

Building sustainable expertise in marking: integrating the moderation of first-year assessment

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This poster outlines a study in which an integrated moderation of assessment program (IMAP) was developed to improve the quality and consistency of assessment feedback received by students and their ability to use this feedback to improve their scientific report writing skills. The IMAP comprised a range of processes including marking rubrics, sample reports, moderation workshops and peer-review activities, which support both explicit and tacit knowledge transfer within the teaching team, between staff and students and among students. It drew on examples of best practice from the higher education literature to create a comprehensive package of teacher and student training. This study aimed to quantify the efficacy of the IMAP to achieve its aims of improving reliability and efficiency of marking of first-year biology reports by a large team of markers. The results of the study indicate that variation between markers tended to decrease (that is, reliability tended to increase) after they had participated in the program, particularly when they were divided into experienced and novice groups. The time taken to mark the reports also tended to decrease (that is, efficiency tended to increase) after participation. The teaching team's perceptions of the IMAP were generally positive, and their constructive feedback will be used to refine and improve the program for future use.

Keywords: formative; inter-rater reliability; moderation; scientific writing

Theme: sustainable assessment practices and standards

Introduction

Much attention has been paid to improving the quality of feedback in higher education, particularly through the use of assessment criteria and standards (O'Donovan, Price & Rust, 2004). However, a discussion of the use of moderation procedures to provide increased reliability of marking is rare in the higher education literature (Bloxham, 2009). Fair and effective feedback in the first year is particularly crucial to student learning success (Kift & Moody, 2009). With increasing first-year class sizes, much of the assessment in higher education institutions is done by teams of markers, often honours and postgraduate students, rather than individual lecturers. Thus the training of markers to assist in the development of a shared understanding of criteria and standards is critical to providing a sustainable model of assessment across undergraduate programs.

An individual member of the teaching team's perceptions of the quality of an assessment piece will depend on their professional knowledge, experience and personal values (Smith & Coombe, 2005). Knowledge of the qualities of a good piece of writing is difficult to transfer between individuals, because it requires the transfer of both explicit and tacit knowledge (Price, 2005). Effective transfer of both types of knowledge depends on the use of a combination of knowledge transfer methods that provide opportunities for students and staff to engage with, apply and discuss assessment criteria (O'Donovan, Price & Rust 2004). Shared understandings of assessment criteria can be built among members of a teaching team through moderation processes (Hammer, 2007). Similarly, moderation workshops can develop students' understanding of assessment criteria, resulting in significantly better performance in subsequently assessed coursework (Rust, Price & O'Donovan, 2003). A multi-level approach that integrates the transfer of tacit and explicit knowledge of assessment standards between markers, between markers and students, and between students is ideal (Rust, O'Donovan & Price, 2005).

This paper describes an integrated moderation of assessment program (IMAP) which was developed with the aim to improve the quality and consistency of the feedback students receive and the ability of students to use that feedback to improve their report writing. IMAP comprises a range of processes which support both explicit and

tacit knowledge transfer between staff in the teaching team, between students and between staff and students. It draws on examples of best practice from the higher education literature and integrates them into a comprehensive package of both teacher and student training. This paper focuses on the effectiveness of IMAP to improve the reliability and efficiency of the marking of first-year biology reports by a large team of practical demonstrators.

Practical demonstrator training with IMAP

At the commencement of the semester, demonstrators participated in a workshop run by a Language and Academic Skills (LAS) lecturer, who introduced the critical elements of assessing scientific writing using a resource pack. The resource pack included an introduction to assessment principles and practices; information about plagiarism; guidelines on giving English-language feedback on students' writing; a feedback code to mark student writing problems related to formatting, content, English expression and referencing; guidelines on giving constructive comments to students, including a bank of sample comments for different levels of achievement; detailed marking rubrics, including grade descriptors for each section of the laboratory report; and sample laboratory reports representing a range of grades with different comments. Demonstrators were then required to mark the three sample reports prior to the next meeting, held the following week. At the second meeting, demonstrators participated in a two-hour moderation-of-marking session run by the subject coordinator and the LAS lecturer. Marks awarded to the three sample reports were recorded anonymously and displayed to the whole group. The subject coordinator and the LAS lecturer then led a discussion about the range of marks assigned to each report. The group aimed to reach a consensus about an acceptable grade and mark for each report.

Evaluation of IMAP

Methods

The influence of IMAP on marking consistency and efficiency was quantified with a set of 'study reports'. Forty student reports of varying standards were collected from previous years, and details of the authors were removed. These reports were divided into two batches and used as the study reports to assess the efficacy of the IMAP. Study participants (demonstrators) marked 20 study reports using the marking methods and resources used in 2009 prior to commencing the IMAP training. When Semester One finished and the study participants had completed the IMAP training and marked their own 2010 students' laboratory reports for the subject (students submit two full laboratory reports), they were asked to mark the second batch of 20 study reports. The following variables were compared between the pre-IMAP versus post-IMAP batches of study reports: inter-rater reliability, measured as variation in overall mark and/or variation in marks given for particular aspects as well as variation between markers and an expert marker; and marking efficiency, measured as time taken to mark reports. We also surveyed the demonstrators' perceptions of the IMAP.

Results

While the results of this study have not yet been fully analysed, trends in the data indicate that variation between markers tended to decrease (that is, reliability tended to increase) after demonstrators participated in IMAP, particularly when the markers were divided into experienced and novice categories. Time taken to mark reports tended to decrease (that is, efficiency tended to increase) after demonstrators participated in IMAP. All this data will be analysed and described in full for the poster presentation at the conference.

Outcomes

The project described in this paper is part of a larger study which focuses at both the student and the marker level and thus has the potential to improve the sustainability of assessment practices, the reliability of marking and the student learning outcomes of writing scientific reports. This is one of the first studies to evaluate a program of assessment moderation which integrates the transfer of tacit and explicit knowledge of assessment standards between markers, between markers and students, and between students. This multi-level approach was described in Rust, O'Donovan & Price (2005) but, to our knowledge, has not been tested. This poster reports on the efficacy of IMAP to achieve its aim of improving reliability and efficiency of marking. The effect of IMAP on student

learning of scientific writing will be reported elsewhere. The IMAP is sustainable and improves efficiencies, because the program and its resources can be used each year in multiple subjects. Markers participating in IMAP will develop expertise which can be transferred to future novice markers, thereby building an expert workforce over time, and IMAP will also be used to assist students to develop expertise in self- and peer review of written assessment tasks. The markers have also contributed to the development of the rubric and feedback code, thereby ensuring marker engagement with the resources and improved sustainability in the long term. The IMAP will be made available to other subject coordinators within our faculty via a toolkit comprising a description of the process and all the supporting resources. The results reported will be of interest to academic leaders with large and diverse teaching teams responsible for marking student work.

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