



## **Collaborative Digital Leadership in Health Education: Enhancing Anatomy Learning Through 3D Visualisation with Elsevier**

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### **Abstract**

The rapid transition to remote learning during the COVID-19 pandemic fundamentally altered anatomy and physiology education, a discipline reliant on spatial understanding and visual engagement. This study reports on a digital leadership initiative between Sheffield Hallam University and Elsevier aimed at enhancing student engagement, confidence, and accessibility through 3D visualisation and digitally supported assessment.

In response to student feedback highlighting limitations of static two-dimensional resources, a series of short, curriculum-aligned 3D animations focusing on the digestive, urinary, and reproductive systems was developed. Delivered via the Complete Anatomy platform, the resources were informed by Cognitive Load Theory and constructive alignment principles to promote clarity, inclusivity, and effective knowledge integration. The animations were embedded within teaching and assessment and shared across formal and informal learning environments.

Engagement analytics demonstrated substantial global reach, with a single animation achieving over 683,000 views on Instagram, 163,900 on TikTok, and 51,000 on YouTube. Student evaluation and qualitative feedback indicated enhanced conceptual understanding, increased confidence, reduced assessment anxiety, and improved emotional engagement with learning, particularly among returning and non-traditional learners.

These findings suggest that collaborative, pedagogically informed partnerships with educational publishers can enhance the student learning experience in health education and offer scalable, transferable approaches for digital innovation beyond emergency remote teaching.

### **Keywords**

3D visualisation, anatomy education, digital learning, student engagement, cognitive load theory

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