What do distance learning students seek from student analytics?

Christothea Herodotou, Avinash Boroowa, Martin Hlosta, Bart Rienties
The Open University UK
(name.surname@open.ac.uk)

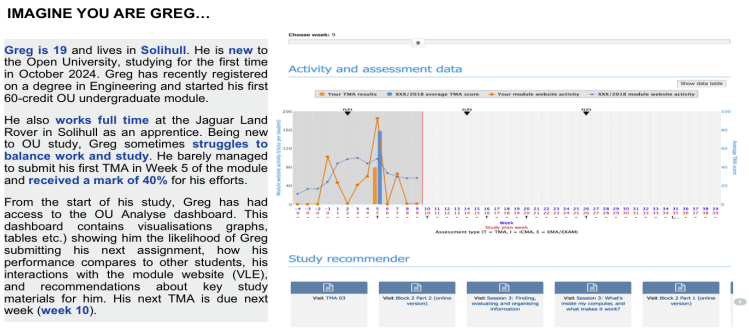
Abstract: This study explores the perspectives of distance learners about student-facing learning analytics. Nineteen middle-aged, white online students answered eight forum questions about a hypothetical scenario of a student who struggles to balance work and study and who was given access to a learning analytics dashboard. The dashboard presented comparative performance and engagement information and personalised study recommendations. Findings showed that study recommendations were highly favoured by students whereas peer comparisons were mostly viewed as not useful and demotivating.

Introduction

Learning Analytics Dashboards (LADs) for learners give access to a range of personalised features related to indicators of performance, learning processes and learning activities, such as time spent on studying, recommendations and self-assessments (e.g., Schwendimann et al., 2016). LADs are viewed as a promising way of facilitating self-regulated learning, especially in blended and online settings (Rienties et al., 2019). Although several recent studies have highlighted potential affordances, LADs have been criticized for several issues including a lack of emphasis on the learners, their perspectives and expectations (Jivet et al., 2018). Student demographics and courses have already shown to differentiate between students and their perceptions about LADs (Verbert et al., 2013), whereas certain features (e.g., peer comparisons) do not have similar effects on all students (Jivet et al., 2018). Therefore, more research is needed to understand and explain how different groups of learners, in this study distance learning students, may benefit the most from which specific features of LADs. In this case study, nineteen students answered eight forum questions that were informed by the Unified Theory of Acceptance and Use of Technology (UTAUT) with the aim to address the following Research Questions (RQs): a) What do online students understand from using the proposed LAD?, b) What are online students perceptions about the usefulness of the LAD? and c) What are the factors that influence students' intention to use the LAD in the future?

Methodology

Ninteen (N=19) distance learning students participated in an online forum activity with a hypothetical future scenario of a student, Greg who is new to the OU, struggles to balance work and study and who received a 40% in his first graded assignment. Students were then given access to Greg's dashboard with information about his engagement with the course and how it compares to the average of students, his score in the first assignment he submitted and how it compared to the average score of students, as well as recommendations for study material that can help him prepare and submit his next assignment (see Figure below). The average age of students was 45 years old (youngest 29; oldest 74). Ten of them were male and nine female. Eight of them had declared a form of disability, which is substantially more than the average of 20% of learners in the university under study. Seventeen of them declared themselves as coming from white backgrounds. Only two of the students were new to studying with the university. To analyse the data we gathered the number of favourite ratings per forum comment, ranked the comments and then identified the five most popular ones, which we discuss below. Then we analysed the content of all comments made using thematic analysis.



Data analysis

The five most liked comments in the forum are presented here: (a)The study recommender was perceived as the most useful feature of the dashboard*: "I find the study recommender the most useful: suggestions for revision, in-depth work are always useful [...] I believe the activity and assessment data is more useful to the teacher than the*

student so they start a fruitful discussion with the students on how best to support them"; (b) The dashboard should be tailored to the needs of individual students: *"Students are people, not statistics. What the university considers a low pass could be a massive achievement for an individual student. Tailored to individual students, the Study Recommender could have a positive contribution to make towards student learning and development";* (c)A lack of data literacy can affect the understanding of the dashboard and necessitates the provision of help in interpreting data: *"After a quick appraisal of the dashboard it seems pretty clear to me. I think I'm in the minority here though. I can understand why other forum members say it is confusing because of all the lines and columns [...] I think help would be best to come from the Student Support Team (SST) rather than from teachers;* (d) Teachers should be given access to performance and engagement data and be the ones acting upon that: *"I'm never interested in how I'm studying compared to other students [...] If there is a reason for performance comparisons to be made, the tutors are the correct people to be doing this because they can use their experience to make appropriate comparisons and recommendations; not based on the entire class which could lead to unfair comparisons";* and (e) The dashboard does not capture important study information: *"Greg may have downloaded the material and spent hours on it to no effect. He may have emailed his teacher for help and not got a reply that he could make sense of. The dashboard implies more time on the website is correlated with better results and implies time on the website is equivalent to study time. (It isn't for me.)"*;

A follow-up thematic analysis (Boyatzis, 1998) identified the following themes: a) Data literacy: It may inhibit understanding of dashboard features: "Whilst I've been able to figure out what the chart means by reading other contributors' posts, this kind of complicated data presentation is not something I've come across before in my studies (am an arts and humanities student). It's likely that those students who need the support of analytics may be struggling in some way." (Participant 3, female); b) Help: Students made recommendations as to how help could be enhanced such as through a tutorial: "I believe a "tutorial"-style walkthrough at the beginning would be helpful" (Participant 2, female); c) Peer comparisons: Students did not see any value in allowing students to see how they compare to others: "I would find the comparison between myself and other students very unhelpful. As a teacher myself, I am always very careful not to compare results within the students in my classes, but their effort" (Participant 6, female); d) Usefulness: The graph of the course website activity was generally seen as not useful; these statistics could be manipulated by students randomly clicking the links on the site: "The activity and assessment data is less useful. Measuring performance by the number of clicks a student makes on the module website may not be the best way to measure engagement with the course material" (Participant 17, male), and e) Limitations: Almost all students agreed that the data could not show the full picture of the student, noting the following potential aspects that were not covered by the dashboard: amount of time spent studying offline; previous subject knowledge; work or family issues; tutor contact, and other factors that could have prevented website/internet access.

Conclusions

Middle-aged, white distance learning students endorsed the functionality of a study recommender that would support their learning and, aligning with existing studies (Herodotou et al., 2019) proposed teachers as those better placed in accessing and acting upon peer comparisons. Also, students asked for features that can scaffold their understanding of the dashboard data, showcase remedial action, and help regulate and reflect on their learning.

References

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