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USING FEED-FORWARD STRATEGIES IN HIGHER EDUCATION

The terrifying novel assignment: Using feed-forward to improve students' ability and confidence on assignments that test new skills

Within higher education it is strongly agreed that feedback is the most important way of raising student achievement and encouraging student learning (Gibbs and Simpson, 2005). Feedback is regarded as inseparable from the learning process, and is integral to several theories of learning (e.g. Kolb, 1984). With regards to academic performance, feedback helps students understand their performance, as well as how to perform to a higher standard on future assignments. In addition, feedback provides students with the confidence and the belief they have control over their success in higher education, as well as ongoing motivation throughout their degree.

However, over the past 15 years, numerous problems with feedback have been identified. Indeed, students report sector-wide dissatisfaction with feedback (Bloxham, 2014) and statistics from many universities show students do not check their written assignment feedback when they receive their marks (Gibbs and Simpson, 2005). When they do engage, they often report that feedback is not useful to them, that they struggle to apply the comments and suggestions given to future assignments, and that feedback looks back at work that has been done, rather than *forward* to how they can improve (Duncan, 2007). This is supported by Evans (2013) in her review of assignment feedback in higher education that states student dissatisfaction with feedback is well reported, and most complaints focus on the technicalities of feedback, including timing, content, organisation of assignment activities and lack of clarity about requirements.

It is therefore suggested there is a 'feedback gap' (Evans, 2013; Sadler, 2010), representing a disassociation between the efforts and guidance of lecturers and utilisation by students. In other words, a fundamental mismatch is occurring between how feedback is currently administered and utilised, and how feedback should impact on the learning experience. At present, most students view feedback in a linear fashion (Murtagh and Baker, 2009), where students complete an assignment, and receive feedback, but are not engaged with markers' comments. This linear model of feedback (Figure 1) demonstrates an absence of reflection and application of feedback comments. This directly



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contradicts theories of learning that suggest feedback is a fundamental part of the learning process and should be fed into a *circular* as opposed to *linear* model (Beaumont, O’Doherty, and Shannon, 2011; Kolb, 1984). Central to this misinterpretation is the belief that tutors are delivering feedback at a time when students cannot use this effectively (i.e. in a formative manner). Addressing issues of timing, as well as the associated dissatisfaction felt by students, is clearly a vital endeavour.

Improving timing: Using feed-forward strategies

One way of improving students’ performance on assignments, as well as their engagement and satisfaction with feedback, is to increase the use of ‘feed-forward’ strategies. Whilst there is no set definition for ‘feed-forward’, Sadler (2010) broadly suggests that this specific approach is ‘future oriented’. In other words, feed-forward specifically

refers to feedback given by tutors that should either a) be given post-assignment with more specific direction on how this can be applied to future assignments or b) impact upon an upcoming assignment. In the most obvious sense many traditional theories of learning include elements of ‘feed-forward’. For example, Kolb’s learning cycle (Kolb, 1984) is fundamentally based on the notion of using feedback given to reflect on actions undertaken and to make improvements to future actions. Indeed, it can be assumed that many tutors’, and some students’ understanding of the process of feedback in higher education is loosely based on the idea that feedback should lead to improvement on future tasks.

With regards to the impact feeding-forward strategies have between assignments (i.e. feedback is taken from one assignment to another), Murtagh and Baker (2009) propose a fully integrated model (Figure 2, overleaf) that adapts the linear approach outlined above. They propose, instead of the learning process

effectively ending upon receipt of feedback, a much greater emphasis is placed upon ensuring that the student is clear about the next steps to be taken. Key to this process is ‘feedback discourse’ (Murtagh and Baker, 2009: 23) where tutor and students can engage in meaningful dialogue about feedback and what this means for them progressing to the next assignment (whether this is in a different format or not). This model can also be applied to engagement with feedback within assignments (i.e. where feedback is given before an assignment is due so that it can be applied to that same assignment), where tutors provide timely advice and guidance. Feed-forward strategies within assignments most commonly take the form of formative assignments and feedback, such as practice attempts at sections of an assignment, or a series of tasks related to the final submission. In this sense, students are assessed informally, or given feedback which can inform their final assignment piece. Wimhurst and Manning (2013) detail this process more specifically, describing a two-stage process. Firstly, students engage in an initial attempt at an assignment item. They then receive feedback and use their increased understanding of criteria and relevant standards to tackle subsequent summative assignments that carry more weight.

Put simply, ‘feed-forward’ refers to timely and constructive feedback that feeds into the next assignment point (Sadler, 2010). This is summarised in Figure 3, and represents the circular element of feedback, both at assignment level (e.g. in-task guidance such as drafts and practice) and at the broader level of learning and progression - e.g. reviewing feedback and generating action points (Beaumont, O’Doherty, and Shannon, 2011). Feed-forward strategies directly address the points raised in the previous section regarding the timing of feedback by tutors, and the utilisation of feedback by students. Therefore, if students are given a clear opportunity to act upon the feedback given, particularly when this is provided formatively for an upcoming assignment point, it can be assumed that tutors have the opportunity to improve student performance and satisfaction. This strategy is particularly important for novel assignments, or ones that test new skills.

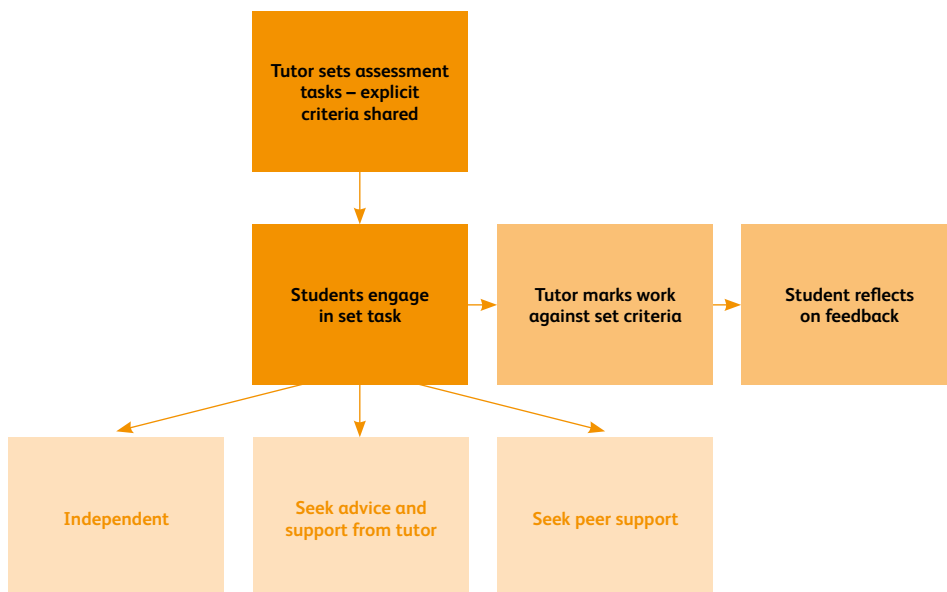


FIGURE 1 A linear approach to feedback – Murtagh and Baker (2009)

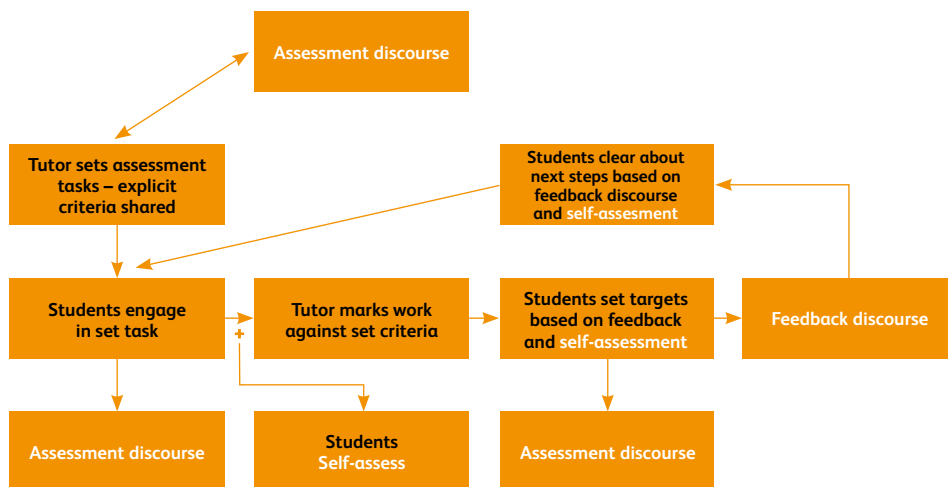


FIGURE 2 Connecting with feedback – Murtagh and Baker (2009)

Does feeding-forward work?

Studies that have specifically investigated the efficacy of feed-forward strategies have found encouraging results. For example, feed-forward techniques that involve students marking other students' exemplars led to improvements in student achievement – across ability levels – and in students' conceptions of coherence and integration in their final assignment submission (Wimhurst and Manning, 2013). Furthermore, strategies that involve the creation of high-impact feedback that is specific and clear in nature in its relation to future assignments are also linked to improvements in student performance (Vardi, 2013). Duncan (2007) demonstrated that by synthesising feedback given to students into individual learning plans that specifically target and highlight individual performance issues and how these can be improved for future assignments, small performance gains were made. Finally, Murtagh and Baker (2009) importantly demonstrated that by engaging students in both assignment and feedback discourse, and by specifically encouraging students to engage in self-reflection, they were successful in increasing their engagement with assignments, feedback, and deeper self-directed learning. This was primarily achieved by following advice set out by Sadler (2010), regarding formative assignments supporting student achievement through effective engagement with the task and outcomes required.

Feed-forward strategies are clearly gathering firm support for their efficacy in improving student performance and engagement with feedback. However, whilst it is evidently important to utilise feed-forward strategies in order to bring about improvements in achievement, few studies have investigated how feed-forward strategies impact on the student experience, and how students feel about their assignments and the feedback process. As highlighted above, many sources of student dissatisfaction with feedback revolve around the timing of feedback. It is therefore important to investigate whether, by providing students with timely, formative feedback, we can also improve students' feelings about the feedback process and satisfaction therewith.

The present study

The current study explored how applying a feed-forward strategy increased students' confidence in approaching a novel assignment in their final year of study, as well as their overall satisfaction with the assignment and feedback process. Students may experience a lack of confidence in their approach to these assignments due to an absence of previous experience. Furthermore, when 'traditional' (i.e. post-assignment submission) feedback methods are employed in these assignments, it is the authors' experience that students often report dissatisfaction as they feel they have only received helpful advice after submission, when it is too late to be acted upon. This can be resolved by allowing students the opportunity to practice and test these skills before the assignment due date, and encouraging them to feed-forward this experience into their work. It was hypothesised that giving students formative feedback to feed-forward into their assignment would lead to students reporting greater confidence in approaching a novel type of assignment and subsequently, greater satisfaction with the support given and their overall student experience.

Method

The assignment on the chosen module involved identifying gender-related content within media pieces (films, cartoons, news articles etc.), and relating these to theory of gender and gender development. This is a novel skill for most students on a psychology degree programme. In the fifth seminar of the module, students watched the first 60 minutes of the Disney film *Beauty and the Beast*. During this time students were encouraged to think about the gendered messages that the film might be presenting to them, and how this may be interpreted by viewers. They were then given the link to an online questionnaire, and told to fill this out in their own time. The importance of completing the questionnaire and its relevance to the assignment was stressed, and students were told that the length of time it would take would vary depending on the detail they included. This survey was designed to allow them to practice the skills required for their assignment before the submission date.



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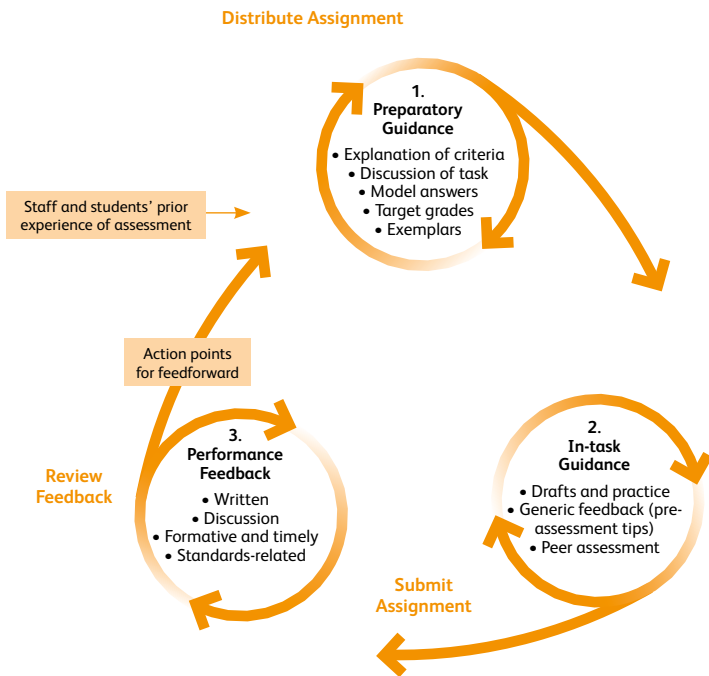


FIGURE 3 Dialogic feedback cycle – Beaumont, O’Doherty, and Shannon (2011)

Theme	Subtheme	Quotes
Issues with Feedback	Timing	When we get the feedback, we read the feedback, and then kind of don't really do anything with it because we don't really have anywhere to take it (59-61, P3)
	Nature	Feedback is not consistent throughout the course. One lecturer will give massive amounts of feedback, another lecturer will give hardly any (118-121, P5) I find that sometimes when I get a mark, like I'll get a 70 or something, and then in the feedback there's loads of negative comments and you could have done this and I sit there and I'm like 'it doesn't really match the grade' (122-125, P5)
Positives of Feed-forward	Application	It's so much better to give feedback midway because you can actually apply it (50, P2) To get some feedback before the assessment and to be able to bring it into the assessment is really good because then obviously you know that you are at least slightly on track! (43-45, P1)
	Knowledge	It kind of gave us the groundwork of the points we should be putting in (71-72, P1) I got feedback and I went home and read it and it was stuff that I could genuinely change (192-193, P2)
Impact of Feed-forward	Grades	I definitely think that, if I hadn't have done the intervention, then I wouldn't have done as well as I did (270-272, P2)
	Ability and Understanding	It helped you understand what you needed to do rather than being told "you're gonna do this" (252-253, P4)
	Confidence	For me, it made me realise that I knew what I was doing (24-25, P3) It gave me more confidence and it kind of gave me a way to begin (273, P5)

TABLE 1 Themes derived from the focus group

A total of 35 students out of 42 (83%) completed the questionnaire – presented using the online survey software Qualtrics. Students were first presented with a brief description of the questionnaire to follow and its intended purpose. In the questionnaire they were presented with a vignette from *Beauty and the Beast* with a brief description of what is happening at that point in the film. A free text entry box was provided so that students could give their thoughts on the messages they believed to be in the scene, and to begin to make notes on how they might relate this to theory. Once students had finished, they clicked to the next page and were presented with a number of options and thoughts about the scene provided by the module leader. This was to enable students to compare their own thoughts with that of an ‘expert’. This would hopefully provide them with the opportunity to both confirm points they had made themselves as correct, but also to see what they had missed. Having the opportunity to practice this skill, and then compare to an expert allowed students to bridge the gap between their current knowledge, understanding and skills, and the required level for the assignment.

Results

A focus group was conducted with five of the students who completed the intervention. Focus groups were chosen because they allow participants, in interaction with each other, to speak for themselves, based on their own experiences, and in their own language. The moderator (first author) ensured that discussions remained open, free flowing, and honest, providing prompts to stimulate further discussion of a topic but not dictating the nature or direction of conversation. Three themes emerged from this analysis shown in Table 1: (1) issues with feedback; (2) positives of feed-forward; (3) impact of feed-forward.

Analysis showed that students felt more confident about approaching the assignment, believed that they had greater ability and knowledge to do so, and were more satisfied with the feedback process overall



Issues with feedback

Students were quick to identify problems with feedback, principally in direct contrast to the different methods used in this study. Many students disliked the lack of clear direction regarding how to take feedback forward, and felt that it did not have any impact on their work when received after their work was submitted, as for example Respondent 1:

Yeah like you're never going to come into 3rd year and think 'Oh, I'll just look at 2nd year's feedback'. Like I have never looked back on Turnitin at my 2nd year assignments and thought 'oh, this is what I did (395-397, P1)

Some students also felt the feedback did not help them if it was not consistent or did not match their, and the lecturer's, expectations:

I get the same problem but the other way round, like I'll read my feedback, and I've ticked off basically all the criteria for a high grade, and I look at the grade and I've got a 2:2. And I think well why did I get all the criteria for a first and manage to get a 2:2 grade (126-128, P4)

Positives of feed-forward

In direct contrast, some students were keen to point out the positives of feed-forward and how these rectify many of the existing problems with feedback. Specifically, students drew attention to the fact that feed-forward strategies allowed them to apply knowledge in advance of assignments and therefore have a better chance at producing work in line with the lecturer's expectations:

It's like a stepping stone to the next bit so you, you had a little go at it, you got told what was right and what was wrong and then you could take it and apply it to what you had to do that was going to get you marks. Something that was actually gonna be worthwhile (64-66, P2)

In addition, students said that the intervention equipped them with knowledge regarding the nature of the assignment. They were also given a better impression of what was needed in terms of the assignment requirements:

Impact of feed-forward

Lastly, participants talked a lot about the impact that the intervention had on their achievement in three different areas. Firstly, participants felt that the intervention had enabled them to get a better mark than they would have achieved under traditional teaching methods:

I just wish we had more of this on other modules, because there are some modules were I have done really bad and if I had done something like this I probably would have got a much better mark (310-311, P3)

Participants also spoke about how receiving feedback before the assignment was due improved their understanding and ability to achieve the task. This is particularly important considering this was a novel task involving a new skill set, and students may not have had practice at this skill before:

I just think it kind of gave it more of an application, like you see all the lectures and you know what you wanted us to write but at the same time it was kind of like the middle between just sitting there and listening to a lecture, and watching a lecture and then having to write it... It kind of forced you to make a little plan for yourself (300-305, P1)

Finally, almost all participants in the focus groups mentioned increased confidence following the intervention. This is particularly important in reference to the student experience, as (in the authors' experience) often students are happy with their grades (whatever the grade) if they feel that they have been enabled to try their best and they have understood the task, as is the case with Respondent 5:

I'm glad that we got to do it because it made me feel more confident on the actual essay rather than being worried about something I had never done before. It made me feel confident and I am actually really confident with the grade I got because I knew what I was doing (277-279, P5)

Discussion

This study investigated whether allowing students the opportunity to practice a novel skill ahead of submitting an assignment that tested that skill improved their satisfaction and confidence. In this sense, an opportunity was given for students to engage in feed-forward practices (Sadler, 2010) and to adhere to a more productive, circular feedback pattern. Broadly, whilst bearing in mind the very small sample and the very specific context of the task they were given, results showed that students responded positively to this technique of feedback, and highlighted the positive attributes of such an approach in direct contrast to existing problems with feedback highlighted earlier in this paper. Importantly, analysis showed that students felt more confident about approaching the assignment, believed that



Students were clear and unanimous in their positivity regarding feed-forward



they had greater ability and knowledge to do so, and were more satisfied with the feedback process overall.

Results showed students do experience the known problems with feedback through expressing dissatisfaction with the timing and nature of feedback. This is not unexpected, considering the ample literature highlighting problems with feedback in these two areas (Evans, 2013; Huxham, 2007). Common to both themes was the assertion by students that they had nowhere to 'take' their feedback once it was received. In short, students in this focus group were viewing the process of feedback in a linear fashion (Murtagh and Baker, 2009) instead of a cyclic one (Beaumont, O'Doherty, and Shannon, 2011). In contrast, students were clear and unanimous in their positivity regarding feed-forward. Clearly the fact that students were presented with feedback formatively, and allowed the opportunity to apply their newfound knowledge and skills to the assignment, had a positive impact on their approach and attitude towards the assignment. This is evidenced by themes that emerged showing students not only felt they had achieved better grades, but also that they had gained increased ability and understanding of the task. Most importantly, and most relevant for assessing efficacy of feed-forward for novel assignments, students reported greatly increased confidence and satisfaction with the assignment. It could therefore be the case that providing students with the opportunity to practice new skills, rather than 'throwing them in at the deep end', improves student satisfaction with assignments – particularly on this type of assignments.

This speaks to the importance of allowing students to practice more traditional mechanisms of learning, and to follow a more cyclic process, that current feedback mechanisms may stifle (Beaumont, O'Doherty and Shannon, 2011). This is in direct contrast to the 'within assignment' strategies used in

this study, where the process of feeding-forward and the implications for assignment were explicit. Results from this intervention also suggest that students are more knowledgeable about *how* and *when* to apply feedback when this is presented within the assignment. In this sense, the traditional confusion that is experienced by students about how to take feedback forward is alleviated when the feedback given is related to an upcoming assignment.

This has significant implications for higher education practice, as student satisfaction across many courses and subjects could be greatly increased by including these practices within modules.

There is still a lot to learn about the process of feedback, and a number of other issues exist that were not explored in this study. For example, whilst within assignment feed-forward strategies may have an impact on student satisfaction and achievement, promoting a broader view of circular feedback between assignments still needs improvement. In addition, the timing of feedback is only part of the issue, and serious questions still need to be asked about the nature of feedback and how to promote student engagement with tutor comments and advice. Some studies have been promising in this regard (Duncan, 2007; Murtagh and Baker, 2009; Vardi, 2013), however the sector at large must make efforts to translate those into practice. Nevertheless, students who took part in this study were overwhelmingly positive about the benefits that this style of feedback had to offer. These results suggest that real improvements in student satisfaction could be achieved across the higher education sector if dialogic teaching approaches like feed-forward strategies were more fully embraced.

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