Examining Interaction in STEM Web Broadcasts

This project is investigating the impact of web-broadcasts on learning. Web-broadcasts stream live content alongside interactive tools (widgets) to support the learning process and promote interaction between the presenters and viewers.

Interaction is crucial to maximise student learning. Empirical data suggest that synchronous methods add value to student learning through real-time discussion, instantaneous feedback and connectedness with others (Martin, Parker & Deale, 2012; Giesbers, Rienties, Tempelaar & Gijselaers, 2014), and can assist in the overall social aspect of learning (Witton, 2017). However, others (Hrastinski, 2008), point to the potential lack of reflection that synchronicity has on complex concepts. Nevertheless, an agreed consensus in the field is that collaborative learning activities and participation maximise learning opportunities and are more likely linked to student success. Therefore, this project hypothesizes that participation with synchronous technologies increases engagement and therefore enhances learning.

This project will investigate (i) the ways in which collaboration happens between students and presenters, (ii) the impact of synchronicity on learning tasks and (iii) the perceptions of stakeholders (i.e. students, lecturers, and production teams). Research design will include observations on teaching practice and technological logistics; surveys to measure attitudes; interaction data to analyse the target, frequency, and types of interaction; and trialing interventions to test procedures of instructional strategies.

The project contributes to the field of STEM distance education. Systematic evaluation will assess the effectiveness and lead to recommendations for improving web-broadcasts. The outcomes will: inform students on meaningful practice and future learning opportunities, help lecturers understand which instructional methods are more effective and provide insights for lecturers planning new modules and those producing/directing the broadcasts.

References

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