Self-Efficacy and Learning Resource Selection in the Post-Pandemic Self-Regulated Learner: A Mixed Method Analysis

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Anatomy educators do not agree on a measure that reliably identifies students at risk for low performance. It has been proposed that learners with high self-efficacy achieve greater academic performance via an increased rate of cadaveric engagement (Burgoon et al., 2012). An earlier study found that “A” students spent a greater percentage of their study time learning from physical specimens (Magee et al., 2015). When traditional instruction was disrupted by the COVID-19 pandemic, high levels of online self-efficacy were correlated with high levels of self-regulated online learning (Ulfatun et al., 2021). As students returned to hands-on learning, they continued to have access to online resources, providing an opportunity to reevaluate the effect of resources on self-efficacy. This mixed-method study analyzed the association between students’ self-efficacy and resource preference in a gross anatomy course from a subset of students (N = 96) who participated in a series of experimental sessions to evaluate their anatomy learning. A thematic analysis (TA) was performed by two researchers on post-session interviews (n = 30). Using the first TA as a guide, a second TA (n = 83) of survey question responses was used to generate a framework that included resource preference, utilized learning strategies, and learning disruption adjustments as part of the interaction between self-efficacy and outcomes. A self-efficacy survey was completed at three points during the semester (Alpha = .84, .88, .91). Self-efficacy scores did not statistically change between periods. Low self-efficacy students showed no statistically significant changes in resource use, while high self-efficacy students used resources 4.9 hours more during week 8 vs. 14 (r = -.58, p < .001). In addition, high self-efficacy students used fewer resources during week 14 vs. 8 (d = .34, p = .002), focusing their time on their preferred resources (r = -.31, p = .026). Being 25% shorter than the first three units, unit four served as a disruption measure, during which low self-efficacy students’ lecture examination scores decreased by 9% (Test 3: M = .75, Test 4: M = .66, d = .52, p < .001), and their laboratory examination scores decreased by 15% (Test 3: .77, Test 4: M = d = .79, p < .001), while high self-efficacy students’ lecture test scores decreased by 3% (Test 3: M = .85,t 4: M = .82, d =, p = .012), and their laboratory test scores eased by 8% (Test 3: M = .84, Test 4: M =, d = .45, p < .0 At week 8, a positive linear relationship was seen between low self-efficacy students’ test scores and time spent the laboratory with a teaching assistant (Lecture Test: r = .50, p = .005; Laboratory Test= .47, p = .009) and high self-efficacy students without a teaching assistant (Lecture Test: r = .50, p = .005; Laboratory Test: r = .4 = .009). These findings suggest that when working with underperforming students, anatomy educators should consider the students’ self-efficacy and the effective use of cadaveric learning to support positive student outcomes.