Using augmented and virtual reality techniques in interior design to develop children's skills

Dr. Amira El Sayed Abdel Azim El Sayed

Lecturer of Interior Design and Furniture- Faculty of Applied Arts – October 6 University, Eng.amera.elsayed@gmail.com

Abstract:

Augmented reality (AR) and virtual reality (VR) are seen as some of the most world-changing technologies of the twenty-first century. Augmented reality is an enhanced interactive version of the real-world environment that is achieved through digital visual elements, sounds and other sensory stimuli via stereoscopic imaging technology. Augmented reality includes three features: a combination of digital and physical worlds, real-time interactions, and accurate three-dimensional identification of virtual and real objects. Virtual reality (VR) also means an immersive computer simulation system. This type of system is often referred to as three-dimensional interactive graphics. Advanced virtual reality systems include special devices such as wearable computers, virtual reality rooms, and touch devices. This new era of augmented reality and virtual reality brings new issues to consider, not only from a scientific point of view but also from a societal, cultural and educational impact aspect. The use of AR/VR technologies has improved children's education and skills development, to develop their educational, social and cognitive abilities.

Therefore, this new technology (augmented reality, virtual reality) can be used in the field of interior design in many ways, allowing the child a direct interactive experience that helps him to perceive the real physical world, and enhance skills learning more effectively. This can be done by integrating and enhancing this technology in the design process of internal spaces related to the education and development of children's skills, including (children's museums and exhibitions - exploratory centers - educational studios to develop children's abilities and skills ....). A child can immerse themselves in complete experiences and be exposed to a whole new way of learning and developing skills. Hence the research problem: How to integrate augmented reality and virtual reality technology in interior design design to achieve an interactive environment capable of developing children's skills? The research also aims to: deduce the role of technology (augmented reality - virtual reality) and integrate it into internal spaces to develop the child's skills in various fields (mental - motor - physical - social - emotional). The importance of research lies in paying attention to the developmental aspect of the child's skills and support. The research assumes: By integrating and leveraging augmented reality and virtual reality technology into the design process of indoor spaces, many of the child's abilities and skills can be enhanced and developed. Among the most important results of the research: 1- It is possible to develop indoor spaces for children by integrating advanced technologies (augmented reality - virtual reality) with the design process, which contributes to the development of children's skills.

2- Creating an enhanced or virtual environment in interior design through space determinants that achieve an interactive experience that helps and develops the abilities and skills of the child.

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