CHINESE TEACHERS' VIEWS ON THE DIFFICULTIES OF IMPLEMENTING PROBLEM-BASED LEARNING IN CHINESE MATHEMATICS CLASSROOMS

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Chinese students had high achievement in mathematics assessment, but low attitudes and confidence toward mathematics (Mullis et al., 2020). Moreover, Chinese students' collaborative problem solving were found to be below average in PISA 2015 (OECD, 2017). These issues might be attributed to Chinese dominant use of conventional teaching (CT), which is a teacher-centred pedagogy focused on information purveying and discipline that may inhibit students' learning interest and creative thinking skills (McCarthy & Anderson, 2000). Problem-based learning (PBL), a group-cooperative, student-centred approach whose effectiveness on students' mathematical interests and collaboration skills has been suggested by many researchers might be a potential solution for addressing this issue. Thus, drawing on a case study and focus groups with six teachers from three Chinese secondary schools, this study used thematic analysis to investigate Chinese teachers' perspectives regarding the challenges of implementing PBL in Chinese mathematics classrooms.

The findings revealed that China's centralised, high-stakes examinations limit teachers' pedagogical choices from frequently conducting PBL, a form of pedagogy that teachers perceived to be more time-consuming than CT. All participants disclosed that adopting PBL would increase teachers' stress levels because it sets higher standards for teachers in curriculum design and class management. Moreover, all participants had concerns about the adaptability of low achievers to PBL, and considered PBL to favour high achievers who possess more autonomy and time-management capabilities, and thus can explore material more deeply through PBL. This study also found that, for the sake of ranking and admissions rates, those top-tier schools might not be willing to take the risk of thoroughly changing their pedagogy to PBL, but rather consider PBL to be a backup plan instead of the best possible choice of pedagogy. This implies that PBL might have a larger market among those schools ranked in the lower tiers because such schools have less to lose compared to the top-tier schools.

References

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