Two Types of Cues Accompanying Three-Dimensional Images (Textual - Visual) in the Augmented Reality Environment and Their Impact on the Achievement and Cognitive Load among Students of Educational Technology.

Abstract:

The present study aims to determine the most appropriate pattern of cues that are associated with three-dimensional images (textual and visual) in the environment of augmented reality for students of educational technology to develop academic achievement and reduce cognitive load. The study was applied on a sample of 160 students (males and females) in the Faculty of Specific Education. The participants were divided into two experimental groups: the first group studied with textual; cues accompanying three-dimensional images that appear in the content, and the second group studied with visual cues accompanying three-dimensional images that appear in the content. The research tools were an achievement test and a scale of cognitive load. The results showed the effectiveness of the augmented reality environment based on three-dimensional images that are accompanied by textual and visual cues in developing cognitive achievement. Accordingly, the augmented reality environment based on three-dimensional images that are accompanied by textual cues is more effective in developing achievement. The results also showed the effectiveness of the augmented reality environment based on three-dimension images with textual and visual cues in reducing cognitive load.

Keywords: Clues - three-dimensional images - augmented reality environment - academic achievement - cognitive load, educational technology.