

4 - Digital Resources for Science Teaching and Learning | Empirical

SP - (16186) - CLASSIFYING AUGMENTED REALITY APPLICATIONS FOR SCIENCE TEACHING ACCORDING TO LEARNING EFFECTS

Valerie Czok (Germany)¹; Holger Weitzel (Germany)¹

1 - Pädagogische Hochschule Weingarten

Short Abstract

The use of new technologies in teaching, such as Augmented Reality (AR), aims to redesign the learning process by fostering interaction and enhancing engagement of the learner. Although AR has been around for several years and has shown great potential in teaching from the start, the implementation of such technology in science education is a fairly new approach. Learning effects, such as academic achievement or motivation, have not often been scientifically evaluated or measured in correlation to the respective Augmented Reality Applications (AR-app) setup. To date, there is no scientific agreement on valid design- and development-patterns for effective AR-apps used for teaching and learning science topics. This study will investigate the design and setup of state-of-the-art AR-apps used in science education with reference to measured learning effects. The aim of this study is to be able to cluster these classified science education AR-apps according to their respective domain-specific content or learning effects. These findings will be the groundwork for future development of a Biology AR-app to be tested with prospective Biology teachers.