

## **Transformation of a traditionally delivered exercise physiology theory curriculum into a contemporary model of blended learning that better supports student learning**

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Higher education institutions are increasingly promoting the provision of more flexible and blended learning as this allows students to be engaged in their learning at a time and place to suit individual needs. With more students attending university than ever before, and with much greater diversity in student cohorts and many having to work, it is essential that flexible curricula are provided for our students. The aim of our project was to transform a traditionally-delivered exercise physiology module presented *via* face-to-face lectures, into a contemporary model of blended learning. The traditional format was delivered from 2010-2013 and comprised 16 face-to-face lectures over 4-weeks with intended learning outcomes, lecture notes and Learning Management System (LMS) forums; student learning was assessed *via* an end-semester final exam. Using the constructivist approach, we transformed the traditional format into a 5-week blended content module that incorporated a more comprehensive range of elements to support learning: intended learning outcomes; a student module guide with instructions, suggested timelines, lecture notes; 27 teacher-recorded video clips; support animations and videos (not teacher-recorded); 26 optional practice quizzes for immediate feedback on learning; LMS forums; and optional face-to-face workshops (8 hours) designed to consolidate learning of concepts delivered in the online content and incorporating the use of a student response system (“clickers”). Student learning was assessed *via* an in-semester exam upon completion of the module. From 2014-7, 420 students experienced the contemporary curriculum in cohorts of 77-121. Student marks were significantly higher ( $P < 0.0001$ ) with the new blended content module ( $76.9 \pm 14.8$ , mean  $\pm$  SD) when compared to traditional delivery *via* face-to-face lectures ( $67.2 \pm 15.9$ ). Student feedback data (both qualitative and quantitative) are consistent with this finding, and indicate that students: (1) believe that a high level of learning was taking place, (2) were highly engaged in learning exercise physiology theory and (3) found it to be a stimulating and rewarding experience. In addition, student feedback data indicate that the enriched curriculum scaffold supported their learning and that the support elements we added enabled the model to support students with a range of preferences for learning. In conclusion, the contemporary exercise physiology curriculum better promoted student learning when compared to traditional format delivered *via* face-to-face lectures, and students were engaged in their learning and found it to be a positive experience. The blended learning model described in this study could be adopted and used across a range of disciplines where the shift from traditional to contemporary learning is taking place.