

Research on Public English Methods in Higher Vocational Colleges Based on Cloud Platform

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Abstract. To create a favorable English learning environment for students and provide them with more language practice and communication opportunities, this article proposes a cloud based public English teaching method for vocational colleges. This article takes the "Smart Vocational Education Cloud Classroom" of vocational colleges as the core platform, and uses smartphones as terminals to construct a SPOC (small-scale, personalized, open, and connected) teaching classroom. The study comprehensively examined the implementation model, process, learning effectiveness, and potential issues of the SPOC teaching model. The research results indicate that with the support of the "Smart Vocational Education Cloud Classroom", the SPOC teaching model for vocational public English based on smartphones has become a successful attempt at modern classroom teaching. This model transforms learning into a process of seeking knowledge, significantly enhancing students' willingness and enthusiasm for active learning. Students widely accept and apply the "Smart Vocational Education Cloud Classroom" platform for college English SPOC teaching, which greatly enhances students' English learning effectiveness.

Keywords: Cloud platform; SPOC teaching; Higher vocational public English.

1 Introduction

In September 2018, the National Development and Reform Commission released a document titled "Guidelines for Advancing the Growth of the Digital Economy and Ensuring Employment Stability", which focuses on innovating talent cultivation and training methods and actively promoting "Internet plus" education and skills training. Among them, the use of digital education and training methods such as mobile technology, the Internet, virtual reality, augmented reality, and human-machine interaction, as well as the promotion of micro courses and mixed online and offline teaching models, are particularly emphasized. Against the background of this guidance, a vocational college in a certain city has closely focused on the field of vocational skill talent cultivation. The English Teaching and Research Office has fully utilized the "Smart Vocational Education Cloud Classroom" platform and innovatively adopted a mixed online and offline teaching mode using smartphones as terminals, constructing the SPOC (Small Scale Private Open Course) teaching mode for public English teaching in vocational colleges. This innovative teaching approach has introduced fresh concepts to revamp and enhance public English classrooms in vocational colleges. It involves the practical application of the "Smart Vocational Education Cloud Classroom" as the

foundation for teaching, empowering students to utilize their smartphones as educational tools. By integrating online and offline teaching, traditional classrooms are closely integrated with digital teaching[1]. By implementing this model, the college can advance the modernization of public English education in higher vocational institutions and enhance the overall educational quality. This initiative aligns proactively with the directives from the National Development and Reform Commission, with the objective of aligning educational practices with the demands of the digital economy's evolution, fostering educational modernization, and pioneering creative approaches to nurturing talent. The reform in teaching methods at vocational colleges has introduced novel perspectives and guidelines, which are expected to bring better teaching results and opportunities for student development to public English education in vocational colleges.

2 College English SPOC based on Smart Vocational Education Cloud

2.1 Smart Vocational Education Cloud Classroom Brief Introduction

Smart Vocational Education Cloud Classroom is a learning management system developed by China Higher Education Press for vocational colleges. The platform provides a simple and easy-to-use operation interface, which makes teaching and learning fast and efficient. Through the functions of resource sharing, curriculum construction, teaching interaction and mobile learning, the smart vocational education cloud classroom organically connects the pre-class tasks and preview, in-class learning and classroom interaction, and after-class evaluation and feedback, forming a virtuous circle to meet teachers' diverse teaching needs and realize intelligent and efficient teaching. This platform provides teachers and students with abundant resources and tools to support their activities in the process of teaching and learning. Teachers can use the resources on the platform to build courses, create interactive teaching activities, monitor students' learning progress, and provide personalized guidance and feedback [2-3].

2.2 Introduction of SPOC (Small Private Online Course) teaching mode

Compared to "Massive" and "Open" in MOOC, "Small" refers to a student size typically ranging from tens to hundreds, while "Private" indicates strict admission conditions for students, and only applicants who meet the requirements can participate in SPOC courses. When examining the SPOC teaching model through a review of relevant literature, it becomes evident that the majority of research articles predominantly concentrate on qualitative investigations. These studies often stop short at empirical analysis, leaving a significant gap in research concerning the authenticity and scientific rigor of SPOC teaching. To obtain a genuine and objective assessment of the teaching outcomes, it becomes imperative to gather data from SPOC teaching implementations and conduct empirical analysis based on these data[4-5]. This study focuses on public English teaching in vocational colleges, using smart vocational education cloud classrooms as support platforms and smartphones as the main learning terminals. The aim is to design and conduct in-depth research on a vocational public English SPOC teaching model based on the smart vocational education cloud platform. Through targeted teaching experiments, the learning effect of this model is comprehensively analyzed and discussed to verify the feasibility and actual effect of this teaching model.

2.3 Instructional design model

After in-depth research on the materials and comprehensive analysis of relevant literature, we have conceived a college English SPOC teaching model based on the combination of mobile terminals and smart vocational education cloud platforms. This model covers the pre class, during class, and post class stages, and incorporates a mechanism of self-evaluation. Figure 1 shows the teaching model we have designed.

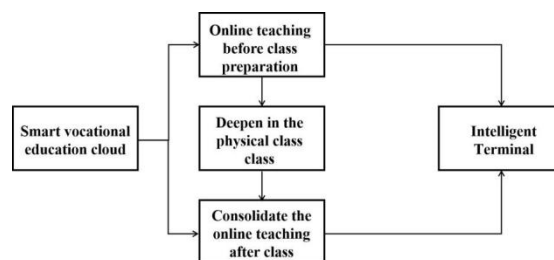


Figure 1. Instructional design model

2.4 Design and establishment of the model

To establish an integrated English language learning model on an Internet of Things (IoT) network platform, we must tailor the application of IoT technology to English education. We leverage cloud computing within the IoT framework, aligning it with the specific requirements of English language learning. Subsequently, we will explore the integration of IoT technology and cloud computing, requiring the formulation of key principles. Figure 2 illustrates the foundational structure of this platform.

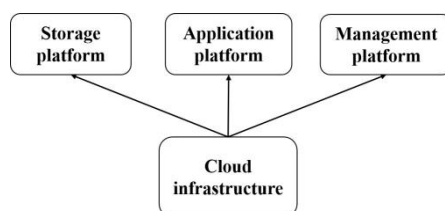


Figure 2. Basic platform (high-end) combining cloud computing and IoT

3 Result analysis

In this experiment, students from two parallel classes of preschool education major in a school are selected, and the experimental group adopts college English SPOC teaching based on cloud classroom intelligent vocational education and smart phone as the terminal. The control group used traditional teaching methods. This paper analyzes the learning effect from both quantitative and qualitative aspects [6-7].

3.1 Analysis of the effect of academic performance

The experimental group and the control group have equal numbers of 50 people, including 49 girls and 1 boy. Before the experiment, a pre-test is conducted to analyze whether there is a significant difference in students' English comprehensive level. After the experiment, the two classes were tested again for their English comprehensive ability, and the data obtained were analyzed and compared. After testing the reliability and validity of the English comprehensive ability test papers used in the experiment, the researchers conducted a comprehensive data analysis on the test questions and found that the test papers performed well in terms of reliability and validity. The specific data analysis results are shown in Table 1 and Figure 3.

Table 1. Comparison of pre-test scores between two classes

Classes	Number of failed students	Top score	Lowest points	Average score
Control class (50)	11	90	35	64.76
Experimental class (50)	10	89	34	64.71

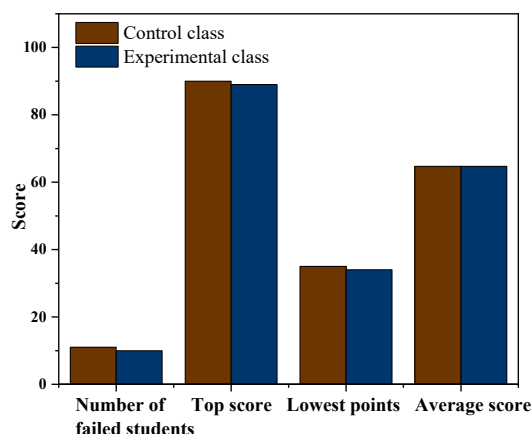


Figure 3. Scores in the pre test of two classes

From Table 1, we can see that there is not much difference in the scores of the English comprehensive ability test between the two classes, and the average score is only 0.05, which provides a basic scientific premise for the experiment. In order to further analyze whether there is a significant difference in the scores of the two classes, it is necessary to combine the results of the independent sample T test [8]. As shown in Table 2 and Figure 4.

Table 2. Comparison of post-test scores between two classes.

Classes	Number of failed students	Top score	Lowest points	Average score
Control class (50)	11	89	35	65.28
Experimental class (50)	6	92	38	72.27

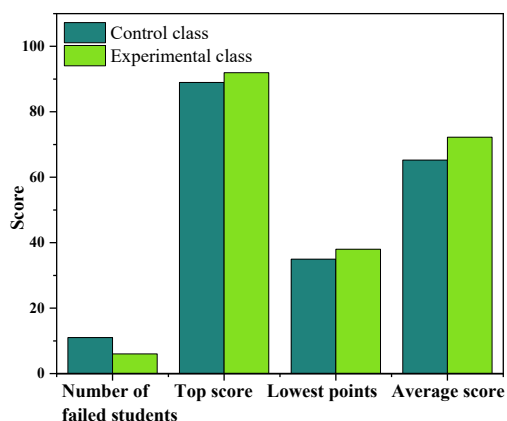


Figure 4. Scores in Post Experimental Testing of Two Classes

Based on the data presented in Table 2, the experimental class now has a reduced number of qualified students, totaling only 6. Furthermore, a noticeable disparity in average scores between the two classes is evident, with a substantial score difference of 6.99 points. From Tables 1 and 2, we can see that the results of the experimental class have changed obviously before and after the experiment[9-10].

4 Conclusion

With the continuous progress of technology, the SPOC teaching model based on information technology has brought students and teachers a more convenient and efficient learning and teaching experience. Therefore, deepening the research on the SPOC model in practical teaching is of great significance, as it helps to improve the teaching effectiveness both inside and outside the classroom. Especially in the college English classrooms of higher vocational colleges, the establishment of SPOC teaching mode provides broader ideas and directions for teaching reform. At the same time, the SPOC teaching model also provides a more refined teaching monitoring and evaluation mechanism. Teachers can track and evaluate students' learning progress in real-time through online platforms, providing guidance and feedback in a timely manner. Students can also interact with teachers and classmates through online platforms to promote the improvement of learning outcomes. Therefore, strengthening the research on the SPOC model in practical teaching is of great significance for the teaching reform of college English classrooms in higher vocational colleges and the construction of SPOC teaching models. This will provide more innovative ideas for the education field, improve teaching efficiency both inside and outside the classroom, promote teaching innovation, and improve education quality.

Acknowledgments. Foreign Language Education Working Committee of China Vocational and Technical Education Association;

Research on the Implementation Path of "Mother Language Culture Infiltration" in Higher Vocational English Classroom from the Perspective of " Collaborative Education of Curriculum Ideology & Politics";

Project number: WW2022A53

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