

Case Study B: Gauging Student Engagement with an Online Orientation Module

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Module discipline: Online Orientation

Approximate module size: 600 students

Level of module: First year Postgraduate

Reasons for using analytics in the module

Hibernia College specialises in professional development education, primarily in the education and health science sectors. Delivery is primarily blended, with some wholly online programmes. Online study is divided into a series of weekly tasks that students must complete. These encompass activities such as watching videos or multimedia presentations, reading articles, writing reflections, creating blog posts, participating in forum discussions and attending online tutorials. The vehicle for the delivery of these tasks is a Moodle-based learning management system (LMS). The typical student embarking on these programmes has earned a Bachelor's degree from a traditional university and has no, or limited, experience of online learning. To help them transition successfully to the online or blended mode of delivery, we developed an online orientation module that focused on the technical, administrative, academic and social skills they would need to manage their studies.

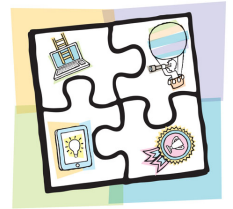
I was interested in gauging the extent to which students were engaging with this online orientation module and finding out which elements were most used and which were under used, with a view to making changes for subsequent iterations. I was also interested in exploring whether there was any difference in the usage patterns of male and female students and of older students compared to millennials in order to ensure that the orientation was serving the needs of all.

Data sources/modelling approach

I exported the Moodle log for the online orientation module into Excel and used pivot tables to generate usage scores for each student for the various elements in the orientation. Scores in this case relate to the number of actions – clicks or views – performed in the LMS. This enabled me to get a good overview of each student's engagement with the orientation overall, as well as with each of the constituent activities. I was also able to use this data to create a timeline to show overall engagement with the orientation over time. This can be useful to give a sense of whether or not students are working consistently or engaging in fits and starts.

To analyse the effect of gender and age, I matched the LMS records with student records from the SIS to obtain birth date and gender details. Following this I transferred the data into SPSS for analysis in order to see if there were any statistically significant material differences between how males engaged compared to females and how millennials engaged compared to older students.

I also collected before and after survey data from students about their experience of the online orientation and how it might have influenced their perception of online study. I analysed this in Excel.



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Impact of using data

I have used the engagement data combined with the survey data to inform changes to the structure and content of the orientation. As a result of these changes, the post orientation surveys reveal an increase in students' confidence and positivity with regard to online learning. Specifically, with regard to the following questions:

1. Online courses offer good opportunities for collaborative work. *Agree scores increased from 73% to 79% following changes to the orientation.*
2. Online courses offer good opportunities for social interaction. *Agree scores increased from 54% to 69% following changes to the orientation.*
3. I expect to make new friends on this programme. *Agree scores increased from 89% to 92% following changes to the orientation.*
4. I am confident that I will be able to manage my time effectively. *Agree scores increased from 72% to 91% following changes to the orientation.*
5. Do you feel more confident about taking this course following the orientation programme? *Yes scores increased from 82% to 88% following changes to the orientation.*

Gathering further data

I haven't made any changes specifically for the purpose of collecting data as the module was already completely online and structured in such a way as to generate usage data. By integrating this data with SIS records, however, I was able to interrogate the data in terms of gender and age, which was very interesting. For instance, I found no evidence that millennials, the so-called 'digital natives', are more comfortable engaging with online tools such as forums and blogs than their older peers.

Advice for colleagues interested in using a data-enhanced approach

My advice would be to start with the built-in tools your VLE provides. In Moodle the most useful are:

Student Level: Progress Bar

The progress bar provides a graphical representation of activity completion on Moodle. Each of the blue bars represents an activity to be completed. The bar turns green once the activity has been completed. This allows lecturers to see at a glance whether a student has completed an activity or not so it is an easy way to keep an eye on their online work. (See figure 1 for example).

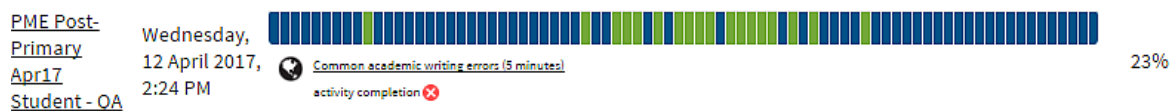
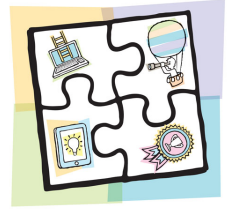


Fig 1

Aggregate Class Level: Moodle Logs

If a more detailed analysis of an entire group of students is required, Moodle logs offers the necessary flexibility. Downloading the logs for a Moodle course as an Excel file provides lecturers with a complete



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record of every action that a user takes in a Moodle course. All that's needed are some basic Excel skills to use the data to get a clear view of how your students are using your materials. For example, you can easily see which type of activities tend to be most and least popular or, by creating a timeline, you can see how students' engagement changes over the course of your module. If you are not familiar with Excel, you can easily pick up the basics by watching youtube videos. (See [Extracting and analysing course logs.pdf](#) for a step-by-step guide to downloading Moodle logs and analysing then in Excel)