

Effectiveness of board game and infographics on delivering Life Cycle Assessment (LCA) concepts among secondary school students

ABSTRACT

Environmental education is important as environmental issues addressed are caused by lack of attitude, awareness and knowledge on environment. It teaches people to explore all the problems related to the environment and engage in wise ways to preserve it. The environmental knowledge needs to be disseminated among society members and Life Cycle Assessment (LCA) concept is one of the core elements. LCA helps people to understand the potential environmental impact of product consumption in daily activities. The aim of this study is to assess the effectiveness of using board game and infographic in delivering the LCA concept among lower secondary students. The students are required to take several quizzes to evaluate their understanding on LCA based on the treatment given. This study is conducted using the Solomon four-group design to achieve the research objectives; (1) identifying significant difference between pre and post-test of the two methods, and (2) identifying significant difference between the two methods itself in helping the students to learn LCA. The statistical analysis reported that there is a significant difference in levels of LCA knowledge among students before and after they were exposed to LCA ($t= 3.806$, $df= 39$, $p < .05$). However, there were no significant differences on levels of LCA knowledge between the board game and infographic method ($t= 1.593$, $df= 38$, $p > .05$). The structure of the board game and infographic provides necessary component to develop the foundation of LCA knowledge for students while they enjoy the game.