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## Introduction

Several science modules have moved from an assessment strategy of using summative assignments with formative feedback to providing formative feedback only. The formative assessment tasks occur throughout the module duration in conjunction with a final summative examinable component.

Student engagement with assignments is crucial for distance learners, and particularly for level one students (as commented on<sup>1</sup>). Feedback to students, mediated by Associate Lecturers, is a key feature of distance education provided by the OU and linked to its success<sup>2</sup>. The move to formative assessment provides an opportunity for more targeted individual feedback. Furthermore, formative assessment removes a potential driver for students to study strategically for summative assessments as well as offering cost benefits to the provider<sup>3</sup>.

To encourage student engagement, a threshold of 40% was set for both modules, which students would need to reach for their examinable component to be considered. An additional threshold of 70% was set for the continuous assessment tasks of one module, which students had to meet to be eligible for a distinction in the examinable component.

The aim of this study is to evaluate the move to formative continuous assessment only, for distance learners, on two 30 credit Open University (OU) level 1 modules.

## Methods

Quantitative data was compared at specific time points throughout the duration of two modules. Further data was collected by means of using a number of specific questions to address student perceptions for any assignments which were not (fully) completed to a sample of students, on each module.

Table 1: Comparison of modules used in this study - Investigative and Mathematical skills in Science and Topics in Science.

	S141 Investigative and Mathematical skills in Science	S142 Topics in Science
FHEQ level	4	4
Credits	30	30
Individual units of study	3	3
Assessment criteria	Learning outcomes	Learning outcomes
Tutor marked assignments	3	3
Examinable component	Open book examination	Open book examination
Threshold for continuous assessment	40/70%*	40%*

\*An algorithm was used to obtain a numerical mark from the learning outcomes grading.

## References

- Chetwynd, F. and Dobbyn, C (2011). Assessment, feedback and marking guides in distance education. *Open Learning* Vol. 26, No. 1, 67–78.
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With special thanks to Nick Adams, Curriculum manager for S142.

This project forms part of a larger widespread project within the Science Faculty, to evaluate the impact of formative assessment, led by Sally Jordan and supported by eSTEeM.



## Results

The numbers of students registered at the start of each module was similar (468 students for S141 and 489 students for S142). The number of submissions for the first and second assignments is shown in table 2, whereby this represents a percentage of the total registered students when each assignment was due for submission.

Table 2: Percentage of submissions for the first and second assignment

	S141	S142
First assignment	71	79
Second assignment	68	46

The preliminary results from the questionnaire to analyse student behaviour to assignment submission are shown in Table 3, which reflects the information for the second assignment.

Table 3: A sample of the reasons given by ALs for non-submission and partial submission of TMA02 (where known)

Reason (as defined prior to the study)	Number of times mentioned
The student is struggling academically with either module	3
Student has a disability	4
The student is struggling to find the time for S141 or S142 because of other external commitments e.g. employment, caring responsibilities.	5
The student is struggling to find the time for S141 or S142 because of unexpected events e.g. illness	2
The student is struggling to find the time for S141 or S142 because of the pressures of other OU modules.	7
The student is studying strategically and decided not to submit the TMA because they felt it was not necessary to obtain 40% on overall continuous assessment.	0
I believe the student has stopped studying (i.e. has passively withdrawn from S141)	17
The student has formally withdrawn from S141 or S142	28

## Discussion

The number of registered students at the start of each module was similar; S141 is a compulsory component of the BSc (Hons) Natural Sciences degree, whereas S142 is optional for both the degree in Natural Sciences and the degree in Health Sciences. Analysing the study intensity of students showed that approximately 15% of S141 students and 30% of students studying S142 and had no other study demands. In comparison, over 60% of S141 students and 50% of S142 students were studying 90 credits or more.

The submission rates for the first assignment reflected a high degree of student engagement, for both S141 and S142. The 'module' focus of OU study in the past 40 years has meant that student engagement can be enormously variable. Now, with increased pressure for student retention, it is vital that students engage early on in their study pathway. The submission rate for the second assignment for S141 was similar to that of the first assignment, whereas the rate was much lower for S142. This discrepancy could be an indicator that students are strategically planning their studies because of the differences in the 'thresholds' of the formative assessment strategy.

Considering a sample of student views suggests that the non-submissions can be accounted for by students who have *passively withdrawn* for S141, but this does not account for the decreased submission rate for the second assignment of S142. Anecdotal evidence from Associate Lecturers suggests the non-submission of the second assignment for S142 is actually the result of conflicting workloads for students. At the time of submission for the second assignment, S142 students (over 50% of which are studying other OU modules, as well as non-OU commitments) had submission dates for summative assessment tasks, such as other level 1 OU modules. Conflicting study demands of S142 students is not shown by the data in Table 3 because many students have taken advantage of the OU's assessment policy, requesting an extension for this second assignment.

To conclude, this preliminary research suggests several outcomes. Firstly, the move to formative (thresholded) assessment for continuous work for two level 1 modules has resulted in early student engagement. Secondly, the use of a higher threshold does not appear to have influenced student behaviour and engagement; however, the increased study demand of part-time distance learners does seem to have an effect on submissions. Therefore, students appear to be strategic in their outputs and further evaluation will continue to explore this student behaviour.