compatibility between content and professional positions demands higher teaching abilities and professional levels from existing teachers, resulting in a contradiction between teaching abilities and actual needs in reality.

3) The curriculum evaluation system is incomplete. The course evaluation mainly focuses on attendance, homework, and final exams as the main evaluation indicators. This evaluation method has a certain degree of one-sidedness, which can easily lead to students rote memorization in order to cope with exams, which is not conducive to improving their comprehensive abilities, and can easily lead to vocational colleges training students who cannot meet the requirements of applied talents.

3 Analysis of Student Behavior in the Process of English Blended Teaching

In blended teaching, teachers combine offline and online teaching, and students engage in effective learning under the guidance of teachers. Offline learning behavior refers to the behavior of students during face-to-face classroom teaching, including classroom attendance, classroom interaction, classroom assignments, classroom tests, etc; Online learning behavior refers to various learning behaviors recorded on the learning platform, such as task completion, course video progress, course comments, in class assessments, etc.

According to the theory of "motivation behavior" [7], motivation has a significant impact on human behavior. The specific motivation of vocational college students can be summarized as learning interest and learning pleasure, that is, the joy of vocational college students participating in online learning in blended learning has an important promoting effect on their behavior in online learning activities. Therefore, this section constructs an analysis model of student behavior in the blended learning mode of English, analyzing the inherent coupling between online and offline behavior.

Based on student social networks and learning platforms, draw the main model of student campus life, and then explore online and offline learning behavior from the model. The main composition structure of student activities is shown in Fig. 1.

A model is constructed to analyze the impact of online information technology on student behavior in a blended learning mode, using a student behavior model to construct an analytical framework for student learning behavior. The analytical framework model for student learning behavior is shown in Fig. 2.

The teaching activities of blended learning are divided into online teaching activities and offline teaching activities. Different teaching activities trigger different learning behaviors, so learning behaviors are divided into online learning behaviors and offline learning behaviors. Differences in student learning behaviors can lead to different learning outcomes. The learning effect is reflected in the comprehensive grades of students. This article mainly studies the influence of online information resources on student learning behavior and learning effectiveness. Online learning resources include six aspects, including online viewing of micro courses, online quizzes, learning frequency, posting frequency, exams, and online check-in, for examination and evaluation. This article adopts the form of a survey questionnaire to conduct statistical analysis on student behavior, and then uses analy-

sis techniques to comprehensively and deeply mine learning behavior data from multiple perspectives, forming a learning analysis report to guide the formulation of vocational English teaching strategies. Teachers can improve teaching design in blended learning mode based on learning analysis reports, including teaching activities, teaching styles, and teaching methods. Students can improve their learning behavior based on learning outcomes. For students with poor self-discipline, teachers can provide appropriate guidance and intervention. The learning behavior in the model relies on blended learning activities. In the online teaching platform, teachers can create new courses, create classes, set learning tasks, publish learning resources, organize discussions, and publish notifications. Considering the regulations related to academic affairs in vocational colleges, the offline teaching mode is relatively fixed. Therefore, the focus of this study is on the learning behavior of students in the blended teaching mode of vocational English courses, without separately analyzing the learning behavior of offline teaching.
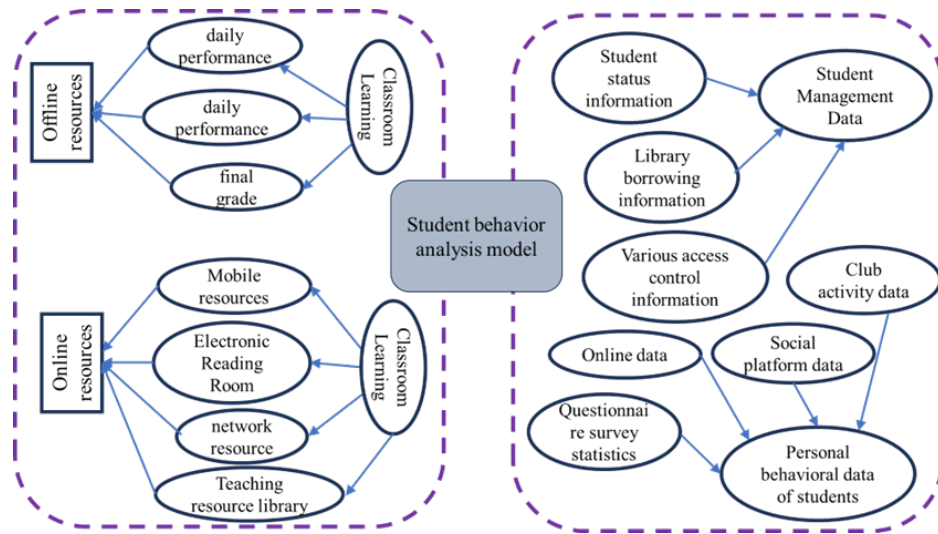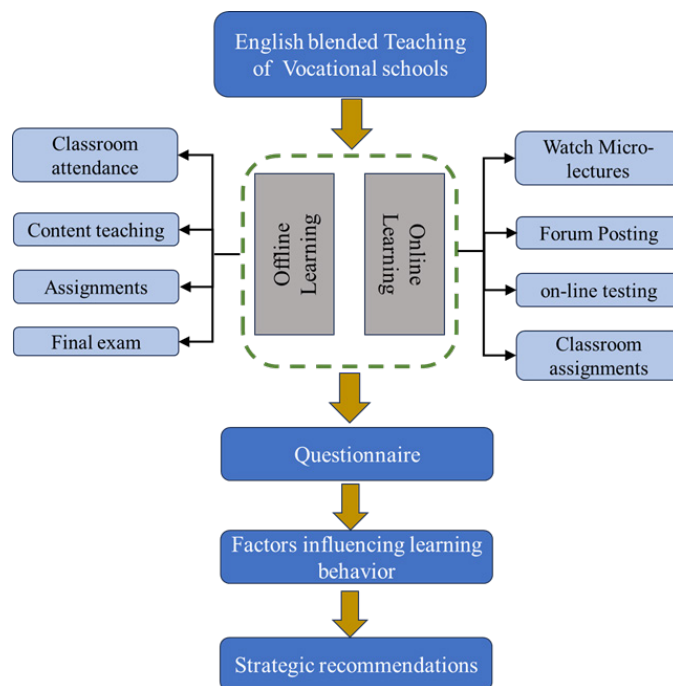

Fig. 1. Student behavior model

Fig. 2. Student behavior analysis model

4 Design and Data Analysis of Survey Questionnaires

4.1 Questionnaire Design

The design of the survey questionnaire is shown in Fig. 3, mainly asking students for their opinions and perspectives on the content of online courses.

Questionnaire on the English blended Teaching of Vocational schools

Hello classmate!
The purpose of this survey is to understand the learning engagement status of college students under blended learning mode. The research results will help teachers to have a more targeted understanding of students' learning situation, in order to provide corresponding guidance and assistance.
Thank you again for your understanding and support. Wishing you a pleasant learning experience!

* 1. Major

* 2. Grade
  ○ Freshman
  ○ Sophomore
  ○ Junior

* 3. My preferred way of learning
  ○ Offline learning
  ○ Online Learning

* 4. When studying online, I can fully concentrate on learning
  ○ Totally conform
  ○ Generally consistent
  ○ Non Conformance

* 5. I will complete online learning tasks on time
  ○ Totally conform
  ○ Generally consistent
  ○ Non Conformance

* 6. I am able to sign in, evaluate, and participate in discussions according to the requirements of online learning.
  ○ Totally conform
  ○ Generally consistent
  ○ Non Conformance

* 7. When watching online videos, I will pause, record, and search for information according to my own rhythm.
  ○ Totally conform
  ○ Generally consistent
  ○ Non Conformance

* 8. Which form do I prefer in online resources?
  ○ PPT
  ○ Micro-lectures
  ○ teaching plan

* 9. When discussing online, I will actively make evaluations based on actual situations to help teachers improve their courses.
  ○ Totally conform
  ○ Generally consistent
  ○ Non Conformance

* 10. What do you think the use of network information technology can improve the effectiveness of English teaching compared to offline teaching?【多选题】
  ☐ More flexible scheduling
  ☐ More Rich Content
  ☐ More innovative form
  ☐ The course content is more practical
  ☐ You can watch the classrooms of different teachers
  ☐ Teacher guidance for more flexible and timely Q&A

Fig. 3. Questionnaire

4.2 Data Collection and Processing

Distribute the survey questionnaire to 600 participants in our school. Collect data through the online filling method of "Questionnaire Star". Then, the collected data is cleaned through manual screening, and the following sample data that do not meet the requirements are removed:
　　1) Incomplete questionnaire responses;
　　2) A questionnaire with a short answer time is considered invalid if the answer time is less than 20 seconds;
　　3) A questionnaire that deliberately makes choices that do not match the actual situation.
　　After screening, 477 valid test papers were collected and analyzed using SPSS statistical analysis software. Firstly, a hypothesis model fit test is conducted based on sample data; Then, path analysis is used to explore the impact of various influencing factors on the learning outcomes of students under the blended learning model;

Finally, multiple regression analysis was used to reveal the process by which various influencing factors affect learning outcomes.

4.3 Data Result Analysis

From the data analysis results, it can be seen that student psychological activities, learning habits, classroom design, online resource content allocation, and classroom organizational forms all play a promoting role in the effectiveness of the curriculum.

The degree of student interest in the course has a significant impact on the progress of the course. Therefore, teachers should be good at guiding students' interests in the course design or the first lesson of the school year. At the same time, the design of course content should be good at combining students' personal interests and events, making the content more interesting and promoting students to love English teaching more, which is an improvement of students' self-efficacy.

At the same time, students expect timely responses from teachers, mainly reflecting the interactive discussion process in online learning. Interaction can respond to students' learning enthusiasm. Therefore, when carrying out blended learning, teachers should focus on the construction of course resources, task settings, online evaluation systems, strategies, and the design of online learning activities. Following the cognitive laws and learning characteristics of vocational college students, teachers should reconstruct online and offline teaching resources, Establish a learning path with learning as the guiding principle for course content and resources.

5 Development of Blended Teaching Strategies for English

When formulating teaching strategies based on the actual problems and characteristics of English curriculum teaching in vocational colleges, attention should be paid to two aspects. Firstly, the program for using the online learning platform should be simplified to make it easier for students to operate, and the dialogue page should have clear functional zones; Secondly, to fully integrate convenient and flexible online learning with intuitive and vivid offline learning, thereby promoting student participation in learning activities, enhancing learning interest, and improving learning abilities. The process structure diagram of gradually promoting blended online and offline English teaching design through online and offline teaching is shown in Fig. 4.
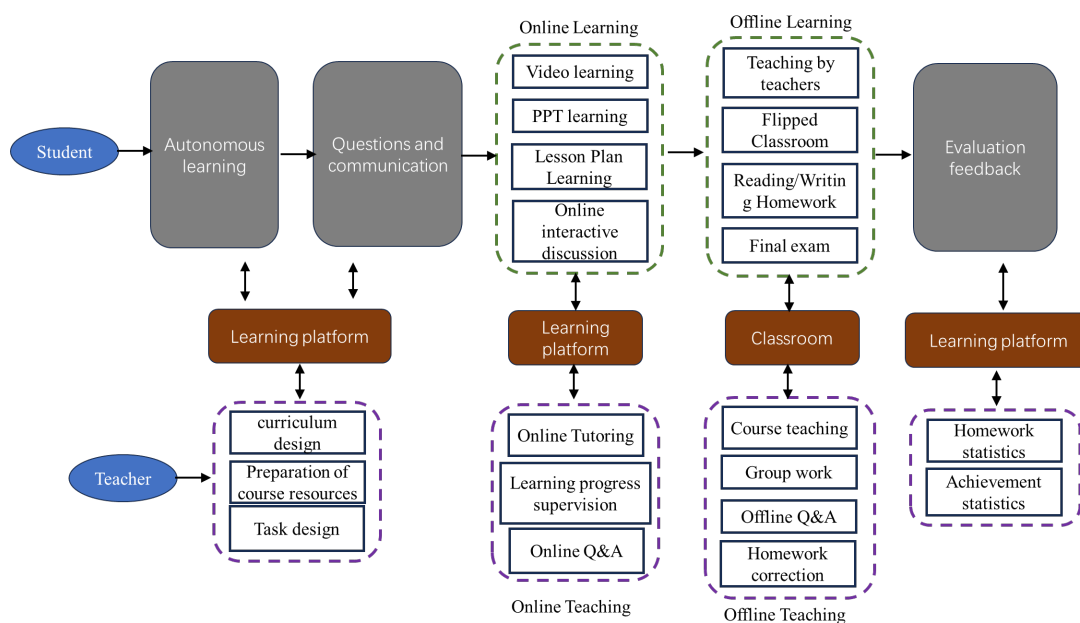

Fig. 4. Design of blended learning curriculum

5.1 Guide Students to Learn Independently

Before class, the teacher sets learning objectives and reserves questions, and students watch teaching resources such as micro lesson videos and PPTs to quickly grasp the main content of this unit and gradually learn the tasks in this unit. At the same time, guide students to actively ask questions and communicate in the class group, find suitable learning methods, and develop appropriate learning plans. In class, students actively participate in discussions online, answer questions proactively, understand and master relevant knowledge points, interact and share learned knowledge and related experiences, and participate in group activities in class through offline teaching. After class, students complete the learning tasks on the learning platform, use the exercises in the "final review" on the learning platform or the exercises provided by the teacher for self testing, and actively demonstrate their homework.

5.2 Teachers Strengthen Guidance

Before class, teachers prepare for teaching and provide online guidance, create relevant micro lesson videos and PPT courseware, help students develop personalized learning plans, and communicate learning methods with students. In class, teachers organize online classes, choose online learning platforms, ask questions and test students' mastery of knowledge, conduct topic discussions, guide students to think, systematically explain key and difficult points, enhance students' learning experience, and cultivate their learning thinking. After class, teachers should promptly understand the completion status of students' homework and communicate and answer questions with students through online communication platforms.

5.3 Teachers Strengthen Guidance

Refine course objectives, including knowledge acquisition and learning outcomes from learning tasks, in the form of English dialogue and communication, English translation, and English writing. In the design of blended online and offline teaching, the learning content and form are rich, but the learning objectives are easy to become vague, resulting in inefficient or even ineffective blended learning. Therefore, the design of blended online and offline teaching must clearly reflect the teaching objectives and learning objectives.

Require students to develop personal learning plans based on their own learning goals and gradually implement the learning plans during the process of self-directed learning. Teachers assist students in developing personalized learning plans, while achieving overall teaching objectives, to help students gain a personalized learning experience. Especially in the early stages of course learning, online Q&A and communication activities are carried out through class groups, learning platforms, etc. Finally, teachers supervise students to complete classroom learning according to the plan.

6 Conclusion

This article focuses on the blended learning model of English courses, analyzing the role of online resources in the course, the overall situation of students, and the current status of English courses. After modeling and analysis, corresponding strategies to improve course quality during online teaching are proposed.

The improvement of the teaching quality of English courses in vocational colleges is a long and arduous process. With the development of industry and the deepening of international exchange and cooperation, it is necessary for industrial workers to improve their English proficiency. The work done in this article will play a positive role in cultivating relevant talents.

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