A framework for assessing the effectiveness of robotic game module on conceptual understanding and earthquake readiness among school students

ABSTRACT

The risk of earthquake disasters has caused many countries to conduct studies to develop a common strategy to deal with the disaster in order to save lives and property. It is important for all parties to be better prepared for future hazards, learning from past events which must be identified, shared and applied. This situation shows that there is a need for an earthquake education, especially for school students because they are a group that is very vulnerable to the risk of earthquake disasters at school. In this context, a deep understanding of earthquakes and readiness is an important element in the context of earthquake education. Therefore, various strategies, approaches and methods have been proposed based on 21st century technology. Learning methods based on robot games are among the methods that are able to teach students about earthquakes more effectively. Thus, this article aims to presents a conceptual framework for evaluating the effectiveness of a robotic game module on conceptual understanding and earthquake readiness among school students, based on a comprehensive review of relevant literature and theories. This study indicate that students' understanding of earthquakes and their readiness are less than satisfactory. Hence, this study is further to fill the research gaps and add a new field of knowledge through the formation of the conceptual framework in order to teach and help in preparing students that is earthquake literate