

The Effectiveness and Feasibility of Combining Bloom's Taxonomy Theory with PBL and TBL in Teaching Internal Medicine to MBBS Students

Sir,

As the internationalisation of medical education in China continues to deepen, the proportion of international students in medical schools is increasing year by year. China's Medical Bachelor's Degree Programme for International Students (MBBS) is an innovative medical education programme specifically designed for the international students.¹ This programme primarily consisting of students hailing from various countries like Pakistan, India, Nepal, and Vietnam, has garnered noteworthy backing from the Chinese Ministry of Education, thereby facilitating the training of doctors in Southeast Asia and enhancing the healthcare services in the surrounding regions. However, various factors influence the academic performance of MBBS students, including variations in learning capabilities and habits, cognitive and psychological states, cultural environments, social integration, disparities in educational systems, and language communication barriers.² Enhancing the quality of education and teaching for MBBS students is of utmost importance for cultivating high-quality international doctors. Internal medicine is a crucial component of clinical medicine education, and improving the teaching proficiency of internal medicine holds a pivotal role in enhancing the quality of MBBS teaching.³

During the teaching process for MBBS, the author seamlessly integrated Bloom's Taxonomy Theory with problem-based learning (PBL) and team-based learning (TBL) approaches into the curriculum.^{4,5} This teaching reform has effectively facilitated students' comprehension and mastery of both theoretical and practical knowledge, while also significantly enhancing their self-learning capabilities, team collaboration skills, and knowledge flexibility.

Specifically, 65 international MBBS students were enrolled in the study, randomly assigned to either the intervention group (35 students) or the control group (30 students). The intervention group employed an innovative teaching approach, whereas the control group adhered to traditional lecture-based methods. Post-course, tests, and surveys were conducted to assess students' academic performances and teaching satisfaction.

A major limitation is that the study only encompassed 65 students due to the limited pool of MBBS students. Nevertheless, the author's findings are exceptionally encouraging. The refined teaching methods significantly boosted the intervention group's scores in multiple-choice questions, knowledge expansion,

conceptual inquiries, and case analysis. Moreover, they outperformed the control group in areas such as medical history collection, medical record writing, cardiopulmonary resuscitation, and electrocardiogram result interpretation. Students in the intervention group expressed greater satisfaction with the teaching activities, crediting the reform with enhancing their self-learning, teamwork, communication, and problem-solving abilities.

Therefore, the author deems it crucial to integrate Bloom's Taxonomy Theory, PBL, and TBL methodologies into the MBBS teaching reform with the aim of cultivating highly skilled doctors for Southeast Asia, particularly Pakistan as a representative. Importantly, this reform has undergone ethical scrutiny by the teaching department and was implemented with students' informed consent. Interested parties may contact the corresponding author for relevant documentation and research data.

FUNDING:

This work was supported by the Project of the National Natural Science Foundation of China (No. 82160269; No. 82360275), the Project of the Yunnan Province Science and Technology Foundation (No. 202301AY070001-020), and the Project of the Yunnan Provincial Department of Education (2023Y0640).

PARTICIPANTS' CONSENT:

An informed consent was taken from the students involved in the study.

COMPETING INTEREST:

The authors declared no conflict of interest.

AUTHORS' CONTRIBUTION:

WW: Drafting, revision, and editing process of the manuscript. BY: Questionnaire survey; data collection, analysis, and interpretation.

BT: Questionnaire survey and data collection.

All authors approved the final version of the manuscript to be published.

REFERENCES

1. Liang Y, Zhang J, Maxwell A, Kan C, Hou N, Sun X, *et al.* Online education plight and countermeasures for MBBS in Chinese regional medical schools based on the OBE concept during COVID-19 pandemic. *Front Public Health* 2021; **9**:806-9. doi: 10.3389/fpubh.2021.806809.
2. Maharjan S, Pandey A. Experience sharing: Final year MBBS journey. *JNMA J Nepal Med Assoc* 2021; **59(236)**: 425-8. doi: 10.31729/jnma.6363.
3. Zhong J, Li Z, Hu X, Wang L, Chen Y. Effectiveness comparison between blended learning of histology practical in flipped physical classrooms and flipped virtual classrooms for MBBS students. *BMC Med Educ* 2022; **22(1)**:795. doi: 10.1186/s12909-022-03740-w.
4. Sibbald RG, Hastings-Truelove A, DeJong P, Ayello EA. Reconciliation and diversity for educators: The medicine wheel, bloom's taxonomy, and CanMEDS competencies.

Adv Skin Wound Care 2023; **36(2)**:64-6. doi: 10.1097/01.ASW.0000904468.33764.0a.

5. Nawabi S, Javed MQ, Bilal R. Problem-based learning and team-based learning as a novel package approach. *J Coll Physicians Surg Pak* 2021; **31(6)**:710-5. doi: 10.29271/jcsp.2021.06.710.

Wang Weiwei¹, Bai Yuncheng² and Bao Tianhao³

¹Department of Geriatrics, Second Affiliated Hospital of Kunming Medical University, Kunming, China

²Faculty of Medical Sciences, Kunming University of Science

and Technology, Kunming, China

³Department of Science and Education, Mental Health Centre Affiliated to Kunming Medical University, Kunming, China

.....
Correspondence to: Dr. Bao Tianhao, Department of Science and Education, Mental Health Centre Affiliated to Kunming Medical University, Kunming, China
E-mail: doctor_b@whu.edu.cn

.....
Received: January 13, 2024; Revised: May 11, 2024;

Accepted: May 27, 2024

DOI: <https://doi.org/10.29271/jcsp.2024.08.1002>

• • • • •