conferenceseries.com

International Conference on

Anatomy and Physiology

August 11-13, 2016 Birmingham, UK

Holography over powerpoint presentations in medical lectures: Is it time to set a new gold standard? A randomized controlled, single-blinded, non-inferiority trial

Kapil Sugand Imperial College London, UK

Purpose: Didactic medical lectures are unanimously delivered through PowerPoint presentations and have become the gold-standard in practice. To observe the impact of learning using augmented reality dynamic holography (ARDH) compared to gold standard static PowerPoint presentations in didactic lecturing.

Methods: A prospective single-blinded randomized controlled non-inferiority trial was conducted with a 100 national medical students randomly allocated to ARDH (n=50) or Powerpoint (n=50) cohorts. Primary outcomes were objective metrics by answering (i) 20 exam questions before and after each modality and (ii) correlating with validated tests on educational theory. Mean scores (SD; 95% CI) were calculated with significance set at p<0.05. Secondary outcomes were subjective metrics on educational impact by (i) answering a 10-point questionnaire on 7-point Likert scales and (ii) 5-minute semi-structured interview.

Results of objective testing: 30 (60%) participants completed SBAs in the ARDH group with a 19% improvement from a mean pretest score was 9.0 (2.6; 95% CI 8.1-9.9) to a mean post-test mean score of 12.8 (2.9; 95% CI 11.6-13.6). In the PowerPoint group, 42 (84%) participants completed the objective testing with an improvement of 16% from a mean pre-test score of 8.8 (3.3; 95% CI 7.7-9.8) to mean post-test score of 12.0 (3.5; 95% CI 11.0-13.1). All scores were significant (p-value<0.05).

Conclusion: Dynamic holography has been applied into didactic lecturing for the first time. ARDH was accepted by participants and wasnon-inferior to the gold standard PowerPoint lectures. ARDH has the added benefit of enhancing the learning experience and educational impact.

Biography

Kapil Sugand (PgCert HBE, BSc, MBBS, MRCS, AICSM) is a London surgical trainee, academic, author, educator, researcher, PhD candidate, entrepreneur, media personality and a philanthropist. He is the co-founder of the Holography-Assisted Medical Learning & E-Teaching (HAMLET) group which led the first augmented reality dynamic holographic lectures in the world. This was featured in international press including BBC News and Wired magazine. His paper on the advancements in anatomy education has been the most downloaded and cited paper of Anatomical Sciences Education since 2010. For all his achievements, his biography was featured in Marquis Who's Who in the World 2013 encyclopaedia.

kapil.sugand04@imperial.ac.uk

Notes: