University of Huddersfield Repository

Bennett, Liz and Folley, Sue

Critical evaluation of the features on one student dashboard

Original Citation

Bennett, Liz and Folley, Sue (2016) Critical evaluation of the features on one student dashboard. In: Exploring freedom and control in global higher education, 7-9 December 2016, Celtic Manor, Newport, South Wales, UK. (Unpublished)

This version is available at http://eprints.hud.ac.uk/id/eprint/30749/

Critical evaluation of the features on one student dashboard

Abstract

This poster critically evaluates the implementation a particular undergraduate student dashboard. The evaluation uses Scheffel et al.'s (2014) five criteria for judging learning analytical quality (objectives, learning support, learning measures and output data aspects and organisational aspects). It presents the findings of the evaluation and identifies further questions for further research in the emergent area of learning analytics and dashboard design.

Paper

The UK White Paper proposes a new framework for judging teaching quality the Teaching Excellence Framework (Department for Business, Innovation and Skills 2016a). Whilst its format is still emerging, all the indications are that it will be based on a set of metrics about a higher education institution's performance. The notion of learning gain is one of the measures suggested (Department for Business, Innovation and Skills 2016b) and its definition is under development (see HEFCE's programme on learning gain http://www.hefce.ac.uk/lt/lg/).

This poster focuses on the design and implementation of dashboards. Dashboards are the software interface that manipulate and present data about students' learning behaviours (attendance, visits to the library, which books they take out, their attainment etc) whilst learning analytics is the overarching term for "the measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimising learning and the environments in which it occurs." (Siemens 2011 in Scheffel, Drachsler, Stoyanov and Specht's al. 2014).

Dashboards are an emergent part of the data management landscape in higher education and as Sclater (2014) has noted, most UK HEIs have an aspiration to develop their use of learning analytics. They are of interest to the sector wide bodies because of their potential to support positive student engagement in learning leading to improvements in student motivation, retention, satisfaction and attainment (Duval, Verbert, Klerkx, Govaerts, & Santos 2013; HEA 2014; Sclater 2014; UCISA 2015). One of the aims for dashboards is to support particular students through targeted interventions (for example those at risk of dropping out) but little is understood about how students respond to seeing their data presented in this form (Duval et al 2013). However at the moment much of the focus for learning analytics

research is on the technical aspects of collecting and analysing data (Papamitsiou & Economides 2014).

The study evaluates the features of one particular undergraduate student dashboard using Scheffel et al.'s (2014) five criteria for judging learning analytic quality. These are:

1. Objectives (Awareness, Reflection, Motivation, Behavioural Change),
2. Learning Support (Perceived Usefulness, Recommendation, Activity Classification, Detection of Students at Risk),
3. Learning Measures and Output (Comparability, Effectiveness, Efficiency, Helpfulness),
4. Data Aspects (Transparency, Data Standards, Data Ownership, Privacy)
5. Organisational Aspects (Availability, Implementation, Training of Educational Stakeholders, Organisational Change).

The evaluation is planned to take place in autumn of 2016 and will involve focus group data with second year undergraduate students and from personal tutors working with students. The sample will be drawn from one large under graduate course in one school of the case study institution. Thus this is a small scale evaluation of a particular context.

Use of dashboards raises many questions, practical, ethical and moral all of which are would be ripe for exploration. These include:

- How does increased monitoring and atomisation of learning affect development of student's sense of autonomy?
- How does the relationship between academic and student change through increased monitoring?
- What are the ethical imperatives regarding collecting and storing data about students' learning behaviours?

The poster will identify further research suggested by the evaluation based on a thorough critical examination of the emerging literature in this area.

References

Department for Business, Innovation and Skills. (2016). *Success as a knowledge economy TEF*.

Department for Business Innovation and Skills. (2016). *Teaching Excellence Framework Year 2 Technical Consultation.*

Duval, E. E., Verbert, K. K., Klerkx, J. J., Govaerts, S. S., & Santos, J. L. J. L. (2013). Learning analytics dashboard applications. *American Behavioral Scientist, 57*(10), 1500-1509.

HEA. (2014). *design4learning: from blended learning to learning analytics in HE.* Retrieved from https://www.heacademy.ac.uk/events-conferences/event9900

Papamitsiou, Z., & Economides, A. A. (2014). Learning analytics and educational data mining in practice: A systemic literature review of empirical evidence. *Educational Technology and Society, 17*(4), 49-64.

Scheffel, M., Drachsler, H., Stoyanov, S., & Specht, M. (2014). Quality Indicators for Learning Analytics. *Journal of Educational Technology & Society, 17*(4), 117.

Sclater, N. (2014). *Learning analytics The current state of play in UK higher and further education.* Retrieved from

Siemens, G. (2011). 1st International Conference on Learning Analytics and Knowledge https://tekri.athabascau.ca/analytics/

UCISA. (2015). *2014 Digital Capabilities Survey Report.* Retrieved from UCISA: http://www.ucisa.ac.uk/~/media/Files/publications/surveys/Digital_Capabilities_survey_report_2014.ashx