Tele-Immersion: Preferred Infrastructure for Anatomy Instruction

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UNDERSTANDING SPATIAL RELATIONSHIPS among anatomic structures is an essential skill for physicians. Traditional medical education—using books, lectures, physical models, and cadavers—may be insufficient for teaching complex anatomical relationships. This study was designed to measure whether teaching complex anatomy to medical students using immersive virtual reality is an improvement over traditional methods. Using a networked immersive virtual reality system, anatomy-teaching assistants gave 20-minute workshops to first-year medical students one day before or after a traditional three-hour lecture/laboratory session. Students who attended only the traditional session served as a comparison group. Improvements from pretest to posttests demonstrated a statistically significant advantage to the brief virtual reality session over the traditional session. Improvement for those who were exposed to both the traditional and immersive sessions was also statistically better than those exposed only to the traditional session. The application tested proved to be an effective enhancement to traditional surgical-anatomic educational curricula. (Keywords: medical informatics applications, information systems, models, anatomic, teaching materials, telecommunication, virtual reality, Tele-immersion)