

Exploration of Teaching Reform of Information Technology Fundamentals Course in Vocational Colleges based on Blended Teaching

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Abstract: "Fundamentals of Information Technology" is a fundamental course in vocational colleges, mainly aimed at cultivating students' information technology application skills, sustainable development professional literacy and abilities. Traditional classroom teaching is no longer able to meet the personalized learning needs of students, and its effectiveness in improving their practical skills is not significant. This article analyzes the current situation of traditional teaching in this course and proposes a curriculum teaching reform strategy based on blended learning mode. In response to the strong hands-on ability of vocational college students, a combination of online preview by students before class and offline Q&A by classroom teachers is mainly adopted to guide students in independent exploratory learning, and process evaluation and assessment are adopted to form a student-centered classroom teaching method, allowing students to participate in the entire process of classroom teaching. While enhancing students' learning enthusiasm and initiative, it effectively enhances their computer practical skills.

Keywords: Vocational College Students; Blended Learning; Course on Fundamentals of Information Technology; Teaching Reform.

1. Introduction

The basic course of information technology is a compulsory or limited elective public basic course for students of various majors in vocational colleges; The study of the course is beneficial for enhancing the information awareness of vocational college students, enhancing their computational thinking, promoting their digital innovation and development, and laying a foundation for their career development through informatization. However, the current teaching of Information Technology Fundamentals still adopts the traditional teaching method of Computer Fundamentals, ignoring the personalized learning needs of students, and the teaching effect is not significant. With the trend of further improving the level of modern education informatization, online teaching has gradually become normalized, and blended learning has also achieved large-scale development during this period. Teachers can fully utilize network resources, audio-visual images, and other resources as supplements and improvements to traditional classroom teaching content. On the basis of traditional teaching methods, students and teachers work together to implement the teaching process in an organized manner according to a unified teaching plan and set teaching objectives. In this process, both teachers and students play important roles, fully tapping into the subjective initiative of students and deeply participating in the teacher's teaching implementation process, rather than passively listening. This new teaching model can precisely solve the current difficulties faced by the course of Information Technology Fundamentals.

2. The Current Situation of Traditional Teaching in the Course of Information Technology Fundamentals

2.1. Students Lack Initiative.

Information Technology Fundamentals highlights strong practicality and requires students to actively engage in classroom learning. However, in teaching, teachers often occupy a dominant position in the classroom for a long time, and the teaching methods, concepts, and content are often determined by the teacher alone. The content and explanation mode taught also revolve around the traditional ideas and concepts of the teacher. Students are moved in the information technology basic classroom, lacking initiative and enthusiasm, and ignoring the student's main role in the classroom.

2.2. Teaching Methods are Outdated.

From a holistic perspective, the teaching mode of "Fundamentals of Information Technology" has always been in a lagging state, with excessive emphasis on explaining basic knowledge, which fundamentally consumes and occupies a lot of classroom teaching time. For a long time, the main teaching content of "Fundamentals of Information Technology" has still remained at the stage of computer basic operations teaching mainly focused on office automation, such as graphic and text editing, table processing, and presentation production; Teaching methods and forms mainly rely on traditional lectures, demonstrations, and exercises; In terms of the technical means used in the teaching process, besides the essential computer as a tool form, it is probably one of the worst courses combined with modern educational information technology.

2.3. The Course Evaluation Method is Single.

Course evaluation is one of the important links in teaching. At present, the teaching content of the basic courses of information technology in vocational colleges mainly focuses on teaching Office or WPS office software, and in most cases, the main content of classroom practice is office software operation questions. The course evaluation methods include regular performance and final assessment. The usual performance is mainly reflected in attendance and classroom performance, while the final assessment focuses on completing corresponding module operation exercises on the computer. The testing method is outdated, and new generation information technology knowledge such as expandable knowledge, big data, and information security are not covered, which cannot fully reflect the actual mastery of knowledge by students. Many teachers focus on theoretical teaching modules that are beneficial to exam results, neglecting practical teaching content. Therefore, there is an urgent need for a new teaching model to solve the problems existing in traditional teaching.

3. Teaching Design of Information Technology Fundamentals Course Based on Blended Learning

3.1. Blended Teaching Mode the Blended Teaching Mode is a Curriculum Reform Aimed at Achieving the Goal of Cultivating Applied Talents

It aims to establish a classroom that encourages students to be active and constantly think, and improve their logical thinking ability and professional knowledge ability. The specific process of blended learning is to integrate micro course resources, stimulate self-learning ability, analyze academic data, strengthen knowledge points, break through spatial distance, and stimulate students' learning interest. Layered group construction is used to achieve flexible exploration activities, and online social interaction is applied to promote offline cooperation. The comparison with traditional teaching models is shown in Table 1.

Table 1. Comparative analysis results of traditional teaching mode and blended teaching mode

category	traditional teaching mode	Blended learning mode
Teaching Form	Offline teaching	Offline teaching+online teaching
Teaching methods	Teacher centered preaching style teaching	Teachers and students engage in collaborative inquiry based interactive teaching
learning style	Collective and individualistic individual learning behavior	Proactive and personalized learning behavior
Teaching evaluation	Outcome evaluation	Process evaluation

From Table 1, it can be seen that blended learning is an improvement and optimization of traditional teaching methods, mainly achieved through the integration of online

teaching and offline traditional classroom teaching to achieve more efficient teaching. Blended learning is an effective way to effectively solve the dilemma of traditional teaching models. Students have transformed from passive to active, truly achieving a teacher led and student-centered teaching model. A complete process evaluation can comprehensively evaluate students and enable them to achieve proactive and personalized learning.

3.2. Teaching Reform Strategy for the Course "Fundamentals of Information Technology" Based on Blended Learning Mode.

3.2.1. Teaching According to Individual Needs and Implementing Hierarchical and Blended Learning.

Teachers should base themselves on a comprehensive understanding of the students in the class, analyze their individual differences, and follow the principle of individualized teaching to carry out layered and blended teaching. Firstly, teachers can grasp the computer application level of the students in the class through a survey and group them according to their level; Secondly, teachers can develop scientific curriculum training plans based on the strengths and weaknesses of different groups, thereby carrying out hierarchical education and developing reasonable scoring standards and reward and punishment mechanisms for different groups. Guide group students to learn through cooperative exploration and division of labor training, promote cooperation and mutual assistance among class students, cultivate a spirit of cooperation and collective responsibility, and help stimulate students' interest in learning; Finally, teachers should hand over the autonomy of learning to students, enabling them to autonomously identify and solve problems, thereby enhancing their practical abilities in applying computers.

3.2.2. Integrate Resources and Innovate Diverse Blended Teaching Methods.

Firstly, teachers should make full use of the convenience and intuitiveness of network information technology and multimedia devices to provide students with richer learning channels, thereby improving the shortcomings of traditional teaching models where theoretical knowledge is too abstract and rigid, and stimulating students' enthusiasm for learning and participation. Secondly, teachers should prioritize the initiative of students in self-directed learning, fully tap into available online teaching materials, and guide students to explore independently based on classroom knowledge, thereby expanding their knowledge horizons and achieving a dual development of application ability and logical thinking ability. Finally, teachers should focus on enhancing the core literacy of students in the field of computer science, with a focus on cultivating their entrepreneurial spirit. They should continuously innovate diverse and blended teaching methods, such as flipped classroom teaching, case teaching, and situational introduction, to carry out interesting practical training on computers. While enhancing students' enthusiasm for independent exploration, they should ensure the effective implementation of practical teaching in this course.

4. Implementation of Blended Learning Based Teaching for the Course "Fundamentals of Information Technology"

4.1. Building a Blended Learning Based Online Learning Platform.

Building an online learning platform is the most important underlying guarantee for blended learning. When constructing, special attention should be paid to its open characteristics, and links such as pre class teaching preparation, in class teaching interaction, and post class feedback evaluation should be organically integrated into the online teaching platform, such as the Wisdom Tree platform, Rain Classroom, etc. to ensure the teaching level of blended learning and the learning effectiveness of students, the Learning Platform is used. Due to the special nature of information technology basic course teaching, the course teaching platform and the course practical operation platform are usually located in different software. In response to the needs of information technology basic course online learning platforms, Tencent Classroom or DingTalk are usually used for live course teaching. The selection of a practical platform for the Wisdom Tree course facilitates students to access computer programming software. This hybrid teaching method fully embodies the advantages of combining online courses with offline management

4.2. Improve Teaching Content based on Blended Learning.

Firstly, it is necessary to classify the teaching content and summarize the knowledge points of different units based on the teaching objectives of the information technology basic course. Prepare the video content for this unit on the teaching platform, which can be self recorded or imported online learning resources. However, the content must meet the teaching requirements, be vivid and practical. Secondly, prepare practice questions online, including theoretical self-test questions and computer operation questions as needed. Self test questions are mainly used to test the effectiveness of students' self-directed learning. Depending on the difficulty level, Design several targeted operation questions, some of which are aimed at mastering basic operations, while others are challenging questions to better enhance students' operation skills and meet the needs of students at different levels. For the basic information technology courses under blended learning, the preparation work in the early stage of teaching is particularly important. For example, online preparation of teaching resources, verification of teaching environment compliance, and real-time display of learning results. This enables students to master the basic process before class and prepare for the subsequent implementation of blended learning. For the form of blended learning, due to the high requirements for practical courses, Teachers should optimize the advantages of traditional teaching methods, accurately design offline interactive teaching processes, and especially not overly rely on online teaching. Teaching should be student-centered, with appropriate prompts or demonstrations at key points, and placed on online learning platforms for students to repeatedly watch during online learning, thereby deepening their understanding of relevant knowledge. In the course, the advantages of group discussions and collaborative exploration should be fully utilized to

stimulate students' enthusiasm for learning.

4.3. Specific Measures for Blended Learning.

Firstly, clarify the chapter learning objectives, set preview tasks, check the completion of online learning by students before class, and answer and organize questions raised by students online. Finally, based on the preview situation, targeted classroom activities and tasks will be released. In addition, the online platform's functions such as random selection and answering can be utilized to enhance participation and fun, and it is also convenient to track student participation. Students practice according to the requirements, and the teacher provides guidance and focuses on explaining the problems that students encounter. Within the designated time, students upload their homework to the teaching platform, facilitating the teacher's centralized evaluation and analysis. The theoretical knowledge part of the course mainly solves the feedback problems that students have in online self-directed learning. It can be considered to group students according to the feedback problems, and discuss within the group. The teacher can then concentrate on explaining the results of the discussion. For practical knowledge, the teacher should extract some practical problems closely related to the course content using a project-based design method, On the basis of teacher guidance, let students operate and implement. This not only trains students' knowledge application and innovation abilities, but also enhances their confidence and pride in achieving results, which helps them internalize their independent knowledge and self-evaluation.

5. Conclusion

Based on the blended learning model, it not only better fits the learning psychology of students, but also effectively solves the opposition between online learning and classroom teaching, thereby improving students' learning enthusiasm. From the results of blended learning, it can not only significantly enhance the teaching effectiveness and pertinence of information technology basic courses, but also greatly help students develop and progress in the Internet era.

Blended learning has very high requirements for teachers. Not only does it require a teacher's teaching ability, but it also demands a high level of energy from the teacher. This requires the support of school policies, such as organizing collective lesson preparation among subject teachers, reducing teacher meetings and research requirements, etc. In the future, we will promote the widespread application of blended learning models in teaching, continuously improve classroom teaching effectiveness, and create a personalized and autonomous learning environment for students.

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