

World Conference on Research in Teaching and Education

12 - 14 June 2026

Tokyo , Japan

Development Of Chemistry Board Game on Topic of Mole and Chemical Formular to Improve Conceptual Understanding of Grade 10th Student

Issara Wongsahassawat

Maharakham University, Thailand

Abstract

In recent years, games have been widely used in instructional activities as game-based learning. It was effective learning tool that improved many abilities of students such as conceptual understanding, problem solving, critical thinking and more. In addition, using board game in chemistry class was successful, it can provide engaging and alternative methods of instruction, help students understand concepts and make learning meaningful. This study aim to develop board game which use in chemistry class to improve student's conceptual understanding on topic of mole and chemical formulars, provides a description of the developed board game, which has been evaluated by experts including with expert from chemistry content, learning management and instructional media for its suitability for instructional use by using Likert's scale and has undergone interviews with 20 grade 10th students who participated in the gameplay. This board game is turn-base role-playing game with action card to complete the mission. The result of board game evaluation from experts had average in range 4.38-4.70 which mean this board game was very to the most suitable for learning management. Result from interviewing participants showed that this board game can make students more interested and enjoyable. Furthermore, this board game helps students gain knowledge from the lesson and improve conceptual understanding of the students from game's story and key concept card.

Keywords: Board game; Chemistry education; Conceptual understanding