

An Ethnomathematics study: Preschool caregivers incorporate multicultural perspectives into the mathematics curriculum with Truku Culture Traditions

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The purpose of this study was to explore the perceptions of those of the caregivers regarding the concepts of ethnomathematics which was conceived as a cultural product and developed as a result of various activities from a Truku communal preschool at aboriginal inhabited area in Taiwan. Since 2016, the Truku communal preschool caregivers have tried to integrate mathematics with the study of cultural tradition of Truku. Transforming school-based and culturally-based mathematics curriculum with setting up learning areas of art and cognitive in the classroom. There were impediments to incorporate multicultural perspectives into the mathematics curriculum, include lack of materials and inadequate teacher training.

The research data were collected by records of classroom observations, open-ended interview, regular teaching seminars, mentoring meetings, caregivers' reflective journals, and field notes during the two years of guidance project of the Ministry of education through the principles of ethnography. Base on the literature review and qualitative data, the study obtained the following conclusions: (1) as an interesting human activity, mathematics is very entrenched in culture and can be intellectual diversity in curricula and pedagogy. (2) By incorporating hands-on activities and applications in art and cognitive areas, mathematics becomes meaningful to the young children of Truku. (3) The curriculum of ethnomathematics, such as weaving, planting, or beading of Truku, has improved preschool students inadequate skills in counting, locating, measuring, playing games, designing, and explaining. (4) the implementation of an ethnomathematical perspective in preschool mathematics curriculum not only helps young children to develop their intellectual, social, emotional learning by using unique Truku cultural referents to impart their knowledge, skills, and attitudes.

Ultimately, this research hopes to demonstrate the importance of ethnomathematic approach in the preschool. It has provided preschool caregivers opportunities to incorporate multicultural perspectives into the mathematics curriculum with Truku culture traditions and has provided different ways for young children to maintain their identity while succeeding academically.

Key words: ethnomathematics, mathematics curriculum, preschool, Truku