



LECTURE ABSTRACT

“Anatomy Instructional Workflows: The Role of Plastination for Creating Extended Reality Online Learning Assets”

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An anatomy instructional workflow represents a systematic and effective process for converting face-to-face (F2F) to online learning activities which was necessary during the Covid pandemic. Workflows should consider acquisition of core competencies based on “patient types and clinical conditions that all students are expected to encounter” among others. A Willed Body Donation program provides a unique opportunity to achieve core competency since instructional experiences involving anatomical and pathologic learning objectives are based on the donor cohort from the local community. These workflows specify conversion of a portion of the gross laboratory to a sound stage studio for streaming dissection demonstrations as well as displaying 3D extended reality (XR) assets including illustrative and prosected models. Plastinations are conducive to photogrammetry for generating XR models that students download and manipulate. They are particularly useful for creating XR assets since plastinations can be easily handled during a live broadcast. During Covid, an anatomy workflow was used to develop a hybrid (blended) lab that accompanied an elective dissection laboratory experience at University of Hawaii. Online model accessions were recorded and compared (χ^2 , $p < .01$) to other educational resources. Student surveys showed that 92% of the medical students that electing to dissect preferred hybrid labs compared with other methods. Online models derived from plastinations were considered most/more preferred (54.3%) and received the highest number of accessions ($\mu = 250.7$, $p < .01$) compared to other assets suggesting a broader preference as a learning resource. These results suggest that plastinations are effective for generating XR models that engage students and serve as an integral component of an anatomy instructional workflow.

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