

## Project Final Report

---

### **Evaluating the long-lasting benefits of integrated assessment and feedback practices on academic skills and performance of undergraduate BMS students**

**Team members:** Dr Celine Caquineau, Dr Allison Wroe, Dr Ruth Deighton, Miss Kirsty Ireland, Dr Kirsty Hughes

The project investigated the impacts of integrated assessment and feedback practices on the development of scientific writing and critical thinking skills in Year 2 undergraduate students. It examined the benefits on the students' learning experience and academic performance and analysed their conveyance to Year 3 (junior honour year). The project focussed on a newly implemented large year-long science course (250 students) whose learning outcomes include the development of core competencies in scientific learning such as scientific writing and critical thinking. The course provided fully integrated essay assignments with preparatory and supportive learning activities (delivered through tutorials) as well as multimodal feedback opportunities. These activities aimed to help students to further develop writing and critical thinking skills as well as to better understand what's expected from their work.

#### ***What we did:***

We collected data from 2 cohorts of students over 2 years. One cohort had taken the newly designed year 2 course while the other cohort had taken 2 semester long courses previously offered to year 2 students. For both cohorts, we looked at the students' academic performance in scientific writing tasks (essays) in year 2 and in semester 1 of year 3. Through surveys and focus groups, we investigated the students' perceptions of their scientific writing skills and of the development of these skills. Finally we interviewed members of staff with various level of teaching experience to investigate their perceptions of students' academic skills, to discuss their understanding of the role of feedback in supporting skills development in undergraduate students and to discuss their perceptions of feedback practices in the deanery.

#### ***Key findings:***

The new course was very well received overall, feedback from students and from the course team was very positive. Overall, students found the tutorials helpful to develop their academic skills and were satisfied with the feedback they received on their work.

When comparing students' academic performance, we found no significant difference in essay marks in year 2 and in year 3 between the two cohorts. However, we found that the individual mark gain in essay marks between year 2 and year 3 was significantly higher in students who had taken the new course in year 2 compared to the former cohort.

These results suggest that the integrated assessment and feedback practices in year 2 had a positive effect on the development of students' essay writing and critical thinking skills and that this impact was conveyed to the following year.

We found that students who had taken the new course in year 2 better understood the standards expected of their work at the end of year 2 and felt better prepared for year 3 compared to students from the former cohort. However, when asked to reflect on their skills development, students who had taken the new year 2 course felt less confident with their academic skills compared to the former cohort. These results suggest that the increased awareness of the expected work standards might have had a negative effect on the students' perceptions of their skills, and might illustrate a difficulty to self-assess effectively.

Staff welcomed and supported the concept of integrated assessment and feedback practices as a way to help students developing their academic skills. They appreciated the challenges of implementing such learning activities to diverse cohort of students and anticipated varied level of students' engagement with these new practices. They also welcomed the use of Grademark to return feedback more effectively. We found that all staff members interviewed had a clear understanding of quality feedback. They understood the importance of feedback on students' skills development and discussed limitations hindering the provision of effective feedback in large course. Surprisingly, the majority of staff interviewed was unable to compare their feedback practice to those of their colleagues but all anticipated a need to improve consistency amongst markers. These findings suggest that although improving the standards of its feedback practices has been a key objective for the deanery in recent years, further transparency in its practices and support are needed to ensure an effective and consistent feedback delivery.

#### ***Unforeseen outcomes:***

Students' focus groups discussions revealed a clear apprehension of what to expect in year 3 and year 4. Irrespectively of having felt prepared for year 3 or not at the end of year 2, students repeatedly discussed how the transition to year 3 had been challenging and were now worried about their final year. They wished they had been better informed on the demands and standards of year 3. This finding illustrates the need to better manage students' expectations to facilitate transitions across years.

The majority of the staff interviewed commented on the empirical nature of the development of their teaching practice. Some felt isolated at the start of their teaching career and/or recognised relying heavily on the goodwill of more experienced colleagues to guide them. They pointed out the need for a structured support and guidance for new teaching staff.

**Conclusions:**

Taken together, the project findings reinforced the recognised benefits of providing integrated assessment and feedback as core learning activities. The project provided further evidence of the long -lasting effects of these activities on the students' development of key academic skills such as scientific writing and critical thinking. The project also highlighted the need to help students to better reflect on their performance and skills to ensure a more efficient transition to subsequent years. The project illustrated further the challenges faced by staff to deliver effective feedback and highlighted the need for the deanery to pursue efforts in mitigating these challenges.

This project gave us the opportunity to evaluate a newly developed course in-depth and to consider assessment and feedback practices in a larger context from a programme view rather than from a course view. It also raised key questions on how to better manage students' expectations to facilitate students' transitions, as well as highlighted the need to better support less experienced staff to ease the transition into teaching roles.

We are extremely grateful to the PTAS for supporting this work.

**Dissemination:**

Findings were discussed informally with colleagues within and outwith the deanery and other institutions. Key findings will be presented at the next Enhancement theme conference on the 9<sup>th</sup> of June, at the next PTAS forum on the 16<sup>th</sup> of June and at the BMTO- Teaching Network later in the year.

For a description of the pilot study of Grademark in the deanery, please see the IAD case studies wiki:

<https://www.wiki.ed.ac.uk/display/casestudies/Biomedical+Sciences+-+Using+GradeMark+to++effective+e-feedback>