Feedforward: the responses of accounting students

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Abstract
Although the theoretical benefits of feedback are generally well established, in practice those benefits can be less than clear. This is particularly the case on shorter courses, where students have limited scope to integrate feedback into future assessment performance. If we accept that one of the key purposes of feedback is to encourage students to reflect on – and subsequently change –their performance, there is a strong argument for feedforward in such cases.

This paper analyses the performance of 137 students on an MBA module in financial decision-making. An assignment was delivered to two groups, one of which was involved in a structured feedforward exercise. At the end of the module all students completed an evaluative questionnaire. In addition, a focus group was held with a group of students who had been involved with the feedforward exercise.

The study found that increased support and guidance through the feedforward process had no significant impact on student performance, but that student satisfaction increased. The question of performance was found to be intertwined with complex issues of strategic approaches to learning, satisficing behaviour, 'spoon-feeding' reactions and workload management. The study points to a need for more qualitative research into students' strategies for assessment.

Keywords
Assessment; short courses; teaching approaches; feedforward.

Introduction

This paper is based on an action research study conducted with students taking a financial decision-making module on an MBA course. A total of 137 students were involved in the study, including both full-time and part-time students.

The study was prompted by anecdotal evidence from students that the learning context of accounting and finance was very different to the other modules that they studied on the MBA and this made them unsure as to what was required from them in their assignment. This problem was compounded, it was suggested, by the fact that most students studied only one compulsory finance module on their course. Any feedback they received on their finance assignment was of comparatively less use to them than the feedback on other subjects because they could not apply what they had learned from this to any further study. There was therefore concern among teaching staff that some students may be failing to perform to the best of their ability in the finance module. The agreed remedy was to increase guidance and support during assignment preparation to help students to understand:

- the relevance of finance within the business context; and
- what was required from them in terms of demonstrated learning outcomes.

Sadler (1983) suggests that improving student awareness of what they should be striving to achieve and their capacity to self-monitor in their own achievement can lead to both improved grades and increased intrinsic satisfaction with their studies.

Approaches to learning – are accounting students different?

It is recognised that different academic disciplines can create different student learning approaches due to their different learning environments (Entwistle and Ramsden, 1983; Meyer, 1999). In particular, it has been suggested that accounting can foster a different learning approach to other business disciplines (Gow et al., 1994; Sharma, 1997; Lucas, 2001; Byrne et al., 2002). When related to Entwistle's (2000) model of surface/deep learning, it has been found that students studying accounting tend to adopt a surface approach to learning, and that this approach leads to poorer academic performance (Booth et al., 1999).

Research based on Entwistle and Ramsden's (1983) model of strategic learning suggests that both deep and surface learning strategies may be applied by the same student at different times in response to their perception of requirements and assessment criteria. Several factors have been identified as impacting on student learning strategies. Significant is the student engagement with the topic (Ramsden, 1997) but also of importance is the student's internal motivation – in particular their intention to understand rather than to simply pass an assessment task (Marton and Saljo, 1997). Thus it is important to ensure that students are helped to see the relevance of the material being studied to their work and future career development.

Despite the suggestion that students studying accounting subjects tend towards a surface approach to learning, other research suggests that students' approaches to learning are derived from their perceptions of the learning context. Although one aspect of this learning context is undoubtedly rooted in the epistemology of the discipline (Meyer and Eley, 1999), other aspects of the teaching and learning strategy come into play. It should therefore be possible to improve the quality of student learning by altering the learning context (Prosser and Trigwell, 1999).

Why give feedback?

Feedback is acknowledged as being central to learning (Carless et al., 2006). However, research emphasises that, if it is to be of any value, feedback must help students to understand the gap between the goals that they are aiming for and their current level of achievement (Sadler, 1989). Feedback to students is of no use unless they can learn from it (Rae and Cochrane, 2008).

This raises the question of how and when feedback should be delivered. Sadler (1989) suggests that students should develop expertise in achieving learning outcomes in the same way as they develop their knowledge and understanding of the substantive content of a module. This points to feedback being an important part of the formative process. Sadler suggests that feedback, – both from tutor and peers – is a key tool for developing expertise in assessment.

The problem for short courses

For feedback to be effective it needs to be timely and acted upon (Gibbs and Simpson, 2004). This means that students must receive feedback at a time when they can use it for the purposes of future work. If there is no future work for them to apply this feedback to, then it is of little value. The concept of feedforward is derived from this important point. Any feedback given to students must be capable of feeding into their future assessed work.

Nicol and MacFarlane-Dick (2005) and Lines and Mason (2005) suggest techniques such as progressive weighting of assessments to create a rebalance between formative and summative assessment. At the start of the course the assimilative element will be relatively small compared to the formative and this

ratio gradually reverses to the end of the course. This is good if course scheduling allows such a process. The problem with short courses is that their timescale squeezes out the capacity for formative tasks to prepare students in advance for their summative assessment. Lines and Mason (2005) highlight this as a problem of modularity in modern higher education courses. We would suggest that this is an even greater problem on shorter courses when students are studying over a matter of only a few weeks and the total course runs across only two semesters.

The argument for feedforward

Sadler (1983, 1989) stresses the importance of enabling students to develop the capacity to evaluate the quality of their own work during its actual production. We feel that intuitively this is an a priori truth. If they are to be able to do this, students need to be able to:

- recognise what constitutes work of a high quality; and
- compare their own work with that benchmark.

Previous work done on helping students understand assessment criteria suggest that students prefer some form of dialogue with their tutors to understand what they are looking for (Bloxham and West, 2007). It is suggested by Gibbs and Dunbar-Goddet (2007) that an effective way of achieving this dialogue is through repeated cycles of formative assessment. This is not feasible on a short course due to time scale and potential assessment overload.

This points to the value of some sort of feedforward as being the most appropriate way of supporting students to self-regulate their performance. Rae and Cochrane (2008) emphasise the importance of learning from feedback and incorporate feedforward into an effective model of student self-managed learning. The use of feedforward would enable students to judge their own work and make appropriate changes before summative assessment. It also allows an increase in formative work for students without increasing the assessment burden with additional formative assessment vehicles.

What form should feedforward take?

Carless (2006) emphasises that students need to learn about assessment in the same way that they engage with the subject content. He suggests that dialogue between students and tutors acts as an important means of achieving this aim. This points to the value of integrating feedforward into subject content delivery.

Meyers and Nulty (2002) reported that using an integrated set of assessment tasks to achieve constructive alignment between module aims and student learning outcomes resulted in higher levels of student satisfaction, interest, engagement with the learning experience and, in turn, a significantly enhanced quality of student work.

Lines and Mason (2005) advocate the use of self and peer assessment as being ideal for formative purposes. This means that the feedforward work can be integrated into group and self-study exercises, as well as with tutor-led work. Previous studies suggest that the formative use of feedback, in particular peer and self-assessment, can help facilitate student learning (Smith et al., 2002). Also, the adoption of a student-focused approach to teaching will improve the quality of student learning (Trigwell et al., 1999). This requires a shift in the teaching approach from conventional conceptions of teaching to one of facilitating active learning (Orsmond et al., 2002).

The objectives of this study

The analysis of the literature set out above suggests two important benefits from feedforward:

- increased guidance and feedback during the assignment process ('feedforward') should improve student performance, as measured by their assessment results; and

- such feedforward should also improve students' engagement with and enjoyment of their module experience.

This study examines these two potential benefits using both quantitative and qualitative means. First, quantitative analysis is used to test the following hypotheses:

H1: Students provided with increased guidance and feedback during the assignment process ('feedforward') achieve better performance, as measured by assessment results.
H2: Students provided with increased guidance and feedback during the assignment process ('feedforward') experience increased engagement with and enjoyment of the module, as measured by their module feedback rating.

This testing is then complemented with qualitative analysis that explores some of the issues underpinning the quantitative results.

The research study
This study is based around a financial decision-making assignment on an MBA course at a UK University. The assignment required students to write an individual report of 2,500 words, which critically analysed the financial problem-solving, and decision-making in some area of practice in an organisation of their choice. Students were encouraged to choose an organisation and the situation based upon their own previous or current experience. The report called for a critical analysis of either good or bad practice and to evaluate the decision against financial theory.

The study involved 137 students. For the purposes of the study the students were split into two groups, each group containing one full-time and one part-time class (See Table 1).

Table 1. Student groups involved in the study.

	Group A	Group B	Total
Full-time	19	28	47
Part time	47	43	90
Total	66	71	137

Method
Both groups of students participated in a six-week course on financial decision-making and problem-solving. At the end of this course the students had a further three weeks in which to complete and submit an assignment.

The first group (Group A) was given six weeks of conventional classes ('teacher-focused', content-oriented delivery, Entwistle, 2000) covering theoretical aspects of financial decision-making. Students were asked to choose a topic of interest and relevance and to apply it in their assignment. The second group (Group B) was also given theory classes. They also received the following guidance in relation to their assignment:

Week 1
Students were issued with the assignment, which was discussed at some length in class. This discussion included a verbal outline of the requirements of the assignment by the tutor and a question and answer session. Students were also issued with an assignment planning sheet that guided them through choosing a topic and relevant theory. They were given two weeks in which to complete this and were asked to bring the completed assignment planning sheet to the class in week three.

Week 3
Students were given the opportunity to discuss their planning sheet in small groups and with the tutor during the class.

Assessment criteria—A full set of assessment criteria was issued to both groups along with the assignment brief. Previous research has suggested that simply giving written sets of criteria to students who are not familiar with the meaning of such terminology is of little use (Sadler, 2009). Therefore, students were encouraged to discuss and give examples of what different assessment criteria may mean and how they may be achieved.

Discussion of terms—There was a discussion around the meaning of terms such as analysis and synthesis. Price and Rust (1999) suggest that for some students such terms form part of an inaccessible academic discourse. To simply link these terms to marking criteria without first familiarising the students with such terminology may be of little use. In particular, the discussion in the sessions was aimed at contextualising the generic course level descriptors so that they had relevance to the assessment at hand. That is noted by researchers as an important aspect of understanding (Woolf, 2004).

Weeks 4 and 5
Further classroom discussion based around the assignment planning sheet. Students were asked to draft an outline of their assignment by week six.

Week 6
Students were issued with an assignment self-assessment sheet. This was a checklist against which they could assess their work. They were given the opportunity to complete this in class and discuss it in small groups. As part of this process each student was seen individually by a tutor. The tutorial was based around the results of the self-assessment exercise. The emphasis of the feedback, both peer and from the tutor, was on evaluating the student's work in progress against the learning outcomes and assessment criteria. This work was aimed at addressing Sadler's (1989) prescription that in order to improve students must be able to identify how their current achievement compares to their goal.

Week 9
Students were required to submit their assignment (three weeks after the final session).

Student feedback on the module
At the end of the module, but before they knew their grades, all students were asked to complete an evaluative questionnaire for the module. In addition to the questionnaire, a focus group was held with a group of eight students from Group B.

Ethical considerations
Research of this nature, particular in terms of experimentation with the student experience, has potential ethical implications. The overriding principles that impact on this study are minimisation of harm and informed consent (Evans and Jakupec, 1996; Burgess, 1989). The authors' main concerns in this respect were that the study should have no negative impact upon the student experience and upon the module grades of participants.

Three aspects of the study were therefore examined for ethical implications:

- the use of a control group;
- involvement in the experimental group; and
- participation in the focus group.

The first concern was that the control group should not be disadvantaged. In fact, the control group participated in a delivery of the module that was in line with previous students' experience. They were therefore in no way disadvantaged in comparison to the experience of other students who had taken the module. The second concern was whether or not students should be informed of the study. Although some researchers have argued in favour of covert research (Punch, 1986), most researchers argue that it cannot be justified (Clark, 1995; Kiegelmann, 1996). It was judged that informing the participants of the study and obtaining informed consent was unlikely to have any impact on results. In fact, it was considered important to inform students about the experiment so that they could reflect on their experiences and share those reflections in the focus group at the end of the course.

The groups involved in the study were therefore consulted at the start of the course. Group B were told that they would be involved in a study that was exploring higher levels of student support for assignments, and the nature of that additional support was outlined. Perhaps not surprisingly, no students objected to being offered a higher level of support. Participation in the focus group was voluntary. All students who had been subject to the feedforward exercise were invited to participate and told that their comments may be used as part of the study.

Results

Student grades

Student assignments were all blind marked. For the purposes of testing Hypothesis 1 (whether the different approaches to assessment had an impact on assessment grade) an independent-sample t-test was applied to the two groups. This test failed to reveal any significant differences in the mean scores of the groups ($P<0.05$). Hypothesis 1 was therefore not confirmed, suggesting that the approach to assessment had no significant impact upon the students' assignment grade.

Because the assignment focused on a critical assessment of financial decision-making within the real world context, it was possible that the assignment was biased towards part-time students who would have more real-world experience against which to measure the theory they had studied. The means of the full-time and part-time students across both groups were therefore compared to see if the part-time students performed significantly better than the full-time students. This time, an independent-sample t-test revealed that the difference in means was significant ($P<0.05$). The part-time students did achieve higher scores on average than the full-time students.

Student satisfaction

The student feedback questionnaire addressed the students' level of satisfaction with lecture delivery and course content. Students were asked to rank four aspects of the lecturing and six aspects of the course content on a Likert scale of 1 to 5 (1 being unsatisfactory and 5 being excellent).

All 137 students participating in the study completed the questionnaire. It was analysed by calculating a mean score for the 10 rankings given by each student. The overall mean was 4.2 out of a possible maximum of 5. All groups returned a mean score of 4 or more, showing that overall there was a high level of satisfaction with the module, regardless of the approach to assessment.

To test whether there was a relationship between learning outcome, as measured by assignment grade, and student satisfaction, a one-tailed Pearson correlation test was applied to the full student cohort. This produced a correlation coefficient of 0.056, indicating no relationship, either positive or negative, between assignment grade and satisfaction. As the student satisfaction survey contains two sections, one for tuition and one for course content, similar correlation tests were performed for the satisfaction for each of these elements. When taken in isolation neither element showed any significant correlation.

Although these test results showed no overall correlation between student performance and student satisfaction, the study also sought to see if there was a significant difference between the two study groups in terms of their satisfaction with the module (Hypothesis 2). Two further tests were done on the student satisfaction survey results:

First, as with assignment grades, the average marks for satisfaction were compared between the full-time and part-time students. Although the full-time students return a slightly higher mean satisfaction score than the part-time students, a t-test failed to reveal any significant differences in these mean scores.

Second, the student satisfaction scores were compared between the two study groups. Study Group B did show a higher level of satisfaction with a mean of 4.35 against the mean score from Group A of 4.06. This difference was found to be significant ($p<0.05$).

To summarise, the results of the quantitative testing show that those students involved in the feedforward exercise performed no better in their assessment than those students given purely written guidance. However, there was a significant difference in the performance of full-time and part-time students. There was no relation between student satisfaction with the module and student performance in the assignment. However, those students involved in the feedforward exercise showed a significantly higher level of satisfaction with the module.

Student focus group

Following publication of assignment results,a focus group was held with eight students from Group B, the group involved in the feedforward exercise. This included a mix of both full-time and part-time students. The students were encouraged to reflect on their experiences of the feedforward exercise and the impact that it might have had on their assignment results and their satisfaction with the module.

Assignment performance

The discussion supported the quantitative findings that students did not necessarily perform better in the assignment as a result of the feedforward exercise. Students found the process different but not necessarily easier. Because the idea of reviewing and assessing their work before submission was new to them, they did not find it easy and they felt they were not necessarily able to respond well to the feedback:

> *In retrospect I can see that I didn't use the opportunity for comment on my work as well as I should have done. I guess I was embarrassed at showing what I was doing.*
>
> *I didn't like the idea of having to show our work to other students.*

It was felt that many students, because of the extra support through the feedforward process, put less initiative into their assignments themselves. If the comments that they received indicated that their assignments were on the right lines, then they relaxed more. It was suggested that those students who had not been given such detailed feedforward were more anxious about the quality of their assignment and therefore may have worked harder on it:

> *I know one of the students in the other group and she worked a lot harder than me. She was really scared of this assignment. I guess I was a bit more relaxed because you'd already looked at my work and said it looked OK.*
> *I worried a lot less about [the assignment] after the tutor had gone through the assessment sheet with us. I thought, I seem to be ticking most of the boxes okay. I should be OK.*

Some comments suggested a strategic approach (Ramsden, 1979) towards assessments as a means of managing overall assessment workload on the course. Some of the students in Group B used the feedback as a gauge as to whether and not their work was of sufficient quality to pass. If they felt, based on the feedforward exercise, that they were going to get a pass, they submitted the assignment without further

work. This allowed them to spend more time on assignments for other modules where they were less confident of a pass.

There was also a suggestion that despite the additional support on assessment criteria and learning outcomes, students struggled to grasp the meaning and significance of these. Also they were unable to relate them to their work. For example, they knew that they had to critically analyse but were unable in their own work to distinguish between critical analysis and description:

> *I found the assessment sheet very difficult to fill in. I thought it was a bit confusing actually and I really didn't understand what it was about.*

> *You did say that my work was too descriptive but I just didn't know what to do about that. I was a bit disheartened actually, by your feedback.*

As argued by Sadler (1989), being able to identify shortcomings in their own work seemed to be of little value to them if the student lacked the capabilities to address these. This also points to another problem with short courses in which students do not have the opportunity to go through repeated cycles of assessment and enables them to reflect on and act upon feedback.

Satisfaction with the module
Comments in the focus group suggested that students enjoyed the module more as a result of the increased interaction with the tutor during the feedback process:

> *I've never had that level of discussion with the tutor before. It really increased my confidence in what I was doing.*

Students also enjoyed the process of doing the assignment more and engaged with the subject matter, finding it more relevant:

> *When I saw the assignment at first my heart sank. I really didn't want to have to do finance anyway, but it's a compulsory element of the course. Anyway, with the discussion we had in class I began to see the relevance of what we were looking at. I can't say I actually enjoyed it, but it was interesting.*

> *I enjoyed the course a lot more than I thought I would.*

The process also increased student awareness of the importance and relevance of finance and accounting to their working lives:

> *I was quite surprised actually. When we first got the assignment I couldn't think of anything to do. However, after the class discussions I couldn't make my mind up about which situation to look at, because I could relate it to several things that are happening at work at the moment.*

Conclusions
This study, through the use of an approach that combines quantitative and qualitative methodologies, has provided new insights into student support that would not have been possible with a purely qualitative approach. The findings of the study have implications both for teaching practice and further research into assessment strategies.

Implications for practice
The quantitative findings suggest that attempts to provide students with a better understanding of learning goals and standards do not necessarily improve their performance. In fact, as revealed by the qualitative

analysis, this approach can have negative consequences in terms of students 'backing off' the effort that they put into their assessment work. This finding supports the similar results of an earlier study by Gibbs and Dunbar-Goddet (2007).

One aspect of this 'backing off' was found to be satisificing behaviour in terms of students being able to identify that their work is 'just good enough' to pass. In an analysis of the causes of satisficing behaviour, Lee (2007) speculates that there is a dichotomy between the provision of greater guidance to students and satisficed outcomes. This study has confirmed that this can occur. The feedforward process, whilst aiming to increase the utility of formative guidance to students, actually contributed to satisficing behaviour that resulted in poorer assessment performance. However, that result was linked to other factors such as workload and student attitude, as discussed below.

A second aspect of this 'backing off' may be a spoon-feeding response from students to the higher level of guidance. Previous studies have shown that too much guidance encourages dependence and prevents students from engaging fully with the task themselves (Price and Rust, 2004; Bloxham and West, 2007). There is evidence, certainly from the student focus group, that an element of this was at play in this study.

Another problem, suggested by some of the comments at the student focus group, was that of students taking a strategic approach to their assessments as a means of managing their assessment workload. Excessive workload is recognised as a factor in pushing students towards superficial levels of engagement (Rhem, 1995). This factor was clearly at play in the current study. This points to the need for good management of assessment timetables across different modules on a modular programme. It also supports the argument that excessive assessment workload does not enhance deep student learning.

One way in which the findings of this study do differ from those of Gibbs and Dunbar-Goddet (2007) is in student satisfaction. The earlier study found student satisfaction to decrease, the current study found it to increase. Even if students did not score higher grades, they derived more meaning and satisfaction from their assignment work.

Implications for further research

The feedback from the focus group suggests that a quantitative approach to exploring student learning may be failing to capture the complexities of student behaviour. It was only by exploring the quantitative results with students in a focus group that some of the various factors that were at play were revealed. This study therefore shows the value of combining a qualitative approach with a quantitative approach. At the very least, the study illustrates the importance of exploring quantitative findings to gain a better understanding of those findings.

This has been a limited small-scale study and the findings suggest that future work is needed to develop understanding of the strategic approaches adopted by students and the driving forces that lay behind the adoption of different strategic positions. The limitations of the current study and a number of ways in which it may be developed in future are set out below.

The authors recognise that this study is limited, being based upon 137 students from one course at one university. In particular, the same tutors taught all the students involved in the study. There is therefore the possibility that student reactions were influenced by the dynamics of the student-tutor relationship. There is room therefore for further replicatory studies to confirm the findings of this study.

This study was a one-off with a group of students who had had no previous exposure to this type of support. It would be reasonable to assume that a student's capacity to self-monitor and to assess their own performance would increase with practice. The results of this study therefore do not necessarily reflect what may be achieved if students had further training in assessing their own performance and were able to do so over a number of modules. A useful future study would track student performance over a number of successive modules to see if performance improved with practice.

One of the main aspects of the student reaction to this study was the backing off from work for the assignment in order to concentrate on other module assignments. If the student was exposed to this type of feedforward for all their assignments, the dynamics would be different. A further study might look into this.

This study was based on business students taking an accounting module. It was recognised at the start of the paper that accounting can foster a different learning approach to other business disciplines. It would therefore be worthwhile conducting further research to analyse whether a similar response from students would arise in a different academic discipline.

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