

Application of a Combination of Two Teaching Methods in Pediatric Teaching

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Abstract: Pediatrics is one of the clinical professional courses that is highly practical. The traditional single teaching method is inconducive to stimulating students' interest in learning, resulting in a poor classroom teaching effect. To change the traditional single teaching model and promote and improve the development of pediatric teaching, according to the level of pediatric teaching, colleges can consider combining two teaching methods to carry out pediatric teaching. The main research in this paper is the combination of PBL (problem-based learning) teaching and CBS (case-based study) teaching. An overview of the two teaching methods is first given, and then the application significance of the combination of the two teaching methods is analyzed. Lastly, it explores the specific implementation of hybrid teaching methods in pediatric teaching.

Keywords: Hybrid; Pediatric teaching; PBL teaching; CBS teaching

Online publication: April 29, 2024

1. Introduction

Pediatric teaching is highly professional, but there are certain difficulties in actual teaching. Changing the traditional teaching model is imperative to improve teaching efficiency and quality. With the continuous development of education and teaching in China, teaching concepts and models have been innovated recently. The traditional single teaching model can no longer meet the new requirements of education and teaching, especially in pediatric teaching. For this reason, hybrid teaching models are gradually emerging. PBL (problem-based learning) and CBS (case-based study) are common methods of pediatric teaching. Combining the two can change the traditional teaching form and improve the teaching effect. It can also mobilize students' enthusiasm for learning and adjust the teaching atmosphere.

2. Overview of PBL and CBS teaching methods

2.1. PBL teaching

PBL teaching is a heuristic method that is mainly student-centered, teacher-oriented, and problem-based. It

emphasizes integrating learning into complex problems and solving practical problems through cooperative or independent learning, learning theoretical knowledge, and simultaneously cultivating students' learning and problem-solving skills. Additionally, this teaching method can also train students' communication and expression skills, improve students' courage, and help students consolidate basic knowledge. In actual teaching, students are the main body, the design of teaching plans needs to be centered around students, and the teaching process needs to create problem situations to stimulate students to think and solve problems from multiple perspectives. In the thinking process, students can ask questions, express opinions, and find answers to questions or solutions to problems through mutual communication. This teaching method can be used in pediatric teaching to enliven the classroom atmosphere and diversify students' thinking. In addition, PBL teaching has a large demand for high-quality, professional teachers, with long teaching duration. The teaching effect of using this teaching method alone needs to be further improved.

2.2. CBS teaching

CBS teaching is a case-based study teaching method. As its name suggests, the teaching is based on cases. Practical teaching is mainly divided into three stages. The first stage is case introduction. Students can initially understand basic knowledge and practical problems from actual cases. The second stage is case analysis, where students discuss and analyze the case in depth under the guidance of teachers and try to apply the theoretical knowledge they have learned to formulate solutions to case problems. The third stage is problem-solving, and students need to use the solutions developed in the second stage to solve the real problem. Similar to the PBL teaching method, the application of the CBS teaching method has advantages and disadvantages. Its teaching advantage is that it can effectively combine theory and practice, stimulate students' interest in learning, and strengthen students' problem-solving skills. Analyzing real cases can create good opportunities for students to apply theoretical knowledge, enrich teaching content, and improve the challenge and interest of pediatric teaching. The solution to case problems can exercise students' thinking and analytical skills and improve their problem-solving skills^[1]. The disadvantage is that CBS teaching requires the selection of high-quality cases, the correct guidance of teachers, and a long preparation time before teaching.

3. Application significance of combining two teaching methods in pediatric teaching

3.1. Improving teaching quality

PBL and CBS teaching methods have different advantages and disadvantages. The effective combination of the two can improve the quality of pediatric teaching and change the current situation of poor pediatric teaching. PBL teaching emphasizes students' active learning, while CBS teaching underscores guided teaching. The combination of the two can fully reflect students' dominant position and teachers' guiding position. The correct guidance of teachers is the condition for mobilizing students' subjective initiative. It can not only retain independent thinking space for students but also prevent students' thinking from deviating from the appropriate track. This teaching method can shorten the distance between students and teachers, increase the interactivity of pediatric teaching, and enliven the classroom teaching atmosphere. Over time, it will help change medical students' learning attitude toward pediatric knowledge and contribute to pediatric teaching through improvement of quality and teaching level. Additionally, early learning of basic knowledge and discussing cases can attract students' attention, stimulate students' desire to explore, and help increase medical students' memory of theoretical knowledge.

3.2. Stimulating learning interest

Pediatrics is a highly professional subject that introduces the characteristics of children's growth and development and various systemic diseases. It is a compulsory subject for some professional medical students. The effect of students' professional knowledge learning is closely related to pediatric teaching methods. The traditional single teaching has poor effects and is inconducive to stimulating students' interest in learning. For this reason, hybrid teaching methods are gradually emerging, that is, a teaching method that combines two teaching methods. PBL and CBS are common teaching methods in pediatric teaching. Combining the two can stimulate students' interest in learning and improve the effects of pediatric teaching. It can also enhance the teaching level of pediatrics and promote the development of clinical science. At present, some medical students lack a correct understanding of the importance of pediatrics and enthusiasm for daily learning, which is not conducive to the orderly development of pediatric teaching. Combining the two methods is a teaching innovation, and the hybrid teaching of "PBL + CBS" can complement each other's advantages, increase medical students' attention to pediatrics, and stimulate students' enthusiasm for learning^[1].

4. Specific implementation of the combination of two teaching methods in pediatric teaching

4.1. Reasonably arranging teaching objects and class hours

Pediatric teaching content is reflected in teaching multiple medical majors, such as clinical medicine, maternal and infants, clinical nursing, preventive medicine, etc., and the knowledge system is relatively complex. In the daily teaching process, the combination of PBL and CBS teaching requires teachers to prioritize the arrangement of teaching objects and teaching hours to ensure the rationality of the objects and class arrangements^[2]. As the teaching objects are different, the design of PBL teaching content based on actual cases will also differ. Within the limited teaching time, teachers must reasonably arrange the teaching content. If it is pediatric teaching in clinical medicine or maternal and infant majors, in terms of the combination of PBL and CBS teaching methods, PBL teaching hours can account for about 30% of the professional theoretical hours, and the remaining class hours can be used for CBS teaching. Since pediatric teaching is highly practical, daily teaching must focus on practical teaching and theoretical knowledge^[3]. In addition, there are certain differences in pediatric teaching between different majors. If it is a form of group cooperative learning, teachers need to reasonably arrange learning objects to ensure the quality of group learning.

4.2. Accurately determining the topic of PBL cases

The syllabus formulation is highly significant based on the actual requirements of pediatric teaching and student learning conditions. Teachers need to prioritize PBL case teaching topics through discussions and then scientifically design a series of teaching "questions" based on the topic content and knowledge related to pediatric teaching. Based on the scientific preparation of the teaching syllabus, teachers must abide by several principles in selecting cases, such as the principles of pertinence, practicality, and authenticity. At the same time, they also need to pay attention to the value and timeliness of case selection. According to the teaching progress, cases are selected from simple to difficult for application^[4]. Plus, the selection of cases needs to conform to the knowledge theory system and have a certain logical relationship with the pediatric teaching content. It also needs to ensure that the cases are closely related to life so that students can find relevant information after class. Common PBL case topics mainly include respiratory diseases (child pneumonia), blood system diseases (leukemia, anemia, etc.), circulatory system diseases (congenital heart disease), digestive system diseases (diarrhea), malnutrition diseases (rickets), etc. Each case topic can be set up with 6–9 questions for discussion

and analysis ^[5].

4.3. Carrying out case discussion and implementation work

During the teaching process, the teaching focuses on clinical cases. At this time, the CBS teaching method is applied to attract students' attention through case introduction, and based on this, teaching discussions and classroom explanations can be carried out ^[6]. At the same time, teachers also need to summarize teaching knowledge based on cases and assess students' learning outcomes. The key points of case discussion and implementation work are introduced as follows.

Teachers need to be fully prepared before class. Within a week before class, teachers must distribute PBL cases and discussion questions to students in advance so that they can use their spare time to preview or study independently. Students can discuss in groups and first summarize pediatric theoretical knowledge points, answers to questions, or solution strategies, then select speakers to share their learning results in class. During class, representatives of each group need to speak courageously, and actively report and share the results of group members' cooperative learning. They also need to ask questions and discuss with students in other groups as well as with teachers. Lastly, the teacher will conclude the new lesson with cases and summarize key and difficult knowledge ^[7]. After class, teachers need to grade students in writing based on their classroom performance (speeches and classroom discussions) and learning status, etc., to encourage or urge students to study consciously and study hard.

4.4. Pediatric teaching evaluation and teaching summary

It can be seen through teaching feedback that the combination of PBL and CBS teaching methods has good teaching effects, with high student liking and ratings. It not only enlivens the teaching atmosphere and mobilizes students' enthusiasm for learning but also stimulates their thirst for knowledge, improving their language expression, problem-solving, and logical thinking skills ^[8]. The hybrid teaching method has certain requirements for students' independent learning ability. To ensure the teaching effect, teachers need to arrange teaching objects reasonably. At the same time, the "PBL + CBS" teaching method has certain requirements for students' ability to master professional knowledge. Students need to understand basic professional knowledge, have certain expression skills, and be able to participate in pediatric teaching actively. In pediatric teaching, teachers need to pay attention to the flexible use of PBL and CBS teaching methods, focus on the innovation of teaching concepts, use hybrid teaching methods to adjust the teaching atmosphere, increase the interest and challenge of pediatric teaching, etc., as well as guide students to take the initiative to learn professional pediatrics knowledge. It can be seen through teaching practice that the "PBL + CBS" hybrid teaching method is unsuitable for all pediatric teaching content. Teachers need to carefully consider the teaching method in actual teaching and choose to use the hybrid teaching method in a targeted manner. The design of teaching activities needs to be gradual and based on the teaching objects, selecting teaching cases for analysis, raising PBL teaching issues reasonably, and guiding students to think proactively ^[9].

5. Conclusion

Pediatric teaching is related to the teaching effect of clinical professional courses. As a highly practical course, pediatric teaching must integrate practical teaching based on theoretical teaching. The traditional teaching method of teachers as the main body and students as the object can no longer meet the needs of education in the new era. Teaching reform requires that hybrid methods are worthy of promotion to improve teaching effects. The "PBL + CBS" teaching method has many applications and good teaching effects. It can stimulate students'

interest in learning and improve the quality of pediatric teaching. To this end, teachers must reasonably apply the “PBL + CBS” teaching method, accurately determine PBL case topics, and focus on case discussion and implementation.

Disclosure statement

The author declares no conflict of interest.

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