

Videos and Photography Applications Using Augmented and Virtual Reality Technologies in Acupuncture Training and Practice: A Review

Rania Abu Shanab,

Assistant-Professor - Department of Photography, Cinema and Television - Higher Institute of Applied Arts - New Cairo – Egypt, and Assistant Professor – Department of Film and TV production – Arts and design faculty – Egyptian Chinese University
Email: rshaban55@yahoo.com

Tamer Aboushanab

Physician- Ministry of Health- Cairo- Egypt, Email: tamermedicine@gmail.com

Abstract:

Study Background: Virtual Reality (VR) and Augmented Reality (AR) are transformative technologies that have revolutionized various fields, including education, medicine, and the arts.

Acupuncture is one of the ancient Traditional Chinese Medicine modalities. Acupuncture is practiced by stimulation of special points called (Acupoint) on the skin. One of the main skills of acupuncturist is locating these points correctly.

Problem: There is no previous reviews about the advancement of this technology and the characteristics of the videos and photography used.

Objectives: This review aims to provide an illustration of uses, types, and impact of uses of virtual and augmented reality in the field of acupuncture education. Additionally, it will provide recommendations about the use of virtual and augmented reality in the field of acupuncture education. This review tries to answer these questions: 1) What are the uses of augmented and virtual reality in acupuncture education and training? 2) What are the types and methods of augmented and virtual reality used in the field of acupuncture education? 3) The use of cameras, photography and videos in acupuncture education, training and practice, 4) What are the recommendations for future studies?

Significance: This review is giving an illustration about uses, types, and impact of using augmented and virtual reality in the field of acupuncture training. In addition, it provided characteristics about the use of cameras, photography and videos in these technologies. This is the first review according to the best of our knowledge in this field which aimed to provide recommendations and future direction to this field.

Methodology: This is a narrative review. All research types will be selected to be included in this review. PubMed, TRIP, and Cochrane Library databases were searched.

Results: Search retrieved 289 articles. After excluding duplicates, and applying inclusion/exclusion criteria, we finally included ten studies. The included studies were 80% in the field of augmented reality and 20% in the field of virtual reality. The applications were categorized into three domains: education, self-treatment, and diagnosis/training. Furthermore, the included projects were classified according to the use of camera, photography and videos.

Paper History:

Paper received February 18, 2024, Accepted May 07, 2024, Published on line July 1, 2025

Keywords:

Augmented reality, Virtual reality, Acupuncture, Education

References:

- 1- Al-Ansi AM, Jaboob M, Garad A, Al-Ansi A. Analyzing augmented reality (AR) and virtual reality (VR) recent development in education. *Social Sciences & Humanities Open*. 2023 Jan 1;8(1):100532.
- 2- Kavanagh, S., Luxton-Reilly, A., Wuensche, B., & Plimmer, B. (2017). A systematic review of virtual reality in education. *Topics in Educational Technology*, 10(4), 544-555.
- 3- Barsom, E. Z., Graafland, M., & Schijven, M. P. (2016). Systematic review on the effectiveness of augmented reality applications in medical training. *Surgical Endoscopy*, 30(10), 4174-4183.
- 4- Radianti, J., Majchrzak, T. A., Fromm, J., & Wohlgenannt, I. (2020). A systematic review of immersive virtual reality applications for higher education: Design elements, lessons learned, and research agenda. *Computers & Education*, 147, 103778.

- 5- Akçayır, M., & Akçayır, G. (2017). Advantages and challenges associated with augmented reality for education: A systematic review of the literature. *Educational Research Review*, 20, 1-11.
- 6- Matos LC, Machado JP, Monteiro FJ, Greten HJ. Understanding traditional Chinese medicine therapeutics: an overview of the basics and clinical applications. *InHealthcare* 2021 Mar 1 (Vol. 9, No. 3, p. 257). MDPI.
- 7- Zhang Y. Interpretation of acupoint location in traditional Chinese medicine teaching: Implications for acupuncture in research and clinical practice. *The Anatomical Record*. 2021 Nov;304(11):2372-80.
- 8- Chen YZ, Maigre C, Hu MC, Lan KC. Localization of acupoints using augmented reality. *InProceedings of the 8th ACM on Multimedia Systems Conference 2017 Jun 20* (pp. 239-241).
- 9- Gao H, Gao Y, Kan H, Chen GE. Research on Development and Design of Virtual Acupuncture Teaching Software Based on HTC VIVE. *In2019 4th International Conference on Mechanical, Control and Computer Engineering (ICMCCE) 2019 Oct 24* (pp. 660-6603). IEEE.
- 10- Kausar S, Multani MK, Zahoor B, Nazeer A. Augmented reality based self-treatment using acupressure. *In2017 13th International Conference on Emerging Technologies (ICET) 2017 Dec 27* (pp. 1-5). IEEE.
- 11- Zhang M, Schulze JP, Zhang D. E-face atlas AR: extend atlas of facial acupuncture points with auricular maps in augmented reality for self-acupressure. *Virtual Reality*. 2022 Dec;26(4):1763-76.
- 12- Lan KC, Litscher G. Robot-controlled acupuncture—an innovative step towards modernization of the ancient traditional medical treatment method. *Medicines*. 2019 Aug 10;6(3):87.
- 13- Xiong J, Wang Y. [Retracted] Study on the Prescription of Acupuncture in the Treatment of Cervical Spondylotic Radiculopathy Based on Computer Vision Image Analysis. *Contrast Media & Molecular Imaging*. 2022;2022(1):8121636.
- 14- Ng SC, Lui AK, Chan PY, Yu KY, Hung SK. Mobile Learning with Augmented Reality: A Case Study of Acupuncture Points. *Innovating Education in Technology-Supported Environments*. 2020:75-87.
- 15- Jiang H, Starkman J, Kuo CH, Huang MC. Acu glass: quantifying acupuncture therapy using Google Glass. *InProceedings of the 10th EAI international conference on body area networks 2015 Sep 28* (pp. 7-10).
- 16- Su MT, Chiang ML, Tsai CH, Lin CW, Liu RX, Juang YT, Chen HH. An acupoint health care system with real-time acupoint localization and visualization in augmented reality. *Multimedia Systems*. 2023 Aug;29(4):2217-38.
- 17- Bao YF, Zhang ZH, Yu HY, Huo XN, Lu Y, Xu TC. Development of intelligent acupuncture applications and related technologies. *World Journal of Traditional Chinese Medicine*. 2023 Jan 1;9(1):21-8.

CITATION

Rania Abu Shanab, Tamer Aboushanab (2025), Videos and Photography Applications Using Augmented and Virtual Reality Technologies in Acupuncture Training and Practice: A Review, *International Design Journal*, Vol. 15 No. 4, (July 2025) pp 31-37