

## Short Communication

# Application of BOPPPS Teaching Model in Clinical Teaching Practice of Orthopedics

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## Abstract

The Bridge-In, Outcomes, Pre-assessment, Participatory Learning, Post assessment, and Summary (BOPPPS) teaching method is based on constructivism and communicative approach, which is different from the traditional model in that it takes students as the center, formulates reasonable and scientific BOPPPS teaching module steps, stimulates students' interest and subjective initiative in learning, and inspires students to devote themselves to the learning process. In orthopedic clinical teaching, it can not only improve students' high-level thinking ability and learning initiative, but also optimize teaching quality. We adjusted and modified the BOPPPS teaching method to fit the characteristics and needs in clinical teaching practice of orthopedics.

**Keywords:** BOPPPS; Clinical teaching; Orthopedics; Teaching model

## Introduction

Medical discipline education emphasizes the combination of theory with practice, and orthopedics needs more practical physical examination and operation because of its professional particularity, and clinical probation teaching is more important, which is an important bridge for the transformation from medical theory to concrete practical operation. It is a key step to successfully achieve the teaching goal [1-2]. BOPPPS teaching model is suitable for orthopedic clinical practice teaching, first of all, because students have completed the study of basic theory, and have a certain understanding of the injury mechanism, pathophysiology, related anatomy, clinical manifestations, treatment methods, surgical indications, rehabilitation methods and so on. The study of this theoretical basis is more conducive to the trainee students to master the teaching goals [3-4].

## Framework and Teaching Content of BOPPPS Teaching Model

### Bridge-in (B)

For about 5 minutes, the purpose of setting this stage is to attract students and improve their interest and enthusiasm. Methods such as watching videos, asking questions, telling stories or real cases can be taken.

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### Objectives (O)

In about 2 minutes, we need to clearly put forward the teaching goal to the students. Learning with the goal can improve their learning efficiency.

### Pre-assessment (P)

About 8 minutes, this is a test, which is to understand the basic knowledge and learning ability of students. It can be completed simply and quickly by asking students questions, quizzes or group discussions. The results of the test can help teachers adjust the depth and progress of the learning content [5].

### Participatory learning (P)

About 20 minutes, as the main body of BOPPPS teaching method [6]. This part should use flexible and specific teaching methods, such as situational simulation, role-playing, group discussion, debate, simulation reduction and so on, which can be used comprehensively, so as to give full play to the subjective initiative of students.

### Post assessment (P)

For about 5 minutes, it is through the means of testing to give feedback and evaluation of the teaching effect of the classroom. The assessment method should be selected according to the content of the class [7]. For example, in the quiz, you can set individual or comprehensive multiple-choice questions, fill-in-the-blank questions, and short-answer questions and so on.

### Summary (S)

About 5 minutes, this can be led by the teacher, who will reinforce the learning objectives and requirements again, refine the learning content of the entire classroom, point out key knowledge points, and guide students to integrate their learning experience.

The concept of the BOPPPS teaching model is "students" as the center. Students actively participate in teaching activities during the learning stage, continuously deepen their understanding of the clinical problems raised in the Pre-assessment, and further deepen their cognition during the Participatory Learning. Whether the learning

effect achieves the objectives can be determined by Post assessment [8]. In the orthopedic clinical teaching practice, the teaching design combined with the BOPPPS teaching model is more in line with the teaching requirements of the current era. The practical application improves the teaching effect and stimulates students' interest in learning.

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## References

1. Wang X, Wang J, Wen F, Wang J, Tao J. Exploration and practice of blended teaching model based flipped classroom and SPOC in higher university. *J Educ Pract.* 2016;7(10):99-104.
2. Filius M, de Kleijn M, Uijl G, Prins J, van Rijen M, Grobbee E. Promoting deep learning through online feedback in SPOCs. *Frontline Learn Res.* 2018;6(2):92-113.
3. Shih W, Tsai C. Effect of flipped classroom with BOPPPS model on learners' learning outcomes and perceptions in a business etiquette course. *Asia-Pacif Educ Res.* 2020;29(3):257-68.
4. Cui H. Application and exploration of BOPPPS model in oral chinese teaching as a foreign language. *Int Educ Stud.* 2019;12(12):123-9.
5. Chung CC, Dzan WY, Shih RC, Lou SJ. Study on BOPPPS application for creativity learning effectiveness. *Int J Eng Educ.* 2015;31(2):648-60.
6. Chen W, Bai R, Li S, Wang Y, Chen L, Zhai L. The application of BOPPPS teaching model in the theoretical teaching of endocrinology of traditional Chinese medicine. *Chin Med Mod Distance Educ China.*
7. Wang S, Xu X, Li F, Fan H, Zhao E, Bai J. Effects of modified BOPPPS-based SPOC and Flipped class on 5th-year undergraduate oral histopathology learning in China during COVID-19. *BMC Med Educ.* 2021;21(1):540.
8. Ma X, Ma X, Li L, Luo X, Zhang H, Liu Y. Effect of blended learning with BOPPPS model on Chinese student outcomes and perceptions in an introduction course of health services management. *Adv Physiol Educ.* 2021;45(2):409-17.