



Towards fine-grained reading dashboards for online course revision

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Abstract

Providing high-quality courses is of utmost importance to drive successful learning. This compels course authors to continuously review their contents to meet learners' needs. However, it is challenging for them to detect the reading barriers that learners face with content, and to identify how their courses can be improved accordingly. In this paper, we propose a learning analytics approach for assisting course authors performing these tasks. Using logs of learners' activity, a set of indicators related to course reading activity are computed and used to detect issues and to suggest content revisions. The results are presented to authors through CoReaDa, a learning dashboard empowered with assistive features. We instantiate our proposals using the logs of a major European e-learning platform, and validate them through a study. Study results show the effectiveness of our approach providing authors with more awareness and guidance in improving their courses, to better suit learners' requirements.

Keywords Learning analytics · Learning dashboards · Web-based interaction · Information visualization · Reading indicators · Content revision

Introduction

Reading is a common learning strategy that is widely used in education (Al Madi and Khan 2015). During reading, the learner constructs an interpretation of the text that reflects his level of understanding (Sullivan and Puntambekar 2015). Amongst the factors that shape this level, “course quality” plays a decisive role (McNamara and Magliano 2009). Authors are therefore required to continually review their courses to meet learners' needs and expectations. However, it is difficult for them to determine which

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