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Human Factors in Education using Virtual and Augmented Reality

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Last year seemed to be the first year of virtual reality. Due to various entertainment contents such as Pokemon-Go, many people became familiar with virtual reality and augmented reality. After new technologies are emerged, it will apply to various fields soon. Likewise, there are some attempts to introduce new technologies into the field of education. In Korea, digital textbooks will be introduced to primary and secondary schools from 2018. The utilization of realistic contents linked with digital textbooks is expected to increase. Virtual reality or augmented reality technology can give overwhelming immersion and real feeling to users, so it will be more useful when used for education. In some countries, they are using virtual reality technologies for STEM education. However, uncertainty still exists. Is VR safe for kids? Could students use Head-mounted-display(HMD) which is not designed for them? How will the use of new technology affect students physically and emotionally? How many minutes should I limit the usage time? Here, I will describe human factors that will use AR or VR technology in education. I will exclude various devices such as See-closed device, See-Through device, and AR book from the scope and centered on the area that can be solved in software and contents field. For instance, users must read the manuals of each device before use and comply with the use of age. Producers and designers of contents could refer to the standardization trends and display the warning messages about the age of use of contents, selectivity, violence, etc.

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