Monitoring Students' Engagement with Mathematics at Third Level

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Abstract

We present an overview of a monitoring scheme which was set up in the 2010-11 academic year by the Department of Mathematics and Statistics at the National University of Ireland Maynooth to increase students' levels of engagement. We monitored first year students' submission of assignments, their attendance at tutorials and their engagement with an online mathematics proficiency course. Students who failed to engage appropriately were contacted by the department. The contact was initially by email, but then progressed to a meeting with a member of staff, and onto a letter from the head of department for students who continued with their pattern of non-engagement. We will describe how the monitoring project operated and present evidence that it has significantly increased levels of engagement.

The monitor had access to weekly tutorial attendance and assignment submission data as well as access to the departmental file containing medical certificates.

A similar monitoring

She used all this data to monitor the students' engagement with the system. Lack of engagement by a student resulted in the monitor contacting them.

Method

This process was repeated

Lack of engagement was defined as:

- Missing 2 tutorials in a row
- Missing 2 assignments in a row
- Missing a tutorial and assignment in one week

After the 1st incidence of non engagement the student was sent a reminder e-mail. The 2nd incident resulted in a letter requesting a meeting with a member of staff. The student received a stronger letter after the 3rd incident.

scheme was implemented to increase engagement with a non-compulsory online mathematics proficiency course and is reported on in Burke et al (2012).

in semester 2 and all students started with a clean slate. Many students replied to the communications and they were referred to the second author.

Results

We considered the impact of the monitoring scheme on attendance levels and submission rates by comparing the behavior of students in the year 2010/11 (when the scheme was in operation) to their counterparts in 2009/10 (when there was no effort to contact students who were not engaging).

Highest type of correspondence warranted

When we compared attendance and submission

Year	2009/10	2010/11
No Contact	291 (51.2%)	332 (61.1%)
E-mail	109 (19.2%)	121 (22.3%)
Letter 1	47 (8.3%)	40 (7.4%)
Letter 2	121 (21.3%)	50 (9.2%)
Total	568	543

rates for the years 2009/10 and 2010/11 we found that there is a significant difference between the mean number of assignments submitted in Semester 1 (t-test, p=0.007), and in the number of tutorials attended (t-test, p=0.002). In both cases, the mean is significantly higher for the 2010/11 group.

Burke, G, Mac an Bhaird, C. & O'Shea, A. (2012) The Impact of a Monitoring Scheme on Engagement in an Online Course. Teaching Mathematics and Its Applications: International Journal of the IMA 2012; http://teamat.oxfordjournals.org/cgi/reprint/hrs010?ijkey=gJjeVDff4RlhiT3&keytype=ref