Implementation of Team-Based Learning (TBL) Model in Rehabilitation Therapy Education

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ABSTRACT

This research explores the practical application of the Team-Based Learning (TBL) model in rehabilitation therapy education. With the growing emphasis on active learning strategies, the TBL model has garnered attention for its potential to enhance student engagement, critical thinking, and teamwork skills. This study begins by introducing the theoretical underpinnings of the TBL model and its relevance to rehabilitation therapy education. It then examines the advantages and challenges of implementing TBL in this context. Specific strategies for designing TBL-based rehabilitation therapy courses are revealed through a series of case studies and practical examples. The effectiveness of TBL in improving student learning outcomes, collaborative skills, and satisfaction with the learning process is assessed through evaluations and feedback. Moreover, this research identifies areas for improvement and proposes recommendations for optimizing the implementation of TBL in rehabilitation therapy education. The findings of this study contribute to the ongoing discourse on innovative teaching methodologies in healthcare education and offer insights into the potential of TBL to enrich the learning experience in rehabilitation therapy programs.

Keywords: Team-Based Learning (TBL)，educational reform, rehabilitation therapy professional

1. INTRODUCTION

Team-Based Learning (TBL) is an active learning strategy that promotes student engagement, critical thinking, and collaborative skills through group cooperation, problem-solving, and application tasks. At the core of this model is organizing students into teams, where they collaborate on shared learning tasks to achieve more profound levels of understanding and knowledge application.

The implementation of the TBL model typically involves several key steps:

1.1 Individual Preparation: Students must read relevant learning materials before class and prepare to participate in class discussions and activities. This phase aims to ensure that students come to class prepared to engage in team learning activities effectively.

1.2 Team Cooperation: In the classroom, students are divided into small groups, each facing challenges and questions. Students must collaborate, discuss, and solve these problems to achieve shared learning objectives. This phase emphasizes student teamwork and interaction, fostering their collaborative skills and communication abilities.

1.3 Application Exercises: Building upon teamwork, students are tasked with applying their learned knowledge to solve real-world problems or complete a task. These exercises are designed to be specific and practical, allowing students to apply their knowledge to real-life situations and deepen their understanding and retention.

1.4 Review and Summary: Finally, before the end of the class, the instructor reviews and summarizes the key points and concepts of the lesson. This phase aims to reinforce students' learning outcomes and help them understand the course content clearly.

2. LITERATURE REVIEW

The design of the Team-Based Learning (TBL) model is based on several critical theoretical principles that help explain its effectiveness and why it is suitable for rehabilitation therapy education.

2.1 Social Constructivism: TBL draws on the principles of social constructivism, emphasizing that learning is a process of constructing knowledge through social interaction and collaboration. In TBL, students construct knowledge through group cooperation and discussion, facilitating their understanding and applying the learning content.

2.2 Adult Learning Theory: TBL aligns with the principles of adult learning theory, emphasizing learner autonomy and engagement. By enabling students to solve problems and apply knowledge in teams actively, TBL stimulates their interest in learning and enhances their motivation.

2.3 Collaborative Learning Theory: TBL emphasizes collaboration among students. Students work in groups to solve problems, promoting mutual learning through communication and discussion. This collaborative learning approach helps develop students' teamwork skills and communication abilities.

2.3 Cognitive Load Theory: TBL reduces cognitive load by structuring learning activities and tasks in stages, enabling students to understand better and apply knowledge. For example, breaking down learning tasks into group cooperation and application tasks can help students process complex learning content more effectively.

2.4 Motivational Theory: TBL stimulates student motivation by promoting self-directed learning and teamwork. Students collaborate in teams to solve problems, receiving immediate feedback and a sense of achievement, which enhances their positive attitude and confidence in learning.

3. APPLICATION OF THE TBL MODEL IN REHABILITATION THERAPY PROFESSIONAL EDUCATION

3.1 Analysis of the Advantages and Applicability of TBL Model in Rehabilitation Therapy Teaching

3.1.1 The TBL model emphasizes students' active participation and collaborative learning, which helps to stimulate students' learning motivation. In rehabilitation therapy, students need to possess rich knowledge and skills, and the TBL model, through practical tasks and group discussions, enables students to participate in learning more actively, enhancing their learning motivation.

3.1.2 The TBL model promotes students' in-depth learning and understanding. Through teamwork and applied tasks, students can understand theoretical knowledge and apply it to practical situations. This learning approach helps to deepen students' understanding of rehabilitation therapy principles and techniques, improving their professional level.

3.1.3 The TBL model cultivates students' teamwork and communication abilities. In group discussions and problem-solving, students must communicate effectively, collaborate, and resolve conflicts, improving their teamwork skills and enhancing interaction and cooperation among classmates.

3.1.4 The TBL model helps reduce instructors' teaching burden and improve classroom efficiency. Through pre-prepared learning materials and well-designed learning tasks, instructors can better manage classroom time and focus more on guiding students' learning and problem-solving during class.

3.2 Case Study Analysis: TBL Model Course Design in Rehabilitation Therapy for Herniated Disc

3.2.1 Individual Preparation Phase: Before class, students need to read relevant learning materials, which can cover knowledge about the causes, symptoms, diagnosis, and treatment methods of herniated discs. They should be prepared to participate in classroom discussions and activities, including reading literature on herniated discs, watching relevant videos, or listening to expert lectures.

3.2.2 Team Collaboration Phase: This is the core phase of TBL model teaching. In class, students are divided into groups, and each group faces an actual case or problem related to an athlete's physical training and incorrectly

weighted squats, leading to a herniated disc. Students must discuss and propose solutions to address the athlete's problem. In this process, students must demonstrate teamwork spirit, mutually inspire each other, and engage in intellectual clashes. Subsequently, students must develop a comprehensive rehabilitation plan and simulate the rehabilitation process, honing their clinical thinking and practical operational skills.

3.2.3 Applied Task Phase: Building on the team collaboration, students must develop a rehabilitation plan for herniated discs and simulate the actual rehabilitation process. They need to consider the athlete's condition, non-surgical treatment methods, and rehabilitation plan and make appropriate decisions.

3.2.4 Review and Summary Phase: The instructor summarizes and reviews the student's work, emphasizing the course's key points and critical concepts. Students also have the opportunity to share their perspectives and experiences, thereby deepening their understanding of herniated disc rehabilitation therapy. The instructor needs to summarise and evaluate the student's learning outcomes comprehensively and emphasize the key points and difficulties of the course. At the same time, students can freely express themselves, share their thoughts and experiences, learn from each other, and improve together.

4. CONCLUSION

4.1 Application of the TBL Teaching Model in Rehabilitation Therapy Education

Applying the TBL teaching model in rehabilitation therapy education can achieve multiple positive effects. Firstly, it helps to enhance students' learning enthusiasm. The TBL model requires students to actively learn, prepare pre-class materials, and engage in group discussions to inspire and explore. This helps to stimulate students' learning enthusiasm and cultivate the habit of active learning. Secondly, the TBL teaching model's group discussions and case analyses are conducive to cultivating students' clinical thinking, problem analysis, and problem-solving abilities, which are particularly important for rehabilitation therapy professionals who emphasize clinical practice. Rehabilitation therapy requires close collaboration among multidisciplinary teams, and group learning in TBL classrooms helps to cultivate students' teamwork awareness and communication skills. Under the TBL model, the role of the teacher has also changed. Teachers are not just knowledge transmitters but organizers and guides of the learning process. Teachers must carefully design teaching content, integrate knowledge points into relatively complete learning units, help students form a systematic knowledge structure, and inspire and encourage active thinking among students while creating an excellent interactive atmosphere in the classroom.

The entire teaching process combines theory and practices closely, highlighting the characteristics of the TBL model, which is conducive to students comprehensively mastering the knowledge and skills of rehabilitation therapy for disc herniation, and achieving the expected teaching goals.

5. RECOMMENDATIONS

5.1 Teacher Training and Support: Teachers need professional training and support to promote the practical application of the TBL model in rehabilitation therapy education. This training should include the theoretical foundations of TBL, teaching methods, and case applications to enhance teachers' understanding and mastery of the TBL model. Additionally, ongoing support and guidance mechanisms should assist teachers in teaching practices, facilitating continuous improvement and innovation in teaching methods.

5.2 Development of Teaching Resources: Effective application of the TBL model requires developing diverse teaching resources. This includes creating case resources, teaching videos, simulated patient operations, and providing online learning platforms and communities to offer convenient learning channels and resource-sharing platforms for students. Enriching teaching resources can enhance classroom content, improving students' learning experiences and outcomes.

5.3 Interdisciplinary Collaboration and Communication: Promoting the application of the TBL model in rehabilitation therapy education also requires strengthening interdisciplinary collaboration and communication. Rehabilitation therapy involves multiple disciplines, including medicine, psychology, and rehabilitation sciences. Therefore, it is necessary to establish close collaborative relationships with other relevant disciplines to explore strategies and methods for applying the TBL model in rehabilitation therapy education. Through interdisciplinary collaboration, the strengths of each discipline can be fully utilized to enhance teaching quality.

5.4 Continuous Evaluation and Improvement: Promoting the application of the TBL model in rehabilitation therapy education requires continuous evaluation and improvement. Regular assessments of the effectiveness of the TBL model should be conducted during the teaching process to understand its effects and identify any issues. Based on the evaluation results, timely adjustments and improvements should be made to teaching methods and content to continuously enhance the effectiveness and quality of the TBL model's application.

6. OUTLOOK FOR FUTURE RESEARCH DIRECTIONS

6.1 In-depth Exploration of the Application Effectiveness of the TBL Model: Further research is needed to explore the practical application effectiveness of the TBL model in rehabilitation therapy education. This includes examining its impact on students' learning interests, practical abilities, and overall competencies and conducting comparative analyses with traditional teaching methods to provide more substantial evidence for educational reform and optimization.

6.2 Expansion of Interdisciplinary Collaboration Research: Strengthening collaboration with other relevant disciplines such as medicine, psychology, and rehabilitation engineering to explore interdisciplinary, integrated teaching models and methods, providing a more comprehensive and diversified perspective for rehabilitation therapy education.

6.3 Exploration of Novel Teaching Technology Applications: Combining modern educational technologies such as virtual and augmented reality to design innovative teaching plans that enhance students' learning experiences and outcomes while conducting practical research on applying new technologies in rehabilitation therapy education.

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