

Attendance and Engagement as Predictors for Course Academic Performance in Undergraduate Sport and Exercise Science component biomechanics course

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Student attendance is often associated with better academic performance, although most research has focused on whole degree programmes rather than individual modules. Recent evidence also suggests that engagement with learning materials may be a stronger indicator of learning than attendance alone.

This study examined the relationship between attendance, engagement, and academic performance in a first-year Sport and Exercise Science module (Muscle and Biomechanics) involving 45 undergraduate students. Teaching was delivered through lectures (n=9), workshops (n=3), laboratories (n=2), and online LT Kuracloud sessions (n=2). Attendance was recorded electronically, while engagement with LT Kuracloud was measured through completion of online learning activities. Final test scores were compared with attendance and engagement measures.

No single attendance variable showed a markedly stronger relationship with performance than the others. However, when combined, attendance and engagement measures explained 29% of the variation in student performance. Engagement with the LT Kuracloud activities was the strongest individual predictor, accounting for 13% of grade variation, with higher engagement associated with better academic outcomes.

Principal Component Analysis further supported the importance of both attendance and engagement. Component 1 (Eigenvalue = 2.40), explaining 48% of the variance, was driven primarily by LT Kuracloud engagement (KC2 = 0.85) and laboratory attendance (0.80). Component 2 (Eigenvalue = 1.04), explaining a further 21% of the variance, was characterised by lecture attendance (0.93) and workshop attendance (0.80). Together, these components explained 69% of the total variance. Thus, students who engaged more with LT Kuracloud and attended labs tended to form one participation profile. Students who attended lectures and workshops tended to form another participation profile. Together, these participation patterns appear to contribute to academic performance.

Overall, the findings suggest that both attending classes and actively engaging with learning materials contribute to academic success, with online engagement and practical laboratory participation appearing particularly important in this module.