**Assessment analytics of student engagement with, and performance on, S217 online quizzes**

**Andrew Norton:**

The project I was doing was concerned with our core physics module. It’s called Physics from Classical to Quantum. And it has quite a complicated assessment strategy. We have summative assessment which is an end of module exam plus another assignment midway through. But we also have a bunch of what we call formative assessments which are there to give the students practice at solving and doing physics problems but also to give them feedback as they go along.

That’s done in a series of Tutor Marked Assignments throughout the year. But in addition to that we have another set of what are completely optional online interactive quizzes where the students get immediate feedback from the computer as they answer the questions. And there are multiple variants and they can do them as often as they wish.

The students are meant to do those as they go along building up their confidence in preparation for the assignments. But to check that they were doing them we put a question in each Tutor Marked Assignment asking them to reflect on the quiz they should have recently done. But what I didn’t know was were the students using the quizzes in the way we intended. Were they using them to build up their practice and ability before they got to the assignments? So in the project what I did was use online analytics data to look at precisely when each student was accessing each of these quizzes in relation to the Tutor Marked Assignments from our module website.

And then to back up that analytics information we also carried out a bunch of telephone interviews with a subset of the students to see if they really were doing what they said they were doing.

What we found was that the students were in fact attempting and accessing those online quizzes but they were only accessing them when prompted to do so by the reflective question in the Tutor Marked Assignment. So rather than doing these online quiz questions as they went along week-by-week they were waiting until they got to the Tutor Marked Assignment, seeing the question that said reflect on that quiz and then going and doing the quiz at that point. So the carrot of the incentive to do the quiz was there, the stick of, you know, encouraging them to do it by that question in the Tutor Marked Assignment was working but the timing of when they did it was not working at all. And in fact the one online quiz which wasn’t reflected upon in a Tutor Marked Assignment the students virtually didn’t bother with at all. So the timing wasn’t there although the actual use of the quizzes was as we expected.

All of that research was carried out during the first presentation of the module. Now in the second presentation of the module which has just started we’ve done some things a little bit differently to learn from that research. What we’ve done is that rather than only mentioning these quizzes in the Tutor Marked Assignment we’ve now seeded the study calendar every week with a link to the particular questions in the interactive quizzes that are relevant to that week’s work. So that hopefully the students will see that reminder and go and do the appropriate quiz question as they go along building up to the Tutor Marked Assignment.

And then in the Tutor Marked Assignments themselves rather than just a sort of general question asking them to reflect on their performance in the quiz we say, what did you learn on this particular topic, a specific topic, each time from the quiz that has helped you to build towards this Tutor Marked Assignment. And hopefully we’ll see this year whether that’s made an impact on the timing of when the students access the quizzes.

We can do an informal check of how this is working this year just by looking at the analytics information. I don’t think we’ll bother doing the telephone interviews with students again but we can simply look at the analytics information and very quickly see when students are accessing each quiz this year, comparing that with the behaviour last year. And we should be able to see that very easily.