COLLABORATIVE LEARNING PRACTICES OF STUDENTS THROUGH SYNCHRONOUS ONLINE LEARNING ENVIRONMENT

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Recent reports revealed that while individual learning skills are respectively satisfied, collaborative learning skills are not effectively encouraged during pandemics (Lee, 2021). Several video conferencing applications developed artifacts such as breakout rooms to facilitate collaborative learning and peer-to-peer interaction. Online learning was reported more frequently on college and university levels, while documentation of online learning in elementary level was not adequately reported (Edwards, 2012).

This study investigates a collaborative learning environment and lower secondary level students' practices through online synchronous mathematics courses. This work adds value to the existing literature on the online collaborative learning environment for elementary mathematics courses with all benefits and limitations. This practitioner-led study seeks to address the research questions: What are the characteristics of a collaborative learning environment through online synchronous mathematics courses? What are the students' collaborative learning practices through online synchronous mathematics courses? Participants consisted of 15 seventh-grade students, and the data were gathered from online sessions, Students Attitudes Group Environment Questionnaire (SAGE), Collaborative Study Self-Evaluation Protocol. This study was conducted in 16 lesson-hour for eight weeks. The educational design research method was the guide to inform the teaching and learning process as well as data collection and data analysis processes. Four issues emerged during the study: the warming-up process of the students, students' collaborative actions under small group and whole-class discussions, teachers' and students' supportive practices for mathematical reasoning, and technical issues. The number of institutions that seem to offer online instruction continues to grow, as does the number of students desiring non-traditional delivery methods of teaching. Therefore, this study may contribute to the field to design effective instructional tools for collaborative learning.

References

Edwards, C. (2012). Online learning: A middle school mathematics perspective. *Mathematics Teaching in the Middle School, 18*(4), 244-247. https://www.jstor.org/stable/10.5951/mathteacmiddscho.18.4.0244.

Lee, H. (2021). The rise and challenges of postpandemic online education. *IEEE Engineering Management Review, 49*(4), 54-58. https://doi.org/10.1109/EMR.2021.3105195.

2022. In C. Fernández, S. Llinares, A. Gutiérrez, & N. Planas (Eds.), *Proceedings of the 45th Conference of the International Group for the Psychology of Mathematics Education* (Vol. 4, p. 297). PME.