PAL™ 2.0 HUMAN ANATOMY SOFTWARE TOOL USE IN COMMUNITY COLLEGE TRADITIONAL AND ONLINE ANATOMY LABORATORY CLASSES: STUDENT-PERCEIVED LEARNING BENEFITS

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ABSTRACT

Human anatomy courses, with laboratory, are curricular requirements in graduate medical, undergraduate nursing, and all allied health science programs. Anatomy laboratory courses engage students in hands-on activities, including human cadaver or mammalian dissection, supported by photos from textbooks, detailed plastic models or human anatomical specimens, to understand three-dimensional (3D) spatial relationships. To increase 3D learning, instructors use sophisticated software, such as Practice Anatomy Laboratory or PAL™ 2.0 (Pearson Education, 2011), utilizing human cadaver photos, 3D images, and interactive assessments to master terminology and spatial anatomy. However, as anatomy instructional software has improved, measuring learning effectiveness from these programs has lagged behind. This study evaluates student human anatomical learning following use of the PAL™ 2.0 software in community college traditional face-to-face and hybrid online class anatomy laboratory classes. Learning effectiveness is measured using a valid and reliable quantitative instrument called the CAP (cognitive, affective, psychomotor) Perceived Learning Scale and an associated Attitudinal Survey. Study results indicate that students can effectively learn human anatomical spatial relationships with digital software tools, specifically using the PAL™ 2.0 software. This study determined that student-perceived learning was significantly greater in the online class environment and was specifically related to psychomotor learning—the learning related to science. The findings of this study have implications for future educational practice in the use of advanced digital software for learning in both traditional and distance education courses as instructors seek to find better methods to assist their students in developing skills in learning human anatomy.