

Teaching Materials Based on Ethnomathematics: Lesson Exemplar and Localized Video Lesson

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Abstract

Students must understand that mathematics is more than just computation because math is everywhere and in our real life. This study enabled Mathematics teachers in designing teaching materials based on Ethnomathematics which would engage the students and encourage them to achieve a high level of understanding in mathematics. As we know “Ethnomathematics expresses the relationship between culture and mathematics”(D’Ambrosio, 2011). This study aimed to: 1.) utilize a framework that can be used in designing culture-based teaching materials, 2.) determine the teaching materials that can be designed by Mathematics Teachers applying Ethnomathematics; 3) find the effects of the teaching materials in the performance of the selected Grade 10 students at this point in time of pandemic; 4) determine if there is a significant difference between the mean scores of the pretest and posttest administered to selected 32 Grade 10 students. This study was descriptive research; utilized a mixed-method approach and purposive sampling. Program on Ethnomathematics Awareness was implemented. Pre-test and Post Test were administered. Paired T-test was employed. Local cultural mapping was conducted, then, an intangible and tangible cultural heritage matrix aligned with the MELCs was designed. Culture-based lesson exemplars and localized pre-recorded video lessons based on Ethnomathematics were produced by the Mathematics teachers. Based on the findings there is a significant difference between the mean scores of pretests and posttests with the p-value of 0.00001 which is less than 5% level of significance. A teaching material based on Ethnomathematics can be designed and produced by using a framework that served as a guide. After investigation, there is a positive effect on the mathematical performance of the Grade 10 students. In the field of Mathematics, in order to produce enriched teaching materials, teachers must be aware of the concepts of Ethnomathematics.

Keywords: Mathematics, Ethnomathematics, Culture-based Instructional Materials, Philippines