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Game-Changer or Gimmick? Curious Case of Game-Based Learning in Anatomy Education

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While traditional instructional methods remain prevalent in education, innovative alternatives like game-based learning (GBL) and gamification offer fresh avenues for engagement. GBL involves integrating actual games—whether designed for serious purposes or entertainment—to facilitate the attainment of educational goals. In contrast, gamification applies game-like features, such as points or badges, within non-gaming environments. Within healthcare professional education (HPE), GBL is gaining traction as an inventive strategy that promotes interactive participation, boosts student involvement, and heightens motivation. Yet, due to its conceptual ambiguity, GBL often faces scepticism from conventional educators, who debate whether it represents a transformative tool or mere novelty. This session seeks to clarify this debate by first examining the core essence of games, what qualifies as one and what does not, and exploring the mechanisms through which gameplay drives learning, thereby underpinning GBL. We will then look into models like Garris' Input-Process-Output (IPO) framework to elucidate how elements of game design and deployment affect both educational results and user learning experiences, ultimately shaping the approach's effectiveness. Brief insights into assessing GBL will follow, accompanied by illustrations of analog games crafted specifically for educational use. Moreover, we will address viewpoints from various stakeholders on serious games, shedding light on obstacles for instructors, including limited time, disparities in digital skills, and resistance, while proposing a structured guide for adoption. By the conclusion, participants will acquire a comprehensive grasp of games' fundamental principles, key factors in their creation, recommendations for integrating GBL, and actionable methods for evaluating its outcomes.

Dr Arthur Lau Chin Haeng serves as a Lecturer in the Department of Anatomy at the Yong Loo Lin School of Medicine, National University of Singapore (NUS). Before joining NUS, he held the pioneering role of Surgical Anatomist at Touch Surgery in London, where he contributed to the creation of 3D anatomical models for surgical simulation platforms. He later earned his PhD from the University of Leeds, where his research, completed in January 2025, focused on the educational value of serious games in anatomy instruction. At NUS, Dr Lau has embraced gamification as a core teaching strategy, spearheading workshops on the design and development of analog games. He is currently leading the development of grant-funded prototype analog serious games tailored for dentistry and medical students. Additionally, he has created a virtual reality (VR) module on pelvis and perineum anatomy, offering a distinctive learning approach that sets it apart from existing commercial anatomy VR applications.