The effect of augmented reality assisted geometry instruction on students’ achievement and attitudes.


Summary: In this study, geometry instruction’s academic success for the students and their attitudes towards mathematics which is supported by education materials of Augmented Reality (AR) and its effect on the acceptance of AR and its usage by teachers and students have been researched. Under this research, ARGE3D software has been developed by using augmented reality technology as for the issue of geometric objects that is contained in the mathematics curriculum of 6th class of primary education. It has been provided with this software that three-dimensional static drawings can be displayed in a dynamic and interactive way. The research was conducted in two different schools by an experiment and control group. In the process of data collection, Geometry Achievement Test (GAT), Geometric Reasoning Test (GRT), Attitudes Scale for Mathematics (ASM), students’ math lecture notes, semi-structured interviews with teachers and students and observation and video recordings were used. Results showed that geometry instruction with ARGE3D increased students’ academic success. In addition, it was found that geometry instruction with ARGE3D became more effective on students’ attitudes that had negative attitudes towards mathematics and it also provided support to reduce fear and anxiety.

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Keywords: augmented reality; mathematics teaching; geometry teaching; attitude; achievement