



Journal

International Journal of Inclusive Education >

Volume 21, 2017 - Issue 1

228 0

Views

0

CrossRef citations to date

Altmetric

Articles

Perceived advantages of 3D lessons in constructive learning for South African student teachers encountering learning barriers

Thelma de Jager

Pages 90-102 | Received 09 Nov 2015, Accepted 31 Mar 2016, Published online: 17 May 2016

Download citation

<https://doi.org/10.1080/13603116.2016.1184329>

Full Article

Figures & data

References

Citations

Metrics

Reprints & Permissions

Get access

ABSTRACT

Research shows that three-dimensional (3D)-animated lessons can contribute to student teachers' effective learning and comprehension, regardless of the learning barriers they experience. Student teachers majoring in the subject Life Sciences in General Subject Didactics viewed 3D images of the heart during lectures. The 3D images employed in the lessons enabled student teachers to interact and perform longitudinal and cross-sections of the 3D images in order to enhance their understanding of difficult concepts. In this study, quantitative and qualitative approaches were employed. Selected participants ($n = 26$) were interviewed and requested to indicate the advantages of 3D lessons for effective learning. These advantages were grouped according to the universal design for learning model, and

then listed in a questionnaire that was completed by all participants ($n = 88$). The results indicated that 3D animations improved their understanding of concepts regardless of the learning barriers they encountered. They also agreed that their attention span improved, they were more interested in the topic, developed a deeper understanding of the content, were actively involved in the lesson and tended to ask more complex questions.

KEYWORDS: 3D, abstract concepts, attention span, images, learning barriers, student teachers, technology

Additional information

Notes on contributor

Thelma de Jager is a Didactic lecturer in the Faculty of Humanities at the School of Education of Tshwane University of Technology, Pretoria, South Africa. For more than 30 years, she has been involved in basic education, higher education, inclusive education and research. She is currently training student teachers and focus on inclusive and quality education to address the multicultural needs of South African students.

