

Effective classroom teaching strategies in colleges and universities based on the BOPPPS model

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ABSTRACT

In teaching in colleges and universities, it has always been difficult for teachers to let students participate in the classroom and improve the learning effect. The traditional way of teaching is mainly that teachers instill knowledge and students passively listen, which easily leads to problems such as distraction and weak grasp of knowledge points. The BOPPPS teaching model provides a structured solution. Through clear link design and immediate learning feedback, this model helps teachers control the pace of the classroom and guides students to think and participate actively. Therefore, this paper will explore how to flexibly apply the BOPPPS model to the college classroom to help students improve their knowledge and ability in active learning.

KEYWORDS

BOPPPS model; college classroom; classroom teaching

The classroom is a key battleground for college education. However, in reality, when teachers speak endlessly at the podium, students sitting below tend to mechanically take notes and quickly forget the key content after class. This situation reflects the limitations of the traditional teaching mode: one-way knowledge transfer makes it difficult to stimulate students' deep thinking and can not timely understand whether students understand the content. The BOPPPS model decomposes the course content into sequential stages, starting with establishing learning objectives, understanding the student's foundation through simple tests, and organizing diverse participation activities. Finally, it summarizes and consolidates. This interlocking design helps teachers control the pace of teaching and allows students to maintain a clear "Learning roadmap." Therefore, this article will explore the key points of implementing the model in college classrooms and investigate teaching method improvement plans that are theoretically guided and feasible.

1 Theoretical framework and application background of the BOPPPS model

1.1 The definition and structure of the BOPPPS model

BOPPPS model is a learner-centered, clearly structured classroom teaching design framework derived from the initials of six core components: Bridge, Objective, Pre-assessment, Participatory Learning, Post-assessment, and Summary. As a starting point in the classroom, the bridge aims to establish the connection between teaching content and students' experience. Usually, it stimulates learning motivation through life cases, situational problems, or cognitive conflicts. The teaching objectives should be expressed concisely and measurably to clarify the core knowledge points of the course and the direction of ability training and avoid vague and general expressions. The Pre-assessment is not a traditional test but a rapid diagnosis of students' cognitive basis by questioning and brainstorming, which provides a basis for the depth and breadth of the follow-up teaching content. As the model's core, participatory learning requires teachers to design interactive activities such as group discussion, case simulation, and practical exercises according to the subject's characteristics to ensure that students construct their knowledge system in practice. The Post-assessment verifies the achievement of objectives through real-time testing, results presentation, or reflective discussions, and its form must correspond to that of the Pre-assessment. Finally, in the summary stage, it is necessary to extract the logical chain of classroom content to strengthen the structured storage of knowledge^[1].

1.2 The development process of the BOPPPS model in classroom teaching

The BOPPPS model originated in the 1970s and was initially aimed at designing standardized processes for short-term training courses in vocational education. With the deepening of constructivist learning theories and research in adult education, educators gradually recognized the limitations of the traditional "teacher lecturing - student taking notes" model, particularly in visualizing teaching effectiveness and learner engagement. Therefore, the BOPPPS model has completed the adaptive transformation from vocational education to higher education classroom by integrating the theory of objective management and formative assessment. At the beginning of the 21st century, the wave of global higher education reform gave birth to new models such as blended teaching and flipped classrooms. The BOPPPS model

is characterized by its modular rocket structure and strong compatibility, and it has become a bridge connecting traditional classrooms and innovative practice. For example, in medical education, its participatory learning link is used for clinical thinking training of case analysis; in engineering courses, pre-assessment and post-assessment mechanisms become important tools to test the improvement of students' design ability. After 2015, with the development of online education technology, the model has derived variants of online and offline integration, such as migrating Pre-assessment links to pre-class micro-course learning and focusing on in-depth discussion in the classroom ^[2].

1.3 Advantages of the BOPPPS model

The fundamental advantage of the BOPPPS model lies in its structured design, which ensures teaching effectiveness. Specifically, in traditional classrooms, teaching objectives often remain in the lesson plan text. In contrast, BOPPPS transforms these objectives into a central theme throughout the class through threefold verification: pre-assessment, post-assessment, and summary. For example, in the course of "News writing," teachers can evaluate the achievement of teaching objectives in real-time with the help of Students' works in the post-assessment stage to avoid the disconnection between teaching and evaluation. In addition, the model strengthens the dynamic interaction characteristics of the classroom. The design of participatory learning forces teachers to break the inertia of unilateral output and turn to the role of guide. In the economics classroom, for example, teachers can help students understand the theory of supply and demand through role-playing by simulating market trading activities. This kind of representational participation is more conducive to understanding complex concepts than simply explaining chart curves. Moreover, unlike teaching methods that rely on teachers' personal experience, the clear module division of BOPPPS reduces the randomness of classroom design, and even novice teachers can follow the framework to ensure basic teaching norms. This ability to balance standardization and individuation makes it an effective tool to enhance classroom effectiveness.

2 BOPPPS model implementation strategy in college classroom teaching

2.1 Strategies for goal setting and classroom preparation

The first condition for the success of the BOPPPS model is to set clear teaching objectives, which requires teachers to transform classroom content into students' specific ability to do and show. For example, an "Environmental protection" class aims to "Enable students to write about three possible ways to reduce plastic pollution" rather than a general "Understanding of the importance of environmental protection." Goals should be simple, clear, and best expressed in action verbs (such as "Explain," "Design," and "Compare") so that both the teacher and the student have an intuitive understanding of what needs to be accomplished. When preparing for class, teachers need to do two things: clarify the main line of the teaching content and predict the difficulty of students' understanding. You can put the knowledge points of a lesson in a logical order, which is the core content that must be mastered, which is the supplementary expansion. In "Fundamentals of Statistics," for example, students are ensured that they can calculate averages first rather than rush into the complex analysis of variance^[3]. At the same time, it is necessary to anticipate potential problems based on the student's existing knowledge level. For example, when studying chemistry, students may misunderstand that "a catalyst only speeds up a reaction." In this case, the teacher can design true or false questions in the pre-assessment phase to test this misconception.

2.2 Interaction design and organization of student activities

Interaction is a key component of the BOPPPS model, aimed at truly enabling students to grasp knowledge through practice. Three principles must be followed when designing interactive activities: students should be able to engage easily, the process should be guided, and the results should be demonstrable. For example, in the "News writing" class, the teacher does not explain the theory directly. Instead, the teacher asks the students to try to write a news release first and then find the problem by comparing the example with their copy; this "Do first, learn later" approach makes thinking easier.

The interaction needs to be simple and effective. Group discussion, role-playing, and hands-on experiments are common, but the complexity needs to be controlled. For example, when analyzing the causes of the war in history class, ask the students to list the three factors they think are the most important and then vote for a consensus by the class. Such activities do not require elaborate preparation but can move students from passive listening to active analysis. The teacher's role is to provide step-by-step instructions, such as reading the material for 5 minutes, discussing it for 8 minutes, and summarizing the group's ideas in one sentence. Clear timelines and task instructions will help to keep the activity from going off track.

2.3 Construction of Evaluation and Feedback Mechanism

The evaluation of the BOPPPS model is not an examination but a dynamic feedback system throughout the classroom. Pre-assessment is used to gauge a student's starting point, and simple methods include questions, quizzes, or a show of hands poll. For example, before teaching "Investment and Financial Management," one might ask students: "If you have 10,000 yuan, would you choose to save it or invest in a fund?". This allows for a quick understanding of the student's initial level of understanding. The post-assessment closely aligns with the objectives, assessing whether students have met the learning requirements. For example, after teaching "data chart creation," students should generate a bar chart from tabular data on-site and explain the trends rather than simply reciting the steps of the operation. When students make mistakes during practice, teachers should point out the key issues on the spot rather than waiting until after class to correct the homework. In an English class, if a student says, "I have gone to the park," the teacher can directly write on the board to compare the forms of "go/went/gone" and reinforce memory by repeating the correct sentence^[4].

Additionally, students should learn to self-assess; for example, after a writing class, the teacher provides a simple checklist: "Does the introduction have a thesis statement? Does each paragraph have supporting examples?" Students can revise their assignments based on the checklist. The teacher can then assess the improvement by comparing the differences before and after the revisions. This self-diagnosis helps students develop a habit of reflection.

3 BOPPPS model to improve the effect of classroom teaching

3.1 Mechanism to stimulate students' interest in learning

The BOPPPS model can help students understand the practical use of knowledge by setting clear classroom steps, thus stimulating their initiative. The key lies in the teacher connecting the learning content closely with the students' existing experiences or needs. For example, when explaining "cybersecurity," the teacher does not directly define the terms but first presents several examples from daily life, such as hacking social media accounts and phishing text messages. Then, the teacher poses the core question: "Why do these situations occur? Have you encountered them?" Through this connection, students can quickly realize the relevance of the learning content to themselves, and their curiosity is naturally stimulated. Throughout the course, students will continuously feel a sense of participation in "learning to solve problems"^[5]. When the teaching objectives focus on the enhancement of specific skills (such as "analyzing deceptive advertising techniques"), students can directly see their progress by completing small tasks (such as identifying misleading language in video advertisements). This immediate sense of achievement is more effective in maintaining students' interest than abstract theoretical explanations, reinforcing their motivation to learn.

3.2 Enhancing students' participation and autonomous learning ability

The BOPPPS model requires every student to actively engage in the classroom process through hands-on activities or mental participation. In traditional classes, only some active students answer questions. However, BOPPPS guides all students in following up on their progress through fixed activities (such as rapid answers for all and group cooperation tasks). For example, in an English class, the teacher would not ask the students who volunteered to raise their hands to make their sentences but would ask everyone to write them on a piece of paper and then show them randomly. This approach avoids the "Invisibility" of some students and ensures that class participation is not optional but necessary. Long-term participation in training will gradually cultivate students' autonomous learning habits. When teachers frequently use pre-assessment to guide students to recall old knowledge (such as "What mathematical formulas did we learn last time?"), students will naturally develop a sense of preview and review. In the core teaching session, instead of giving direct answers (such as teaching the design principles of the questionnaire first and then letting students modify the problematic questionnaire themselves), teachers teach students step-by-step guidance, and students learn to think actively about the operation process. This gradual process of letting go enables students to master independent learning methods in practice.

3.3 Building a teaching environment that promotes teacher-student interaction

The BOPPPS model provides a systematic tool for teacher-student interaction, allowing teachers to maintain continuous communication with students through fixed interactive segments (such as pre-assessment questions, group discussion supervision, and post-assessment feedback) rather than relying solely on impromptu questioning. For example, in a physics class, a teacher could ask all students to sign (thumbs up/down) for understanding at the end of each point and immediately supplement the explanation for those who do not understand. This allows teachers to keep track of what is happening in the classroom and students to feel that their feedback is valued. The design of the

interaction rules removes the tension in the traditional classroom. Students were more likely to cooperate when the teacher explained in advance the goals and format of each session (such as "We will do a group experiment for 10 minutes and then summarize the findings in one sentence"). In hands-on classes (such as chemistry experiments), the teacher uses itinerant instruction instead of complete control, and students can raise their hands for help at any time. This "Support when needed" approach builds trust more easily than a one-way lecture.

4 Conclusion

The article clarifies the role of the BOPPPS model in enhancing classroom teaching effectiveness. It reveals the underlying logic of how it awakens student initiative and establishes a sustainable interaction model through structured design. This model transforms the process of knowledge impartation into continuous capability cultivation, enabling teachers to move beyond experiential teaching. A closed loop of "goal guidance—participatory training—feedback reinforcement" gradually facilitates the transition of students from passive reception to active construction. Therefore, educators should systematically apply the BOPPPS framework to optimize classroom design, strengthening the goal-setting centered on "student needs" during the course preparation phase, refining participation rules during implementation to eliminate classroom silence through an inclusive interaction mechanism, and establishing a rapid feedback channel in the post-class assessment phase to promptly transform students' confusion into resources for teaching improvement, cultivating modern learners with self-directed learning awareness and collaborative inquiry abilities.

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