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**Improving the effectiveness of feedback by use of assessed reflections
and withholding of grades**

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Abstract

We wished to improve levels of student engagement with feedback within the context of our postgraduate masters-level programme, and therefore evaluated the use of two interventions: assessed reflections on feedback, and grade-withholding. In questionnaires students reported more engagement with feedback after the interventions, with 77% in favour of using reflections, though only 57% favoured grade-withholding, with feelings of frustration and anxiety about the grade cited as factors. Overall class grades improved over the two years in which reflections were used, with the greatest gains made by students generating the most insightful reflections. Additional gains in the second year of intervention may have been attributable to improved implementation or introduction of grade-withholding, or a combination of both. Overall we demonstrated clear improvement in feedback utilisation and achievement associated with our interventions.

Keywords: feedback, feed-forward, grade-withholding, reflection

Introduction

Provision of effective feedback is a recurring theme in learning and assessment strategies, and feedback is clearly fundamental to the learning process (Black and Wiliam, 1998). To be effective, feedback should be frequent and detailed, provided in a timely fashion, related to learning objectives, and attended to, and acted upon, by the student (Sadler 1989; Gibbs and Simpson 2004). In general, students value feedback (eg Higgins, Hartley and Skelton 2002; Orsmond, Merry and Reiling 2005; Duncan 2007), however some students may not even collect their graded work (eg Duncan 2007), or do not read (eg Orsmond, Merry and Reiling 2005) or utilise the feedback (Gibbs and Simpson 2004; Glover and Brown 2006), and Burke (2009, 42) reports '*providing the same feedback advice to the same students time after time*'. Higgins, Hartley and Skelton (2002) found that whilst 97% of students claimed to 'read' feedback, only 82% 'pay close attention' to feedback. Lack of relevance to future assignments is one reason cited by students for ignoring feedback (Duncan 2007). Students may view feedback as criticism or as a justification for the grade awarded rather than as an aide to improvement (Irons 2008, 25); and indeed Duncan (2007) reported that some feedback was targeted at other examiners.

Our study was precipitated by discovering that our feedback was apparently not used by some students in a postgraduate class. We identified individuals for whom similar comments were provided on sequential items of coursework without any improvement or request for help, as also reported by Gomez and Osborne (2007). One student stated that he often didn't read feedback carefully: a poor grade made it too depressing, and a good grade made feedback redundant. Similar observations that initial emotional response to the grade determines what students will do with the feedback (Jones et al. 2012; Orsmond, Merry and Reiling 2005), support the argument of Taras (2002) and others that feedback should be given without a grade to facilitate engagement (Irons 2008, 84).

Engagement with feedback facilitates effective ‘feed-forward’ into future assignments (Gibbs and Simpson 2004; Orsmond, Merry and Reiling 2005; Rust, O’Donovan and Price 2005; Glover and Brown 2006; Duncan 2007; Price et al. 2010; Hepplestone et al. 2011), and introduction of structured opportunities for participation in feedback and reflection have been advocated (eg Higgins, Hartley and Skelton 2002, Mutch 2003, Juwah et al. 2004, Irons 2008). Gomez and Osborne (2007) reported that students displayed more synthesis, evaluation, thought and discursive powers in a written reflective response to feedback than were demonstrated in the original essays. “Feedback vivas” represent another approach to eliciting a response to feedback (Franks and Hanscomb, 2012). Both approaches were effective, however these one-off interventions required significant amounts of time and effort from both students and staff. Completion of an online reflection prior to grade release facilitated real reflection in some students but a purely token response in others (Irwin et al. 2013). We introduced a series of written reflections on feedback for coursework submitted during the early stages of our MSc programme, the time at which many postgraduates, particularly international students, require to make substantial adjustments in approaches to learning and assessment. We graded these reflections to encourage engagement (Gomez and Osborne, 2007; Franks and Hanscomb, 2012) in line with the commonly held staff belief that ‘*you have to assess everything that moves in order to capture students’ time and energy*’ (Gibbs and Simpson 2004, 8). A brief staff commentary on the reflection was used to address any issues raised by the student, permitting an element of dialogue. Reflections on feedback were introduced in 2012-13, and in 2013-14 two additional modifications were made: reflections were submitted prior to the next coursework (rather than simultaneously), and grades were withheld for a short time.

Aims of the study:

1. To evaluate whether assessed reflections on feedback improved student use of feedback and / or performance.
2. To obtain student views on the usefulness of written reflections and grade-withholding.

Methods

Study participants

Study participants were all taking a one-year Masters programme; students taking course components over two or more years due to part-time status or medical circumstances were excluded from the analysis. The split of students between UK / other EU / non-EU was 30% / 27% / 42% in 2011-12; 28% / 28% / 44% in 2012-13; and 14% / 22% / 64% in 2013-14. Therefore the classes in 2011-12 and 2012-13 appeared completely comparable; whilst the 2013-14 class had a greater proportion of international students.

Feedback

Following grading of anonymised reports, assignments were returned to students with (i) brief comments added to the report PDF and (ii) a structured proforma (about 1 page completed) with type-written feedback of a few general comments plus two specific suggestions for how to improve future work (usually about 1/4 to 1/3 of a page), then a few specific criteria, for example: ‘Has the discussion been related to relevant literature where appropriate?’; ‘Are there good concluding remarks?’. The grade was provided with feedback in session 2011-12 and 2012-13 but released only after receipt of the reflection (or after a few days for later assignments) in session 2013-14.

Student questionnaires

All questionnaires / responses were anonymous, but for this report 2011:3 = student 3 from 2011-12, etc.

2011-12 (before use of written reflections): Students (n=34) were asked to answer the following questions by placing a mark on an 11-point scale:

- Did you read the written feedback on your assessed coursework? (Always = 10; Never = 0)
- How carefully did you read the written feedback on your assessed coursework? (Very carefully = 10; Not at all = 0)
- Do you think that written feedback was useful to help you improve your performance? (Very useful = 10; Not at all useful = 0)

Students were also invited to provide comments on any of these aspects or any general comments.

2012-13 (written reflections introduced): Students (n=26) were asked to complete the same survey as 2011-12, with the addition of two questions:

- In terms of skills development, do you think that the reflection was a useful exercise to complete? (Yes / No)
- Would you recommend the use of written reflections for future MSc classes to help them in their academic development? (Yes / No)

2013-14 (grade-withholding introduced): Students (n=36) were asked to complete the same survey as in 2012-13, with the addition of one question:

- Do you think that not getting the grade with your feedback made you read the feedback more carefully? (Yes / No)

Written reflections on feedback

Students in the first year (2011-12) of the study (and in previous years) received feedback but were not required to write reflections. For the first four assessments in 2012-13, each student wrote a short “reflection” (about 400 words) following return of their graded work with feedback. Students were asked to consider:

- What do I think was good about my performance?
- What aspects did the staff feedback highlight as good in relation to my report?
- What do I think might be improved for next time?
- What suggestions have been made in the staff feedback that I might apply in future work?

Instruction on reflections was provided verbally and in writing: students were asked to reflect on approaches used and on the completed report, then generate an action plan; they were informed that they could use the reflection to raise any issues of doubt or on which they might disagree with the marker (if they justified their view). Reflections were submitted with the next assignment in 2012-13 (e.g., reflection for assignment 1 was submitted together with assignment 2) but submitted prior to the next assignment in 2013-14. Reflections were graded using a tick-box proforma with 1-2 sentences of comment which might also address any points raised by the student. The grading considered the following:

- Is there clear evidence from the reflection that the feedback was read and considered carefully?
- Is there clear evidence of reflection on approaches taken during preparation of the report?
- Is there clear evidence of reflection on how the approaches to work might be improved or built on for future reports?
- Is there a clear action plan?

Reflection grades contributed 10% towards the four reports to which they related. These assessments were summative, counting for about 4% of the year’s assessment; formative help was provided for two assignments (Table 1). One assessed exercise (~1000 words) was removed so that the overall quantity of work would not increase.

	Preparation in 2011-12	Preparation in 2012-13 and 2013-14
Assignment 1: Short essay (October)	Class tutorial generating ideas towards the plan.	1. Class tutorial generating ideas towards the plan. 2. Class tutorial on assessment criteria with examples of (a) good practice and (b) typical errors.
Assignment 2: Laboratory report (November)	Individual feedback provided on drafts.	Individual feedback provided on drafts.

Table 1: Comparison of the formative work in relation to the first two assignments.

Focus group

Seven volunteers from the 2012-13 class, who were the first class required to write reflections, took part in a focus group at the end of the year; to consider the following:

- How long did you spend reading feedback / how often did you refer back to the feedback?
- Did you pay more attention than you did to previous feedback received in your university career?
- Did you read feedback any differently depending on the grade?
- How long did you spend writing the reflection?
- How would you feel about not getting a grade until after you have written the reflection?
- Any other thoughts on use of reflection on feedback?

Discussion in the focus group was recorded with permission from the students.

Analysis of grades

Grades were analysed for similar items of coursework; statistical methods used were ANOVA and Tukey's post hoc analysis. The February assignment was used to control for grading differences between 2012-13 and 2013-14 (since the assignment was based on an analysis of the same data in both years); a teaching assistant took three of the reports submitted by students in the 2012-13 class, anonymised them and placed them randomly for grading amongst the 2013-14 reports. The grading system is a 22-point scale on which 12-14 are C grades and 15-17 are B grades.

The interventions and evaluations over the three years of the study are summarised in Table 2.

Results

Reported use of feedback and usefulness of written reflections

Twenty three of 34 students (68%) completed the questionnaire in 2011-12, 19/26 (73%) in 2012-13, and 28/36 (78%) in 2013-14. Due to the anonymity of the questionnaires it was not possible to compare characteristics of non-responders versus responders. For the questions on reading and using feedback the students from sessions 2012-13 and 2013-14, who wrote reflections on feedback, on average scored all three items more highly than students in session 2011-12 (Figure 1), although only the increase in relation to 'How carefully did you read the written feedback?' was statistically significant.

Year	Intervention	Evaluation
2011-12	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Questionnaire (use of feedback) Overall class grade analysis
2012-13	<ul style="list-style-type: none"> Reflections required for assignments 1-4 Reflections submitted together with next assignment 	<ul style="list-style-type: none"> Questionnaire (use of feedback, views on reflections) Focus group Overall class grade analysis, including relationship of grades to quality of reflections
2013-14	<ul style="list-style-type: none"> Reflections required for assignments 1-4 Students encouraged to generate “active” action plans Students informed of positive results from use of reflections in 2012-13 Reflections submitted about one week before the next assignment Grades withheld until receipt of the reflection for assignments 1-4 (which could be submitted from 2 days after the feedback was given), and for 2-3 days for later assignments 	<ul style="list-style-type: none"> Questionnaire (use of feedback, views on reflections, views on grade withholding) Overall class grade analysis, including relationship of grades to quality of reflections

Table 2: Summary of the interventions and analyses.

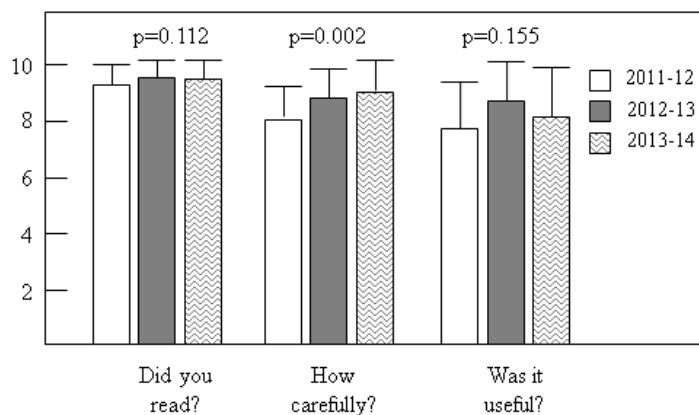


Figure 1: Reported use of feedback. Bars show the average values for student responses in session 2011-12 (n=23) and 2012-13 (n=19) to the questions: Did you read the written feedback on your assessed coursework? (Always = 10; Never = 0); How carefully did you read the written feedback on your assessed coursework? (Very carefully = 10; Not at all = 0); Do you think that written feedback was useful to help you improve your performance? (Very useful = 10; Not at all useful = 0). P values represent outcomes of independent-samples Kruskal-Wallis Test.

All classes clearly valued feedback, though some 2011-12 comments indicated that consideration of feedback might be different for positive versus negative feedback, or might depend on the grade:

'Generally read the feedback carefully but I was more likely to read positive feedback carefully than negative as I wanted to know what to keep doing and I often already know what I should have done better in line with the negative comments.' [2011:5]

'Tried to read over negative comments as much as possible.' [2011:9]

'It depends on the mark (grade) of the whole work if it is high grade I honestly not very carefully read them and vice versa.' [2011:20]

In 2012-13 and 2013-14 no students indicated differential attention to positive versus negative comments, probably because they were required in reflections to consider both what they had done well and where they could improve. Some students attributed improved grades to use of feedback, however others saw no grade improvement even though they felt they had used the feedback:

'Looking at all received feedback compiled, essays, tables and diagrams I've produced have been improving a lot.' [2012:15]

'Very very useful. Because started from D to B. motivate me to read and think out of the box.' [2012:8]

'Although feedback was useful and allowed me to see how I could improve my grade I found that after applying these changes my grade did not improve as I would expect.' [2012:1]

Use of reflections correlates with improved grades

We compared grades between the three classes for all comparable assignments. The November assignment was identical between the three years in both the content / format of the assignment and the level of help provided (Table 1), so that this assignment is likely to provide a reasonable baseline from which to compare performance. Subsequent assignments were similar in format although modified in content to deter year-to-year plagiarism. Average grades for assignments later in the year were improved in 2012-13 and 2013-14 compared to 2011-12 (Figure 2); the fall in grades for all classes towards the end is likely to be due at least in part to an increase in complexity of later assignments. The essay assignment E (Figure 2) was submitted in late December for 2011-12 class and in March for 2012-13 and 2013-14 classes, so the considerably lower average performance for 2011-12 class may simply be related to the timing of the assessment. Nevertheless, the introduction of reflections on feedback did correlate with improvement in grades.

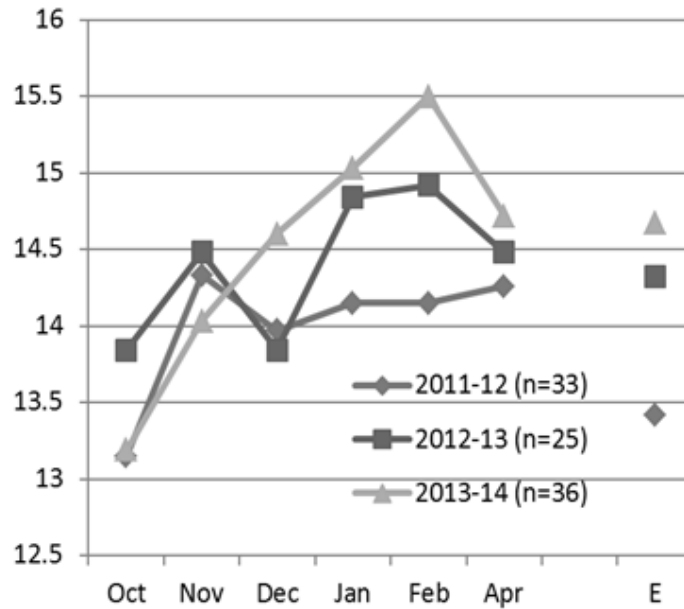


Figure 2: Average grades in comparable items of coursework for students in 2011-12 (n=33), 2012-13 (n=25) and 2013-14 (n=36). The November assignment was identical between the three years; other assignments were of a similar type. Assignment ‘E’ was an essay of equivalent type and format, but was submitted at the end of December by 11-12 class and in March 2012-13 and 13-14 classes (the late December assignment for 2012 class was not equivalent to the March assignment for 2011 class). Reflections were required on feedback for October, November, December and January assignments in 12-13 and 13-14. ANOVA analysis demonstrated no significant differences in grades achieved in October and November between the three classes. Subsequent ANOVA of the mean grades awarded to the assignments completed from December to April showed a significant difference ($p < 0.03$) between the classes. Tukey’s post-hoc analysis showed that the difference between 2011-12 and 2013-14 classes was significant at $p = 0.017$.

Some interesting patterns emerged when the classes were split according to quality of the written reflections, generating Group A, for which the reflections provided at least some evidence of evaluation and insight into aspects of approach to work or application of feedback, and Group B, for which the reflections essentially rephrased our own comments and suggestions (Figure 3). The difference in performance on later assignments in relation to the quality of reflections is particularly striking for the 2012-13 class (Figure 3). In fact, for Group B ($n = 11$), the only large increase in grades was seen for the November assignment, when feedback was provided on a draft. This group of students seemed able to apply feedback effectively when given direct suggestions for the current piece of work, but may not have grasped the rationale for the suggested changes, and are thus less able to apply the underlying principles of the feedback to future assignments (ie ‘feed-forward’).

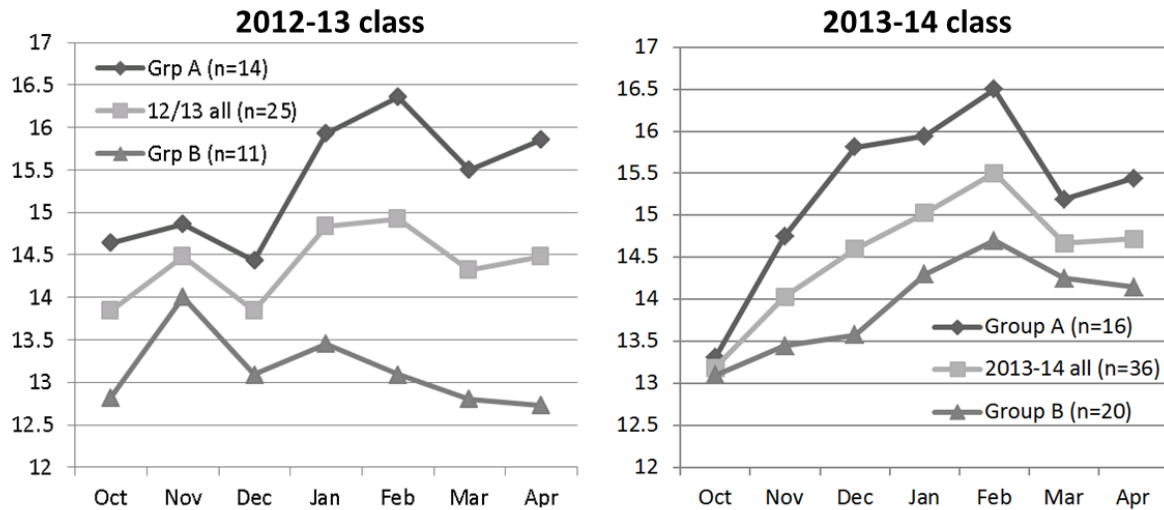


Figure 3: Average coursework grades split according to quality of reflections. For 12-13 class Group A represent average reflection grades 18 and higher; for 13-14 class Group A represent average reflection grades 17.7 and higher.

In 2013-14 we introduced further changes, including grade withholding and emphasis on active action plans (Table 2), to encourage all students to reflect more deeply on feedback. Performance improved compared to previous years, and although a difference was seen when the class were split by quality of reflections (Figure 3), both groups showed improvements, suggesting that that the 2013-14 changes had a positive effect on both engagement with feedback and feed-forward. Three reports which had been graded 15/15/16 in February 2012-13 were anonymised with the 2013-14 reports at which time they were graded 14/14/16 respectively. Thus marking seemed to be equivalent between the two years, perhaps slightly more stringent in 2013-14. The class composition might in theory have had an effect on grades, and whilst the preceding two classes had comparable composition, the 2013-14 class had a greater proportion of non-EU students. In our experience with postgraduate classes, international students as a group tend to perform less well than EU students as a group, so the higher overall performance of the 2013-14 class might be considered as having additional significance.

Student views on use of reflections

When asked in the questionnaire ‘Would you recommend the use of written reflections for future MSc classes to help them in their academic development?’, the responses in 2012-13 were 12 ‘yes’ and 6 ‘no’; whilst in 2013-14 responses were 24 ‘yes’ and 4 ‘no’. Some students in both years clearly felt that reflections were not useful, although one quote suggests that feedback was seen as a grade justification rather than as guidance:

'I did not find this very useful. I read the comments and understood them. It seems unnecessary to write a report, have it marked, write that I understood the marking and then have that marked.' [2012:19]

'I did not find reflections particularly useful as the feedback were already read carefully.' [2012:16]

'I think that people should decide on their own if they are going to use the feedback to improve their work or ignore it and make the same mistakes repeatedly. It feels a step too far for spoon-feeding those who are lazy.' [2012:11]

'It seemed more like proof that I read it than an increase in understanding.' [2013:5]

Clearly, as with any intervention, it is difficult to please everyone, but it was encouraging that the majority of students were positive:

'Although it took time from other assignments, reading the feedback and looking over past hand-ins can help see somethings to improve you are not aware of.' [2012:2]

'Writing reflection on your feedback is a good way to ensure students have read and digested their feedback ... helps you ensure you put it into effect.' [2012:3]

'I went through every point on the feedback whenever possible and thought why it would have been mentioned and how I could improve on that aspect the next time. Made sure I remembered.' [2012:15]

'It helps me to firstly digest the feedback. Also improve my next essay by understanding where I had mistakes. It also helps planning how can avoid previous problems.' [2013:17]

For some students the reflections provided a useful summary of feedback to date:

'You could look back on all reflections at once to remind you of previous action plans.' [2013:21]

There were suggestions that habits had altered in relation to using feedback and that undertaking a reflection had facilitated self- evaluation:

'It meant that at the start of the year I got in the habit of actually reading the feedback, later on I genuinely wanted to read them.' [2012:18]

'It is a very useful task. Enables or rather makes people genuinely read and assess the feedback they get for their submissions. Reflecting on the feedback, also lets you evaluate your own work.' [2012:6]

'Very useful exercise to understand and judge carefully and objectively my own work.' [2013:24]

'There is no downside to being forced to evaluate your own work.' [2013:26]

One student reported understanding the problem but inability to visualise or articulate specific actions that would help to address it:

'I understand the point that I need to improve but I don't know how to explain the action to be taken for the improvement although I know what should be done.'
[2013:2]

In the best reflections students had identified underlying causes, for example, recognition of suboptimal strategies for identifying relevant literature, realisation that lack of flow resulted from piecing together independently written subsections, or awareness that contradictions in the text were not detected due to insufficient proof-reading. Having recognised the cause, which may not be apparent to an assessor, the student is in a better position to rectify the problem.

Focus group (2012/13 class)

The seven students who took part (S1 – S7) provided representation of both Group A and Group B, and Pass/Merit/Distinction awards, although UK students were over-represented and non-EU student underrepresented in relation to the class composition. However, this exercise was dependent on volunteers and we accepted all seven who volunteered in order to get a range of views. We wanted to explore how our system might compare with previous use of feedback and were surprised by the unanimous claim that postgraduate study had provided their first experience of feedback:

S1: Sometimes had some scribbles in pencil, saying 'good', 'OK', 'excellent', or they would cross out a whole paragraph.

S2: We never got any essays. For my thesis in my Undergrad I got draft feedback but it wouldn't have been nearly as detailed or constructive. It was more as if someone was English-checking me.

S4: We were talking about how in our Undergrad, we didn't get any feedback at all, so it's likely that we're making the same mistakes over and over. [S4]

Two Saudi Arabian students reported having no written reports as undergraduates, the other students (including S1, S2 and S4) represented four different universities (including our own) in the UK and Eire. These had acquired a new perspective on their previous written work, volunteering their own judgements:

S5: We didn't get feedback in four years; I think the difference it would have made... when I look at my dissertation and think 'where are the tables and figures?? it's just text!' - it just makes things so much easier. I did more than I'd normally do but compared to what I'd do now, if I say something I'll try and back it up with something, it's so much easier to understand that way.

MEJ: That's actually quite interesting, to go back and look at something you wrote in your undergraduate study.

S5: *It was horrific, when I go back and look at it.*

S2: *It's really quite embarrassing.*

Asked how long was spent reading the feedback, the students in the focus group all indicated that the feedback was considered very carefully and often consulted multiple times:

S1: *I'd say first time, probably half an hour reading it and re-reading it and then referred back to it three or four times for around 15 minutes.*

S2: *Probably spent the same amount of time for the first time, half an hour. I read through it once and then would go back to it for specific parts for when I was writing my next report. ...It kind of accumulates so I'd say an hour in total if I consider how many times I went back to each feedback. It got less as I went on as my feedback was getting better so I had less things I needed to go back and look at.*

S3: *I think significantly shorter; I read it once or twice on the day I got it back, and then go over it again when writing the reflection, so it stuck in my head.*

The students were also asked how long it took them to write the reflection, and there was general agreement that it was often less than 30 minutes:

S3: *Maybe something catches my eye when reading the feedback a third time and I would include that in the reflection. I wouldn't work on the reflection in one go, I'd rather go over it a couple of times, like 10mins each.*

However, it was clear that having the reflection submission at the same time as the next coursework meant that the reflection was given a low priority:

S2: *It was an afterthought for me a lot of the time if I'm honest.*

In general the reflections were felt to be useful even though some did not like this exercise:

S2: *I didn't like writing them but it is a useful task.*

S3: *It was fine after the first one, because you're not entirely sure what to write, but as soon as you realise what to write it's fine.*

We explored how the students would feel if they received feedback without a grade. Contrary to our expectations, students were positive about grade-withholding, although they thought there would be anxiety about the grade and would not want to wait too long:

S2: *Well I think it would force me to look at my feedback more closely.*

S3: *It would be on my mind all of the time 'what did I get for this?'; it might make you feel worse.*

S2: *Yeah I would be worried about what grade I'd got, but I also think that I'd read it more intently to try and figure out and also to see what I need to improve on.*

S3: *From the feedback I would be thinking 'oh gosh, there's so much, I've probably failed', so if that's on my mind for a few days I'd be distracted.*

Student attitudes following grade-withholding

In the final year of the study, when students were sent feedback only without grades, two students reported anxiety/frustration, however 16/28 felt that withheld grades made them read feedback more carefully, and some indicated that seeing the grade with feedback might deter them from reading feedback.

'May be to concentrate on the feedback more because if somebody gets bad grade will not read the feedback will be upset' [2013:4]

'It made me focus on the feedback and allowed me to reflect better. If I had the grade I would be more focussed on that.' [2013:18]

'If you get grade with feedback, knowing grades beforehand affects your mood. If grade is good you are happy and don't feel need to have look at feedback, if grade is bad you are upset and don't want to have a look.' [2013:23]

However one student expressed an opposing opinion:

'Actually I prefer to see my grade as this will motivate me to see my feedback and know my mistakes beside having better understanding for the grade at same time.' [2013:2]

Several students indicated that they used the feedback to estimate the grade, and some were expecting a better (or different) grade than was achieved:

'It was good but it also increases the anxiety. Also sometimes disappointing as feedback and grade don't match.' [2013:7]

'Positive feedback can suggest a higher grade than you achieve which is disappointing.' [2013:8]

'I was reading the feedback more than one time to understand it better and to estimate what my grade would be.' [2013:13]

'It forced us to look and evaluate our own work but it was mostly used to guess the grade. Often it was impossible to correlate severity/number of comments with grades.' [2013:26]

Discussion

The recommendation by a majority (36/47) of students that written reflections be used in future contrasts with the *'intense reaction against the exercise'* and *'poor attitudes'* to the more extensive structured reflection of Gomez and Osborne (2007). We found only slight reported increases in utilisation of feedback, which is perhaps not unexpected, since our own experience,

in line with many other studies (eg Higgins, Hartley and Skelton 2002; Orsmond, Merry and Reiling 2005; Duncan 2007) is that the majority of students already use feedback. Our intervention was intended to target students who were ignoring feedback, but has perhaps contributed to more effective utilisation of feedback for future work thus closing the feedback loop (Sadler 1989).

Our focus group reported little or no previous experience of feedback on written work, however other authors have reported discrepancy between staff and students regarding quantity and usefulness of feedback (Glover and Brown 2006), and students may not always recognise that feedback has been provided (Irons 2008, 19). Nevertheless, concerns have been raised in relation to a decline in feedback, with contributing factors including tutor beliefs that students ignore feedback, increasing pressures on staff time, and short modules with feedback too late or seen as irrelevant (Hounsell 2003; Gibbs and Simpson 2004; Hepplestone et al. 2011). Generating useful, constructive feedback is time-consuming, particularly when generating individualised suggestions for improvement (Duncan 2007). However, reading and assessing the reflections took relatively little time and the reflections themselves provided perceptive and interesting commentaries on student approaches to coursework and views on assessment and feedback. If reflection helps to ensure effective use of feedback, then subsequent feedback may take less time if the expected improvements have occurred (Franks and Hanscomb 2012).

It is clear from their written comments that some students felt their work had improved by using feedback but others reported that their grades had remained the same. Not all feedback is understood, or interpreted by students in the way it was intended by staff (Hounsell 1987; Lea and Street 1998; Hounsell 2003; Glover and Brown 2006; Walker 2009; Orsmond and Merry 2011) and students may define words differently (Chanock 2000), or may not understand comments in the context of the discipline (Bloxham and Boyd 2007, 22). We did not recognise any misinterpretations in the reflections, but another possibility is provided by Sadler (1989, 139), that *'improvements made in some directions may expose residual (or even precipitate new) shortcomings in other directions.'* Increasing their use of scientific literature can lead to misunderstandings and misinterpretations in the work of students who are using articles aimed at the research community. The grades of Group B in 2012-13 decline (Figure 2B), and a contributing factor may be the demoralising and demotivating effects of continuing low grades (Black and Wiliam 1998; Irons 2008, 46), particularly if students efforts at improvement have not been rewarded by higher grades (Orsmond, Merry and Reiling 2005; Young 2000).

To gain real benefit from feedback it is necessary to close the feedback loop by feed-forward into future assignments (Sadler 1989; Glover and Brown 2006; Duncan 2007). Effective utilisation of feedback is a skill that may need to be learned (Orsmond, Merry and Reiling 2005; Weaver 2006; Burke 2009), and is something which clearly not all students do well. Orsmond, Merry and Reiling (2005) found that high-achieving students (perhaps equivalent to our Group A) used feedback to generate their own solutions, whilst weaker students (perhaps equivalent to our Group B, especially in 2012-13) tended not to move beyond tutor comments. Weaver (2006)

suggests that effective use of feedback depends on whether students can interpret implicit as well as explicit information contained in the feedback. As stated by Sadler (1989, 121):

'The indispensable conditions for improvement are that the student comes to hold a concept of quality roughly similar to that held by the teacher, is able to monitor continuously the quality of what is being produced during the act of production itself, and has a repertoire of alternative moves or strategies from which to draw at any given point.'

The focus group indicated that their 'concept of quality' had substantially altered for at least some students, and this should feed into their own formative feedback and assessment for peer work during group assignments (Marks and Jackson 2013). But the 'concept of quality' may be harder for some students to grasp, and equally difficult for staff to communicate: '*...it is often difficult for teachers to describe exactly what they are looking (or hoping) for, although they may have little difficulty in recognizing a fine performance when it occurs among student responses*' (Sadler 1989, 126). Those students writing the most insightful reflections appeared to be effective practitioners of feed-forward, and able to distil concepts of quality from the feedback provided. Successful students are constantly self-assessing and considering the applications of what they have learned, including feedback, to their future work (Brookhart 2001). However, we have shown that some postgraduate students may not have learned how to best utilize feedback. Students whose reflections tended towards a more token approach based on rephrasing feedback benefited less, or not at all. Some students were clearly able to use feedback on a draft to improve that item of coursework, by using explicit information provided by staff based upon the staff member's own concept of quality and strategies. However, in making changes as advised the student has not necessarily learned anything (Black and Wiliam 1998). The problem for some students seemed to be in grasping the rationale for suggestions made in the feedback in order to be able to apply the principles themselves to feed-forward into future assignments. As Burke (2009) and Jonsson (2013) suggest, students may require guidance on how to use feedback effectively, and our Group B students, particularly in 2012-13, are likely to fall into this category. The changes in our approaches to implementing the reflections in 2013-14, and increased emphasis on generation of active action plans, may have facilitated the acquisition of the requisite skills in effective use of feedback in a proportion of the class for whom feedback may otherwise have had little positive effect. It is evident from our own experience that not all students immediately grasp the concept of reflecting on feedback, as has also been reported by Irwin et al. (2013). The step of reviewing student reflections as an integral part of the overall process is clearly important in order to provide guidance in relation to the reflection and the action plans that are generated.

Since provision of grades, with or without comments, may be less conducive to improving performance than provision of comments alone (Butler 1988; Black and Wiliam 1998), we trialled the format of initially providing feedback alone to students; and only later releasing the grade, in line with the suggestions of Taras (2002), Gibbs and Simpson (2004), Boud and Falchikov (2006), Irons (2008), Irwin et al. (2013) and others. Student response to this exercise

was mixed, with 43% against withholding of grades. Some comments indicated a disparity between the grade expected from reading of the feedback, and the grade actually achieved. Factors that may contribute to this include the deliberate effort on the part of staff to be positive and encouraging in feedback, highlighting good aspects of the work and not just those aspects that are deficient. It's possible that some students focus more on the positive comments than those which are perceived as negative, or believe, for example, that if a substantial degree of effort put into the work has been recognised by the marker, that this must automatically equate to a high grade. Nevertheless, a slight majority were in favour of withholding the grade, and their comments indicated that grade withholding encouraged them to analyse the feedback more carefully, in line with the findings of others (Irwin et al., 2013).

In conclusion, our experience has been that introduction of assessed reflections has been beneficial to overall class performance; reading and grading the reflections was not onerous and it provided useful insight into student perspectives on coursework, as well as allowing an element of dialogue whereby students could raise doubts about aspects of the feedback. One of the key observations was that the degree of improvement in grades correlated with the quality of reflections; those students able to think beyond the feedback to generate considered analyses of their performance and clear action plans scored significantly more highly in subsequent assessments. Some students, however, may require more help in learning to use feedback as a prompt for reflecting on their practices and generating action plans; this might be achieved for example by one-to-one sessions with staff, or by encouraging students to share reflections in a group setting, perhaps facilitated by staff. Our class were more positive about reflections than grade-withholding, but continuing both practices appears beneficial, though it may be challenging to find a balance between providing encouraging feedback to foster students' self-esteem (Young, 2000; Juwah et al. 2004) whilst identifying aspects that need improvement. Some students were clearly not in favour of the interventions, but the positive reactions of the majority, in addition to the obvious improvement in grades, encourages us to continue with these changes. It is perfectly possible that students who were against writing reflections or having grades withheld may nonetheless have been amongst those who benefited, and negative responses to pedagogic innovation should not deter staff from making changes that are deemed to be beneficial. Keeping students informed in regard to the rationale behind our interventions, and the positive outcomes seen to date, should help student engagement with the process given the general desire of students to improve their grades.

Assessment is a costly aspect of higher education with provision of feedback being a key part of the process (Irons 2008, 28). However, if students are not using feedback effectively then the time and effort spent by staff, and the associated cost, is wasted. It's not enough simply to provide good feedback – we must also ensure that students recognise the importance of feedback and learn to become effective practitioners of the requisite skills in using feedback to improve their future work.

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