

FLIPPED CLASSROOM INCREASES STUDENT ENGAGEMENT, SATISFACTION AND SUCCESS

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The availability of online content combined with a more flexible learning environment, has led to a decline in class attendance among students (Menendez Alvarez-Hevia, 2021). This reduction in student attendance has been identified as a barrier to student engagement and achievement (Kim et al., 2020). The flipped classroom model, grounded in active learning pedagogy, increases student attendance and engagement with learning content (Deslauriers et al., 2011). In the flipped classroom, students prepare asynchronously by watching short videos, completing readings, and taking a pre-quiz to test understanding of content. Face-to-face time is then dedicated to problem-solving, synthesis, and collaborating with peers, allowing students to tackle difficult concepts with the support of educators and peers. Research suggests that students value the opportunity to problem-solve and peer-peer and student-educator interaction (McLean et al., 2016). Studies have further reported an increase in student performance comparing exam scores and final grades (Deslauriers et al., 2011; Eichler & Peeples, 2016). However, others indicate no measurable differences in exam or final grades suggesting that the benefits of the flipped classroom model may lie in enhanced engagement with academic content, educators, and peers, thereby strengthening lifelong learning (Adams et al., 2016)

The re-design of the second-year genetics and evolution curriculum from a traditional didactic model to a flipped classroom model has demonstrably improved student engagement and success. In place of bi-weekly lectures, students attend one of two non-compulsory flipped classes. Weekly student feedback through a pre-quiz associated with the online videos and readings is used to tailor the learning experience, allowing educators to close the feedback loop. This curriculum redesign has resulted in student satisfaction well above the university average and a decrease in the fail rate, whilst no increase in test scores were recorded. Significantly, there has been a sustained increase in attendance and participation in class, indicating that students value the face-to-face interaction and problem-solving opportunities provided by the flipped classroom.

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