

Constructing the BOPPPS Teaching Model in the Context of Wisdom Education: A Case Study of the Vocational Course 'Information Technology'

Xianpiao Tang*

School of Big Data and Computer Science, Guizhou Normal University, Guiyang 550025, China

Abstract: With the continuous development of wisdom education, vocational education urgently needs to adapt to novel educational concepts and teaching models. The BOPPPS teaching model, as an effective instructional design framework, provides systematic guidance for course implementation. This paper explores the necessity and implementation strategies of constructing the BOPPPS teaching model in the vocational education course "Information Technology." Additionally, it introduces a real-time feedback framework for students to assess teaching effectiveness more reasonably and efficiently, aiming to improve the quality of classroom instruction and enhance students' information technology literacy.

Keywords: Wisdom Education; Information Technology; Model of Teaching.

1. Introduction

With the rapid progress of the Internet and the acceleration of digital transformation, enterprises have an increasing demand for technical talents, which makes school education must keep pace with The Times, and the teaching of information technology in secondary vocational schools needs to be updated. In the context of wisdom education, the "Information Technology" course of secondary vocational schools not only needs to improve its teaching quality, but also needs to provide personalized learning for students, which helps to stimulate their innovative ability and practical skills.

However, at present, the teaching of "Information Technology" course in secondary vocational schools is generally faced with such problems as outdated teaching content, single teaching mode and imperfect course evaluation, which leads to the improvement of students' learning enthusiasm and practical ability[1]. Therefore, this paper will discuss the necessity of constructing BOPPPS teaching mode under the background of wisdom education, and put forward implementation strategies, in order to provide theoretical basis and practical reference for the teaching reform of Information Technology course in secondary vocational schools.

2. Issues in the Teaching of Information Technology Courses in Secondary Vocational Education

In vocational colleges, the "Information Technology" course offered in secondary vocational education plays a crucial role in cultivating students' practical skills and knowledge related to computers. However, there are still many issues present in the current teaching practices of the "Information Technology" course.

(1) Disconnection Between Course Content and Practical Application

The teaching syllabus for the vocational education course "Information Technology" often places excessive emphasis on the dissemination of theoretical knowledge, while

neglecting the practicality and flexibility of technical applications. In a rapidly changing technological environment, students need to master the latest technological tools and application scenarios. However, traditional teaching models frequently fail to update course content in a timely manner, resulting in a disconnect between students' knowledge upon graduation and the actual demands of the job market. This lack of alignment leads to insufficient opportunities for active participation during the learning process, ultimately diminishing students' interest in learning and reducing their motivation.

(2) Monotonous Classroom Teaching Methods

The singularity of teaching methods in vocational education limits students' enthusiasm for learning and their innovative capabilities. In the current educational system, teacher-led "transmission-style" education still predominates, with excessive reliance on teacher lectures and textbook knowledge in the classroom. This results in insufficient active participation from students and unsatisfactory learning outcomes[2]. Traditional teaching methods often leave students lacking problem-solving skills and practical experience when faced with real-world issues, making it difficult to meet the demands of modern society for high-quality technical talent.

(3) Insufficient Learning Resources for Courses

The lack of learning resources in vocational education is a prominent issue. Many vocational colleges are inadequately equipped in terms of hardware facilities, with aging equipment and a lack of necessary laboratories and training bases, which limits students' opportunities for practical operations. At the same time, the scarcity of online resources and teaching tools makes it difficult for teachers to design effective multimedia teaching content, hindering their ability to stimulate students' enthusiasm for learning[3].

(4) The Course Evaluation and Assessment Mechanism Requires Urgent Improvement

In vocational education classrooms, the existing evaluation system is incomplete, which is one of the factors affecting teaching quality[4]. Currently, vocational information technology courses primarily focus on experimental operations and emphasize outcome-based evaluations, using

grades as the standard for assessment. This approach neglects the formative evaluation of students throughout the learning process and their emotional states during learning. Such a singular evaluation system not only fails to provide a comprehensive reflection of students' learning conditions but

may also lead teachers to misjudge students' learning situations. Furthermore, students may become overly focused on exam scores, overlooking the learning experience, which in turn diminishes their true understanding and application of knowledge.

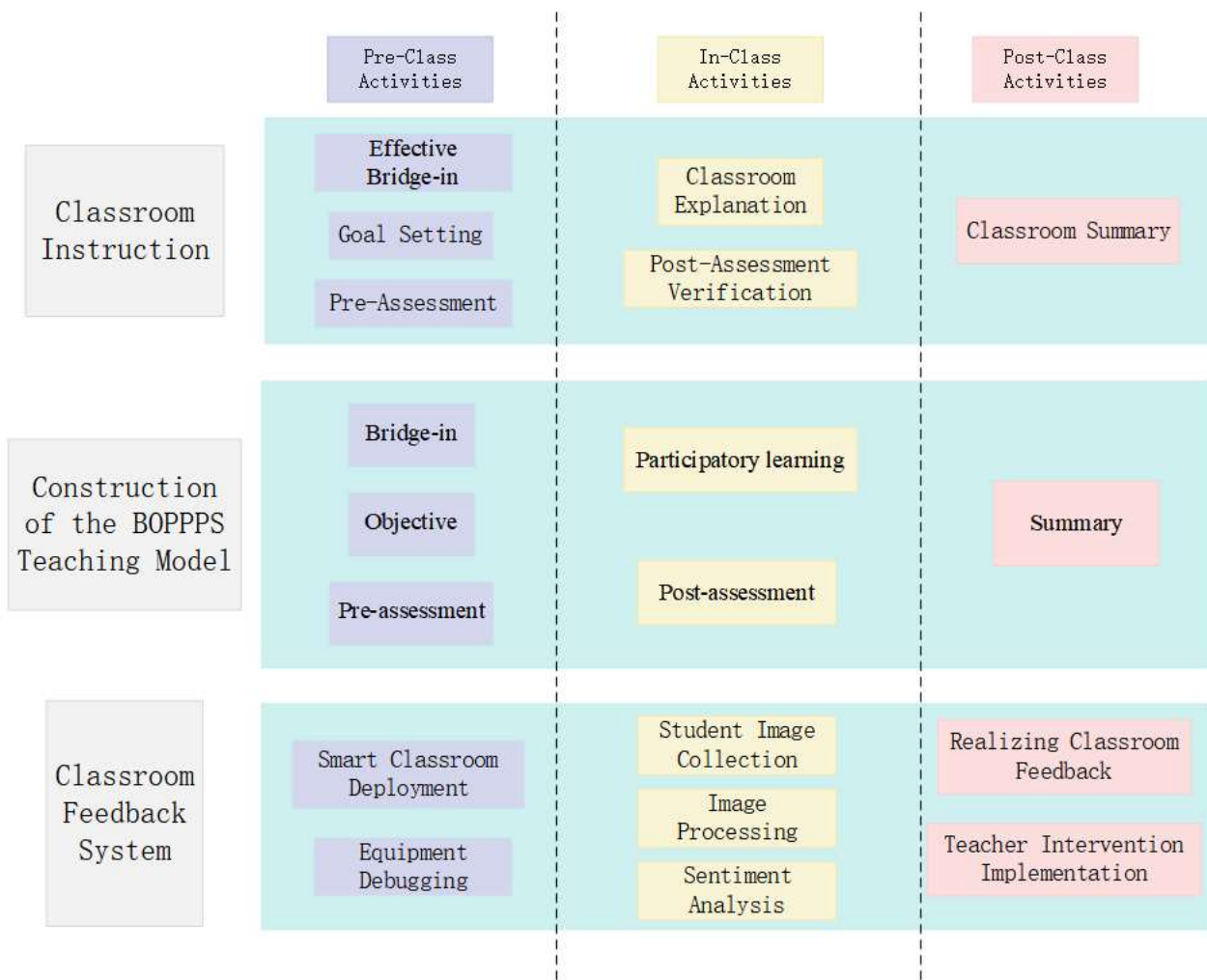


Fig. 1 Construction of the BOPPPS Teaching Model and Classroom Feedback System in the Information Technology Class

3. The Necessity of Constructing the BOPPPS Teaching Model in the Context of Wisdom Education.

With the development of computer vision technology in classroom teaching, wisdom education has become an important trend in educational reform. The BOPPPS (Bridge, Objective, Pre-assessment, Participatory Learning, Post-assessment, Summary) teaching model originates from a teacher training workshop in Canada. This teaching model divides the unit teaching process into six stages: introduction, teaching objectives, pre-assessment, participatory learning, post-assessment, and summary. It is student-centered, with a focus on achieving teaching objectives, and promotes comprehensive, multi-level interactive teaching[5]. In the context of wisdom education, the BOPPPS teaching model facilitates the deep integration of information technology courses with vocational education, enhances the application of educational resources in secondary vocational colleges, and meets the development needs of vocational education in the "Internet era." Therefore, the BOPPPS teaching model is particularly necessary for the construction of the "Information

Technology" course in secondary vocational colleges, as it helps to improve the information technology literacy of vocational students.

(1) The BOPPPS teaching model accommodates the transition of students' learning styles

Currently, the learning needs of vocational school students emphasize not only the transmission of knowledge but also the cultivation of skills. The BOPPPS model advocates a student-centered approach, stimulating students' curiosity and motivation for learning through the "Introduction" phase, thereby enhancing their ability for autonomous learning. This model guides students to practice relevant knowledge of information technology through participatory learning, which can develop their problem-solving abilities and lay a solid foundation for their future careers.

(2) The construction of the BOPPPS model can enhance the systematic nature and specificity of teaching

Wisdom education emphasizes personalized and precise teaching, and the BOPPPS teaching model is designed around this core concept. In the "Objectives" phase, teachers can clearly define the learning goals for the lesson, helping students understand the key points and purposes of their learning. Through "Pre-assessment," teachers can gain insight

into students' prior knowledge, allowing them to adjust their teaching strategies accordingly. This structure not only enhances teaching efficiency but also ensures that students' knowledge acquisition and skill development during the learning process are targeted and effective.

(3) The BOPPPS model emphasizes participatory learning

The information technology curriculum is inherently practical, and traditional lecture-based teaching often fails to meet students' skill development needs. The "participatory learning" component of the BOPPPS model employs various interactive methods, such as group discussions and case analyses, allowing students to apply their knowledge in real-world contexts. This practical experience not only enhances students' understanding of theoretical concepts but also improves their competitiveness in the future job market.

4. Implementation Strategies of BOPPPS Teaching in the Context of Wisdom Education

The BOPPPS teaching model not only emphasizes active participation and interaction among students but also integrates modern information technology, providing students with a richer learning experience. The following will explore the implementation strategies under this model.

(1) Design of the Introduction Phase

In the context of wisdom education, the introduction phase should utilize a combination of multimedia technology and real-life case studies to capture students' attention. For instance, before each class in the "Information Technology" course, micro-lecture videos and learning materials can be uploaded to the learning platform. At the beginning of the class, an engaging short video can be presented to illustrate the application of the lesson content in real life, thereby provoking students' thoughts and discussions. Additionally, by utilizing the learning platform, teachers can design interactive Q&A sessions to stimulate students' interest in learning.

(2) Clarifying Learning Objectives

In the BOPPPS model, clear learning objectives are crucial for students' learning. At the beginning of the course, teachers should clearly communicate the learning objectives to the students. This not only helps students clarify their learning direction but also motivates them to set personal learning goals. Teachers can utilize tools such as electronic whiteboards to present the learning objectives in a visual manner, ensuring that every student can understand them.

(3) Effective Utilization of Pre-assessment

In the pre-assessment phase of the course, teachers can utilize online testing tools to evaluate students' existing knowledge. This phase not only helps teachers understand the students' foundational skills but also provides a reference for subsequent teaching. By analyzing the results of the pre-assessment, teachers can adjust the teaching content and pace according to the characteristics of the students, making it more aligned with their needs.

(4) Innovations in Participation Processes

Participatory learning is at the core of the BOPPPS teaching model. Educators should design a variety of classroom activities to promote active student engagement. For instance, in an "Information Technology" course, teachers can organize group collaborative projects that encourage students to actively participate through discussions, role-playing, and hands-on activities. In the classroom, when

students are completing exercises, the integration of computer vision technology can facilitate a real-time feedback system, allowing teachers to observe students' emotional states as they engage with the material. This enables process-oriented assessment; if students exhibit positive emotional states, teachers can continue with their current teaching methods. Conversely, if students display negative emotional states, it is essential for teachers to promptly adjust their instructional strategies to enhance students' engagement in the learning process.

(5) Implementation of Post-Assessment and Feedback

The post-test phase is an important means of assessing the effectiveness of teaching. Through online tests and classroom performance, teachers can evaluate students' learning outcomes. At the same time, a timely feedback mechanism is also indispensable. After the course concludes, teachers provide personalized feedback to each student based on the post-test results, highlighting their strengths and areas for improvement. This not only enhances students' sense of achievement in learning but also helps them clarify their future learning paths.

(6) Enhancing Summary and Reflection

The summary phase is a review and reflection on the entire lesson. In the context of wisdom education, teachers can guide students in classroom reflection and encourage them to share their learning experiences and gains. At this time, teachers can collect students' opinions and suggestions through online platforms to assess the effectiveness of the course and identify areas for improvement. The effective implementation of the summary phase can deepen students' understanding of knowledge, enhance their autonomous learning abilities, and achieve a closed-loop management of learning outcomes.

5. Conclusion

In the context of wisdom education, the BOPPPS teaching model provides a structured approach for the implementation of the "Information Technology" course in vocational schools. By thoughtfully designing the introduction, clarifying objectives, conducting effective pre-assessments, fostering innovative participation, and performing timely post-assessments and reflective summaries, teachers can better guide students and promote their active engagement and autonomous learning. Leveraging modern computer vision technology, the BOPPPS teaching model not only enhances teaching quality but also cultivates students' innovative thinking and practical abilities, laying a solid foundation for their future development.

References

- [1] Wang, X., & Li, Z. M. Research on the application of the BOPPPS-based blended teaching model in online and offline data visualization courses [J]. *Computer Knowledge and Technology*, 2024. 20(15): 149-151+155.[1]
- [2] Zou, L. Research on the Reform of the "Fundamentals of Information Technology Application" Course in Vocational Colleges' Computer Majors Integrated with Competition and Certification [J]. *Vocational Technology*, 2021. 20(04): 78-82.
- [3] Wang, Q. Q. Research on curriculum and teaching reform based on the "1+X" certificate system: A case study of the "Information Technology" course at Xianning Vocational and Technical College [J]. *Hubei University of Science and Technology*, 2024. 44(06): 115-119.

- [4] Song, X. Teaching strategies and practices for vocational education "Information Technology" based on task-driven teaching methods [J]. *Studies Weekly*, 2024. (29): 10-12.
- [5] Feng, L., Chen, Q., Yang, S., et al. Reflections on the Teaching Design of Medical Laboratory Technology Courses Based on the BOPPPS Teaching Model [J]. *International Journal of Laboratory Medicine*, 2022. 43(21): 2684-2688.