Innovative Teaching and Learning Project: "We just don't sit there—we participate, interact and learn, and we rarely get bored": That is a lectorial

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Introduction

Addressing the many changing learning needs, styles and readiness of students, along with changing environments and advances in technology, the "lectorial" as an educational method was introduced to first-year university students undertaking a science course in 2016 and 2017. It was deemed an innovative and radical development from the traditional classroom. Reported by de la Harpe and Prentice (2011) after an extensive study of their Royal Melbourne Institute of Technology students undertaking undergraduate courses, the lectorial featured the use of flexible multi-media learning spaces, an accessible online interactive platform that engaged students with the content before the face-to-face lectorial and an active and conducive large-class environment, which allowed for optimal engagement with content, peers and staff. Moreover, the lectorial was identified as a strategy to reduce boredom in classrooms, a universal experience of university students. It is different from a flipped classroom (Milman, 2012), in that the learner is exposed to the content outside the classroom and is able to identify and address areas of strength and weakness and engage in various activities involving authentic case scenarios.

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Our innovation

A modified version of the lectorial, underpinned by adult and inquiry-based learning, was trialled. It involved rich learning situations that commenced with conceptual-based pre-recorded lectures that were stimulating but short (7–15 minutes in length), followed by online self-driven preparation and formative online assessment before attending a faceto-face lectorial. It enabled students to identify areas they understood well and areas they had difficulty with. They generated questions they wished to have clarified and brought the knowledge and questions to the lectorial. Staff also received feedback about students' understanding of the topic via online activities and student emails. During the lectorial, authentic case scenarios were presented, and students explored pertinent concepts and problems in order to increase their understanding of science applied in the workplace. In addition to problem solving, other collaborative and interactive activities were used, such as mind mapping, simulation, completing tables and diagrams, group discussions, "Socrative" exercises (www.socrative.com) and games. There were ample opportunities for students to reflect, apply and internalise the content and link the learning to clinical/ workplace contexts. Simple case studies were used to apply the knowledge, especially in the areas of students' weaknesses, and resources and tools such as the internet, laptops, smartphones, and software (e.g., Socrative) were used. Figure 1 summarises the steps undertaken.

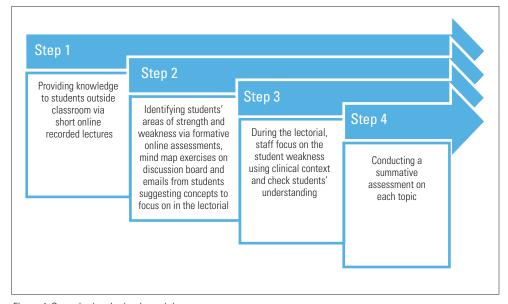


Figure 1. Steps in developing lectorials.

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Evaluation

The impacts of the lectorial were evaluated utilising a 20-item questionnaire administered at the conclusion of the course. The results were measured by Likert scores of students' experiences with the implementation of the lectorial (including learning experience, preference, relevancy and boredom level) as well as with closed- and open-ended questions. All enrolled students were invited to participate. Descriptive and frequency analyses followed. This initiative was approved by the University of South Australia Human Research Ethics Committee.

Outcomes

Student attendance varied widely, with 150 to 300 participants per lectorial. Of the 1,033 enrolled students over the 2 years, 392 responded to the survey (148 in 2016; 244 in 2017), a 38% response rate. Students found the pre-recorded lectures valuable for their learning and understanding. Contextualisation to professional practice was considered crucial and beneficial. Thus, 88.3% of survey responders were gratified with this teaching approach, and 93% endorsed this approach for future course offerings. Most (73.7%) would also like other courses to adopt the lectorial. However, these results were constrained by several limitations, including the lack of a control group and the modest response rate.

Most respondents (98.1%) "strongly agreed" or "agreed" that this educational method facilitated putting course content into context. Discussion of cases during the lectorial boosted students' interest by illustrating clinical relevancy of anatomy and physiology in the course (92.5% "strongly agreed" or "agreed"). The interactive nature of the lectorial resulted in reduced boredom compared with traditional lectures (see Figure 2).

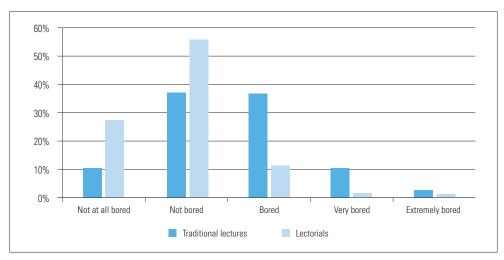


Figure 2. Students' descriptions of boredom experience.

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According to students, boredom was alleviated by various means, including "maintaining interest by a variety of methods and aids from puzzles, games, quizzes", "putting fun personal interactive spin into it", "more involvement and communication with peers", "content is easier to comprehend as it is related to real cases" and "more motivational as I can connect the theory". O'Hanlon's (1981) theory on boredom resonates with the result, linking arousal, mood and reduced boredom with cognitive performance. Some of the challenges in undertaking the lectorial included: demands on time and workload issues and the initial resistance from students about having to do work prior to the lectorial.

Conclusion

The results showed that students rated the lectorial highly, as it encouraged greater engagement with the content, peers and staff, provided multiple encounters with course content and feedback opportunities, facilitated active learning and highlighted clinical relevance. It also reduce boredom associated with study strategies, behaviours and motivation. Future directions include evaluation of the long-term impact of the lectorial and promotion of the approach with other staff. This innovation is sustainable, since the resources, including authentic scenarios, pre and post quizzes and case studies, would have been identified and developed and could be repeatedly used into the future.

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