Innovation Case Study

Subject Level Learning Analytics

Dr Sakinah Alhadad, Project Leader Course Analytics, Learning Futures

CONTEXT

Effective university educators have always used evidence to inform their practice and optimise the learning of their students. However, as Griffith University courses and degrees are increasingly delivered in technology-enabled and online modes a new way of 'seeing' students and understanding how they are behaving, engaging and performing in their subjects must be developed.

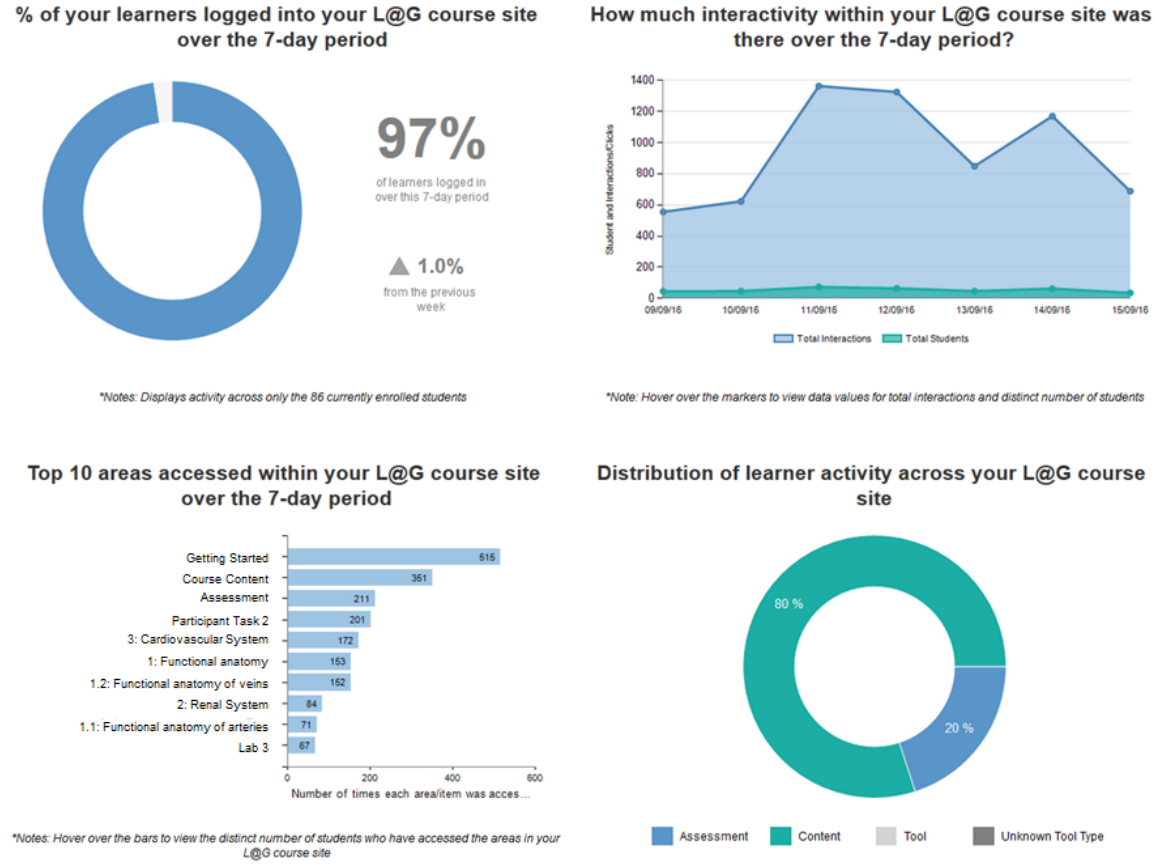
Griffith's goal with the subject analytics innovation is to equip our educators' with the capacity to understand and use digital data as a defining twenty-first century capability and fundamental to adaptive teaching and learning design in contemporary higher education.

DESCRIPTION

As a first step towards empowering Griffith educators, the university has customised Blackboard Analytics to suit its specific context and purpose through a systematic process of incorporating cognitive science and user evaluation and feedback, in the design and development process. This was a deliberate decision, as the out-of-the-box product did not meet the university's needs and strategic goals. An evaluation in the development phase revealed that subject convenors thought that the new dashboards were significantly easier to understand, and that they are more likely to use them in their subjects.

As this is the first implementation of analytics for learning and teaching at the subject level, the dashboards had been designed to allow the educators to focus on the main elements of their subject, data presentation designed to optimise cognitive load to help educators better facilitate their efforts to enhance subject design and student learning. One of the dashboards was specifically designed as a soft-adoption report for educators who may be less familiar or comfortable with using data and/or analytics to inform their learning and teaching strategies. Specifically, this report comprises snapshot data captured in weekly durations, and allows educators to flexibly assess data in 7-day blocks across the teaching period. Educators who may be more comfortable in using data can flexibly filter 'bigger data' into more manageable and meaningful 'small data' sets across their temporal contexts of interest within the teaching period. Course convenors may select any period of

interest across the lifecycle of a subject and examine data relevant to their questions of interest. Before the teaching period, they might examine data from previous subject offerings to inform the planning and re-design of their next subject offering, within the teaching period they can examine data related to a particular learning or assessment task or event and make adjustments during the teaching period to optimise student learning behaviour, or, at the end of a teaching period, analytics data can be used to complement other forms of feedback (e.g., student evaluations) to form a richer picture of the impact of a subject on student engagement and learning.

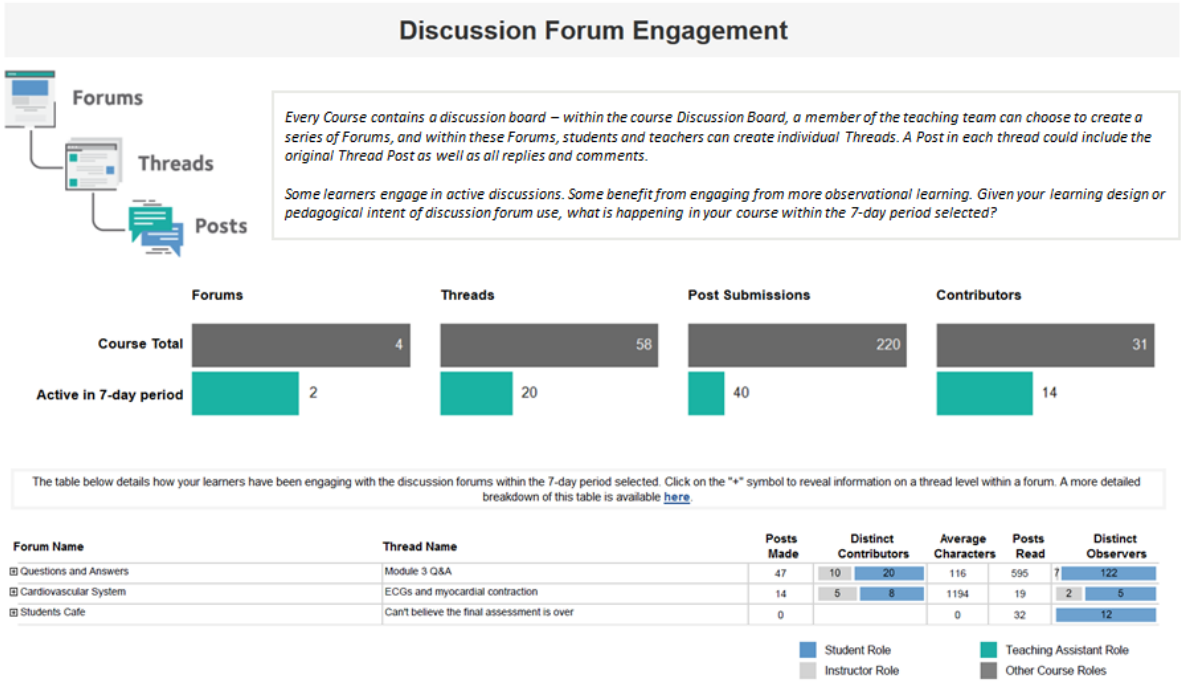


An example of course analytics dashboard, with at-a-glance view of weekly trends of learner engagement within a course site

IMPACT

Given the relative infancy of use of analytics in the learning and teaching context at the university, a deliberate effort has been made to align professional learning efforts in order to promote and support the development of educators' pedagogical data analytics literacy. Needless to say, data and analytics are not inherently intelligent in and of itself, and meaning that arise in using data is only possible through deliberate analysis and knowledge of the context in which the data is collected. Hence, the implementation strategy was focused on facilitating the educators' domain-specific expertise in meaning-making of data relative to their own subject, through the development and support their capacity to make data- and research evidence- supported inferences using analytics. In-context scaffolding was designed to trigger critical inquiry processes such as considerations of the validity of the measures for the inferences they might make, considerations of contextual factors, and making connections with previously established research evidence and theory, to name a few.

Educators are encouraged to be reflective on their own practice first, to better their understanding of the impact of their subject design on student engagement and learning before delving into more critical analysis for subject enhancements. It is hoped that through sustained practice of this metacognitive reflective practice using data and research evidence that educators authentically empower themselves with the tools to enhance learning and teaching quality in their respective roles and contexts. A pilot implementation of this innovation is being conducted in Trimester 1, 2017.



An example section of course analytics dashboard, with key engagement data contextualised within the discussion forums.

Tags: *Analytics, Technology, Griffith*