The Impact of Augmented Reality（AR）on Primary and Secondary Students' Learning Effects: A Meta-analysis

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ABSTRACT

Research on the application of augmented reality (AR) technology to teaching and learning activities in primary and secondary schools has been increasing in recent years, both domestically and internationally, but numerous studies are mixed on the pedagogical effectiveness of AR technology applied to primary and secondary school curricula. The study searched and screened 59 relevant domestic and international literatures between 2010 and 2021, and finally included data from 83 studies, including a total of 4123 samples. The results found that (1) the overall effect size of AR technology on the teaching effectiveness of primary and secondary school students was 0.598, which had a positive contribution; (2) the level of impact of AR technology on the affective level of primary and secondary school students was higher than the level of impact on the cognitive level; (3) in the process of learning with AR-assisted resources for primary and secondary school students, different school levels, teaching methods ,and resource types did not produce significant differences, and the differences in teaching outcomes are only manifested in the different subject content.

Keywords: Augmented Reality (AR); Learning Effects; Meta-analysis; Primary and Secondary.