USING LEARNING ANALYTICS TO INFORM THE PROCESS OF
FORMATIVE FEEDBACK: INTERACTION AND INTERVENTION IN
ONLINE AND BLENDED LEARNING COURSES

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Abstract

Over the last few years learning analytics has emerged as a significant area of investigation in relation to learner profiling, improving learning outcomes and identifying learners at risk of exclusion or failure. Given the emergence of big data from a business context much of the research on learning analytics to date has focused on quantitative studies and the potential of summative test data to predict learner behaviour in the future. Moreover, analytics has often been perceived as a tool for institutions, administrators or instructors to track learners rather than as a tool to empower learners or to inform sound pedagogy. This paper aims to critically examine the challenges and opportunities presented by learning analytics in the context of providing student feedback in online language learning where few studies have yet to emerge. The research arises from a two-year EU funded project called VITAL (Visualisation Tools and Analytics to Monitor Online Language Learning and Teaching) (2016-2017) and explores how analytics can be used to inform online formative feedback to undergraduates on a blended learning module on business communication (n=200) and taught postgraduate students on a fully online master's degree (n=20) at a university in the UK. Both modules had a duration of 12 weeks and were taught using the Blackboard course management system. In both cases learners engaged with a series of online discussion board tasks punctuated by instructor feedback. Extracting data from Blackboard via manual SQL queries provided data showing the sequence of learner engagement and the frequency of views for learning activities, remedial resources, and instructor feedback. In turn this enabled instructors to examine correlations in the data as a result of visualization on dashboards. Results suggest that analytics can be used in real-time to design and implement interventions in order to identify when unsuccessful students are not reading or engaging with instructor feedback. The implications of the study indicate that more research is required on analytics to examine how much time students spend on formative feedback and the implications for grade performance. The study is significant in that instructor feedback is frequently identified by students as an important aspect of their online learning process, but little research has been done to date to investigate to what extent and in what ways learners access feedback and spend sufficient time reading it.

Keywords: Learning analytics, formative, feedback, online learning, assessment, learner profiling.