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Exploration and Practical Paths of English Teaching in Secondary Vocational Schools under the Background of Information Technology

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Abstract: Under the background of information technology, cutting-edge technologies such as virtual technology, artificial intelligence, and big data have poured into the field of vocational education, bringing opportunities for teachers to innovate teaching methods and transform classroom instruction. In this context, how to promote the integration of new-generation information technology with English teaching in secondary vocational schools and advance English teaching toward digitalization, intelligence, and scientificity has become a critical issue for teachers to improve the quality of English teaching in secondary vocational schools. This paper expounds on the opportunities brought by the development of information technology to English teaching in secondary vocational schools, analyzes the teaching principles of their integration, and discusses practical paths for optimizing English teaching in secondary vocational schools around the applications of intelligent voice technology, digital learning resources, virtual reality technology, and big data technology.

Keywords: Information technology; English teaching in secondary vocational schools; Practical paths

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1. Introduction

Currently, English teaching in secondary vocational schools faces numerous challenges. In terms of teaching models, some teachers remain bound by traditional single teaching approaches, where students passively receive knowledge, making it difficult to effectively mobilize their learning initiative and enthusiasm. Meanwhile, the teaching focus often emphasizes improving students' exam scores, with insufficient attention to cultivating their comprehensive qualities and learning abilities. The lack of effective English practical training leads to problems in students' application of knowledge. Additionally, secondary vocational students generally have weak English foundations and lack subjective initiative in English learning, further affecting teaching outcomes. Against this backdrop, the integration of information technology and English teaching in secondary vocational schools has become an inevitable trend.

2. Opportunities brought by information technology development to English teaching in secondary vocational schools

2.1. Reconstructing teaching scenarios: from unidirectional output to multidimensional interaction

Traditional English classrooms in secondary vocational schools have obvious limitations. Teachers often serve as unidirectional disseminators of knowledge, mainly through lecturing, while students passively receive information, lacking active participation and interaction. The dull classroom atmosphere makes it difficult to fully stimulate students' interest and initiative in learning, greatly reducing teaching effectiveness [1]. However, the development of information technologies such as virtual reality (VR) and artificial intelligence (AI) has brought innovation to English teaching scenarios. Take VR technology as an example: it can create highly realistic English language environments, allowing students to feel as if they were in real-life scenarios in English-speaking countries [2]. For instance, when teaching travel English, students can use VR devices to immerse themselves in famous foreign scenic spots and communicate in English with virtual characters, which significantly enhances the sense of presence in teaching. Artificial intelligence technology also plays a crucial role. Intelligent English teaching systems can provide personalized learning content and interaction methods according to students' learning progress and characteristics. For example, intelligent chatbots can engage in real-time conversations with students, correct pronunciation, answer questions, and provide one-on-one interactive teaching.

2.2. Expanding resource boundaries: from textbook dependence to cloud-based sharing

Traditional English teaching in secondary vocational schools is overly reliant on textbooks. With limited and outdated teaching content, it is difficult to meet the diverse learning needs of students. However, the emergence of digital resource libraries and online learning platforms has broken this limitation [3]. Digital resource libraries integrate a wealth of English learning resources, including English movies, English songs, English news, etc. These resources are diverse in form and rich in content, providing students with more vivid and authentic English learning materials. Online learning platforms, on the other hand, offer students convenient learning channels, allowing them to study anytime and anywhere. For example, students can watch English teaching videos, participate in online tests, and interact with other learners on the platform. At the same time, cross-regional collaboration is achieved through cloud platforms. Teachers from different schools can share high-quality English teaching resources, realizing the optimal allocation of resources.

2.3. Optimizing the evaluation system: from outcome-oriented to process-tracking

The traditional English assessment methods in secondary vocational schools are mainly examination-oriented, focusing on evaluating students' learning outcomes while neglecting the learning process [4]. Such assessment methods can hardly comprehensively and accurately reflect students' learning situations, and are also not conducive to the cultivation of students' learning abilities. Big data analysis technology has brought about changes in English teaching assessment. It can dynamically monitor students' learning behaviors, recording information such as study time, learning content, and answering situations. Through the analysis of this data, teachers can understand students' learning progress, difficulties, and habits, providing a basis for adjusting teaching strategies. In this way, the assessment system has shifted from result-oriented to process-tracking, which helps to improve teaching quality and students' learning effectiveness [5].

3. Principles for integrating information technology with English teaching in secondary vocational schools

3.1. Principle of objective adaptability

In the process of integrating information technology with English teaching in secondary vocational schools, technological applications must serve the core goal of language competence cultivation. The English curriculum syllabus for secondary vocational schools specifies the competency standards students should achieve in listening, speaking, reading, and writing, and the introduction of technology should closely revolve around these standards [6]. For example, using intelligent voice technology to assist oral English teaching helps students correct pronunciation and improve oral expression skills, which aligns with the requirements for speaking competence in the curriculum syllabus. Utilizing online reading platforms to expand students' reading volume and enhance reading comprehension abilities conforms to the objectives of reading instruction. Therefore, technological applications should always start from the premise of serving teaching objectives to ensure the effectiveness of instruction.

3.2. Principle of student subjectivity

The principle of subjectivity requires respecting students as the main body and giving them space for independent learning and development [7]. There are differences in English foundations and learning abilities among secondary vocational school students. Stratified teaching can formulate different teaching goals and tasks according to students' actual situations to meet the learning needs of students at different levels. For example, for students with a weak foundation, emphasis is placed on consolidating and training basic knowledge; for students with a better foundation, more challenging learning tasks are provided to encourage them to expand their knowledge. In this process, the role of teachers has also shifted from knowledge instillers to guides. Teachers are no longer the dominant force in the classroom but rather the guides and supporters of students' learning. Teachers should guide students in formulating study plans, selecting learning resources, and solving learning problems, helping students gradually develop the habit of independent learning.

3.3. Principle of practice orientation

Workplace scene simulation is of great significance for improving the English language application ability of secondary vocational school students. The goal of secondary vocational education is to cultivate application-oriented talents with practical operation abilities for society. As a practical subject, English has wide applications in professional scenarios [8]. Through simulating workplace scenes, students can apply the English knowledge they have learned to real-life situations, improving their proficiency and accuracy of language use. To simulate typical vocational English case scenarios, such as hotel services and tourism services, corresponding technical support is required. For the creation of virtual reality scenes, professional VR equipment and software development technologies are needed; for the construction of online platforms, network technologies and database management technologies are required [9]. Schools and teachers should reasonably select and apply these technologies according to the actual situation to provide students with a real and effective practical learning environment.

4. Practical paths of modern information technology in English teaching of secondary vocational schools

4.1. Using intelligent voice technology to build oral training models

AI large language models and speech evaluation systems play a crucial role in the oral English training of

secondary vocational school students. In terms of pronunciation correction, the system can accurately identify students' pronunciation, compare it with the standard pronunciation, promptly point out pronunciation errors, and provide correction suggestions. For example, when students read English words or sentences aloud, the system analyzes each phoneme to determine the accuracy of the pronunciation. If there are deviations in students' pronunciation, the system helps them correct it by highlighting the incorrect parts and playing the standard pronunciation [10]. This real-time feedback enables students to promptly understand their pronunciation problems and improve the accuracy of their pronunciation. During situational dialogue training, the AI speech evaluation system can simulate various real language scenarios, such as ordering food in a restaurant and making inquiries at the airport [11]. Students communicate with the system, and the system conducts intelligent evaluations based on their responses, covering aspects such as grammatical correctness and expressiveness.

At the same time, the system can adjust the difficulty of the dialogue according to students' performance, achieving personalized training. For instance, when students perform well in a certain scenario dialogue, the system will automatically increase the complexity of the scenario, introduce new vocabulary and expressions, and further enhance students' oral English abilities. To better support oral English training driven by intelligent speech technology, the development of supporting training resources is of vital importance. Teachers can develop a variety of training resources by combining textbook content with students' actual needs. For example, they can create audio and video materials of situational dialogues with different themes and compile targeted oral English exercise books. In addition, online resources can be utilized to collect high-quality materials such as English original movies and English broadcasts, providing students with more language input.

4.2. Integrating digital learning resources to create a hybrid learning ecosystem

The three-stage teaching model of "online preview-in-class reinforcement-after-class expansion" is an effective way to build a blended learning ecosystem. In the online preview stage, teachers can use online learning platforms to assign preview tasks to students, such as watching teaching videos, reading e-textbooks, and completing preview tests. Through independent learning, students can gain a preliminary understanding of the upcoming learning content and identify their questions and difficulties. For example, when learning English grammar, students can watch animated videos to understand grammar rules more intuitively. The in-class reinforcement stage is the core link of blended learning. Teachers conduct targeted explanations and tutoring based on students' previewing situations. In the classroom, teachers can organize activities such as group discussions and role-playing, enabling students to deepen their understanding and mastery of knowledge through interaction. At the same time, teachers can also use multimedia devices to display teaching content, such as pictures and videos, to enhance the intuitiveness and interest of teaching. For instance, when explaining English cultural knowledge, by playing relevant documentaries, students can have a deeper understanding of the cultural customs of English-speaking countries. In the after-class expansion stage, students can use online learning platforms for extended learning. Teachers can provide some extended learning resources, such as English reading materials and English writing exercises, to help students further consolidate what they have learned and expand their knowledge. In addition, students can also communicate and interact with classmates and teachers through online communities, sharing learning experiences and insights. During the process of building a blended learning ecosystem, the coordination mechanism between platform selection and task design is of great importance. Schools and teachers should select appropriate online learning platforms according to teaching objectives and students' actual situations [12]. Meanwhile, task design should be targeted and hierarchical, not only meeting students' basic learning needs but also stimulating their learning interests and challenging spirits.

4.3. Implementing vocational scenario teaching with virtual reality (VR) technology

VR technology holds unique application value in English teaching for secondary vocational hotel service majors. Students can enter virtual hotel scenarios, such as lobbies, restaurants, and guest rooms, by wearing VR devices. In these environments, they assume different roles to communicate in English with virtual guests [13]. For example, students can simulate hotel front desk receptionists, handling check-ins and answering guest inquiries in English, or act as restaurant servers, recommending dishes and addressing complaints. Through this immersive learning experience, students gain a more authentic sense of professional scenarios, enhancing their practical English skills and service awareness. In English teaching for cross-border e-commerce majors, VR technology also plays a critical role. Teachers can use VR to simulate cross-border e-commerce transaction scenarios, such as business negotiations and contract signing with foreign clients [14].

During these simulations, students must communicate in English to resolve various business issues. For instance, they may act as cross-border e-commerce customer service representatives, responding to client inquiries and resolving problems in English, or assume the role of sales personnel to promote products and facilitate transactions with international clients. When applying VR technology to vocational scenario teaching, several matters need attention in terms of hardware configuration and curriculum development. In terms of hardware, schools need to be equipped with high-quality VR devices to ensure that students can have a good immersive experience. Meanwhile, the devices should be regularly maintained and updated to guarantee their normal operation. Regarding curriculum development, teachers should design reasonable teaching content and activities by combining the characteristics of the majors and teaching objectives. It is necessary to focus on the practicality and interestingness of the courses, enabling students to truly master vocational English skills during the learning process.

4.4. Empowering precise learning feedback with big data technology

The analysis of learning behavior data plays a crucial supporting role in adjusting English teaching strategies in secondary vocational schools. By collecting and analyzing students' learning behavior data, such as study time, learning frequency, and answer accuracy rate [15], teachers can understand students' learning habits and progress. For example, if it is found that a student spends a long time on a certain knowledge point but has a low answer accuracy rate, it indicates that the student has difficulties with this knowledge point. Teachers can then promptly adjust teaching strategies and provide the student with more tutoring and exercises. Big data analysis can also help teachers identify problems in teaching. Through analyzing the learning data of all students, teachers can determine whether the difficulty level of teaching content is appropriate and whether teaching methods are effective. If it is found that most students have difficulties with a certain knowledge point, teachers can redesign teaching plans and use more appropriate teaching methods for explanation. During the process of using big data for precise teaching intervention, issues related to privacy protection and ethical boundaries should not be ignored. Schools and teachers must ensure that students' personal information and learning data are properly protected to prevent data leakage. At the same time, when using data for analysis and decision-making, ethical principles should be adhered to, respecting students' rights and dignity, and data should not be used for improper purposes. For example, students should not be discriminated against or given unfair evaluations based on their learning data.

5. Conclusion

In summary, the empowerment of information technology in English teaching for secondary vocational

schools holds profound long-term value. It helps reconstruct teaching scenarios, transforming classrooms from unidirectional knowledge output to multidimensional interaction, which significantly enhances students' learning interest and engagement. It expands the boundaries of teaching resources, breaking free from textbook limitations and achieving cloud-based sharing and optimal allocation of educational materials. It also optimizes the evaluation system, shifting from outcome-oriented to process-tracking, thereby providing students with personalized learning feedback and guidance. Meanwhile, the principles of objective adaptability, student subjectivity, and practice orientation followed in the integration of information technology and English teaching ensure the effectiveness and pertinence of instruction, contributing to the cultivation of students' comprehensive English literacy and vocational application capabilities. Looking to the future, the application of cutting-edge educational technologies will continue to drive innovation and development in English teaching for secondary vocational schools, providing stronger support for cultivating high-quality secondary vocational talents who meet the needs of the times.

Disclosure statement

The author declares no conflict of interest.

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