Wu Si. (2024). Effect of Blended Learning Combined with Micro Course on Mathematical Reasoning Ability of University Students. Master of Education (Curriculum and Instruction). Advisors: Assoc. Prof. Dr. Suwana Juithong, Dr. Wassapron Jirojphan

ABSTRACT

This experimental research aimed to 1) compare mathematical reasoning ability of the students before and after learning through blended learning combined with micro course, 2) compare mathematical reasoning ability of the students after learning through blended learning combined with micro course with the determined criteria set 70%, and 3) assess the student's satisfaction with blended learning combined with micro course. The sample in this study was a class of 30 freshmen students majoring in Economics and Management at a university in Hainan, the People's Republic of China, which was derived from cluster random sampling method. The research instruments were 1) seven lesson plans using blended learning with micro course, 2) a mathematical reasoning ability test with .77 of reliability, 3) student satisfaction questionnaire with the .70 of reliability of student satisfaction. After collecting and organizing experimental data, software for data analysis was used. The statistics used for data analysis were mean, standard deviation, t-test for one sample, and t-test for dependent samples.

The results showed that 1) the mathematics reasoning ability test scores of the students after learning through blended learning combined with micro course (M = 23.20, SD =4.24) were higher than before learning (M = 18.20, SD =4.11) at a statistically significant level of .05, 2) the mathematics reasoning ability test scores of the students after learning through blended learning combined with micro course (M= 23.20, SD = 4.24) were higher than determined criterion of 70% at a statistical significance level of .05, and 3) after learning through blended learning combined with micro course, students' satisfaction was at a high level (M = 4.04, SD = .78).

The knowledge gained from this research is utilizing blended learning combined with micro course which consists of 3 stages and 7 steps of teaching. It can effectively improve mathematics reasoning ability test scores of the students. Moreover, it stimulates students' interest in learning, develops students' independent learning ability, and meets their personalized learning needs. It is a new trend in the future of education.

Keywords: Blended Learning, Micro Course, Mathematics Reasoning Abilities