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Addressing the Learners' Needs for Specific and Constructive Feedback

Jenna Tudor (jenna.tudor@northumbria.ac.uk), Dr Noel Perera (noel.perera@northumbria.ac.uk)

Northumbria University, UK

Abstract: This paper discusses an on-going project which proposes to make feedback to students more personal, explicit and more useful as a method of further engaging students. It addresses an issue that has recently been identified by the researchers where students on an Engineering programme were not recognising the presence of feedback on their assessed work.

Feedback is central to the process of learning. However it has been widely accepted, through tools such as the UK National Student Survey, that students are still relatively dissatisfied with the feedback they have received. There is therefore a need to ensure that feedback given to students is specific and constructive in terms of helping them move their own learning forward.

A pilot is being carried out with two Engineering classes, offering students the option to request specific feedback on their class tests. The students are asked to identify the areas of their work they require feedback on through the completion of a 'feedback request label'. Staff can then respond to the feedback requests and issue students with personal and relevant feedback.

Initial findings from the project have shown students to have clear expectations regarding the type of feedback they want. Students identified that they expect clear and legible feedback, which draws together feedback comments from throughout their work and provides a summary of how they could move forwards. Findings have also identified some differences in expectations and perceptions of feedback between the Level 3 and Level 4 students involved in the project.

Introduction

This paper discusses an on-going project which proposes to make feedback to students more personal and relevant. The project makes feedback explicit to students as a method of further engaging them with feedback. Bloxham and Boyd (2007) discuss that feedback quality and methods may be limited by the lecturers own experience (as cited in Allin & Fishwick, 2009). This could possibly be a contributing factor to an issue that the researchers have recently identified, that is, students on an Engineering programme did not recognise the presence of feedback on their assessed work.

The aim of this project is to allow each student to receive personal and specific feedback on a subject they identify as being the most important, or the area where they require the most help. This encourages the students to play an active role in moving their learning forwards by identifying the area of their perceived weakness. Due to the participation in the process students receive more relevant and purposeful feedback with which they can engage.

A pilot is being carried out with two Engineering classes, offering students the option to request specific feedback on their responses to class tests through completion of a Feedback Request Label. Questionnaires are utilised to obtain students responses to the project. The data collected will be used to better inform the feedback process and improve it. It also allows the transferability of this feedback process to be considered for use across other teaching areas and other assessment applications.

Another outcome of this project is to address issues raised in some of the student module evaluation questionnaires with regards to their feedback expectations. Although all academic staff are engaged with the feedback process to some extent, there are some staff who are more engaged with the

process, and work with a greater student centered focus. This project will allow all academic staff, especially those who are less engaged in the feedback process to understand what students' expectations are with regards to feedback. The information obtained from this project will be disseminated to all academic staff within the school in the form of a suggested 'best practice'. This proposal of 'best practice' would however only be an initial guidance to demonstrate that feedback on class tests can be, and should be, more than just one word comments. It is envisaged that this project will facilitate a dialogue in the school between staff and students to allow a better understanding of the type of feedback students feel will be helpful to them. Hence ensuring that the feedback provided meets the students' needs and expectations.

Feedback

Feedback is central to the process of learning with the purpose of feedback being to help a learner "to improve what he or she is doing" (Brown et al, 1997, p.5). With this recognition that feedback constitutes a central aspect of learning it is surprising that feedback "has been largely neglected in research to date, particularly from the student's point of view" (Rowe & Wood, 2007, 1). Initial investigations have shown that very little research has been carried out to determine the students' perception of feedback received and its effectiveness to the students' learning (Poulos and Mahony, 2008).

Bevan *et al.* (2008) recognize that despite the general acknowledgement of the importance of feedback to learning and development, recent UK National Student Surveys (2005–2007) have highlighted students' relative dissatisfaction with the feedback they received (HEFCE, 2006). The most recent National Student Survey shows an increase in participation and continued high levels of satisfaction among higher education students. However the survey also shows that the area of 'Assessment and Feedback' is the lowest area of satisfaction (HEFCE 2009). Therefore to increase satisfaction levels there is a need to ensure that feedback given to students is relevant, specific and constructive in terms of helping them move their learning forward.

Assessment and Feedback in Engineering

In Engineering subjects assessments are often fairly traditional with end of semester tests or exams forming a large percentage of the assessed work. There is however a tendency for small percentages of the module assessment to be coursework based, including activities such as assessed lab work or class tests, which are used to provide feedback to both students and staff throughout the academic year.

Within Engineering it is often the case that academic staff assess students' procedural understanding in the fundamentally mathematical subjects through completion of test questions which require formulae to be selected and applied to a problem. Bloxham & Boyd (2007) confirm that lecturers' knowledge of assessment is in fact situated in the context of their own previous experience and in their academic disciplines' particular traditions, expectations and needs (as cited in Allin & Fishwick 2009).

In the example of class tests it can be difficult for the feedback provided to be much more than a simple comment on the test script next to the students' response. It is therefore understandable that students have difficulty in recognizing or engaging with this feedback. One student commented; "*I don't think we've got feedback... I think we just got our marks back and there were some comments in there.*"

If students experience several class tests during an academic year and fail to receive meaningful feedback in these situations, a great opportunity to develop the students learning is being missed. It is therefore vital that all assessments are viewed as feedback opportunities for engineering students to recognize and engage with the feedback cycle.

Motivation for Feedback Request Label Project

Hunt (2007) acknowledged that the "massive class sizes that now exist in our institutions do make individual feedback much harder to deliver" (as cited by Attwood and Radnofsky, 2007). It has been shown (Habeshaw *et al.* 1993) that if students tell the teacher what they would like feedback on, they are more likely to pay attention to feedback when they receive it.

Race (no date) has shown that feedback needs to be intimate, individual and fit students achievements. The feedback request labels will address this by responding to the areas that students

have personally identified by focusing on their achievements and strengths and then identifying their own weaknesses.

In a wider context there are a variety of research papers that have looked at how feedback is delivered, or suggested good practice for feedback, rather than focusing on the content of the feedback, for example Rowe & Wood (2007), Ovando *et al* (1994).

Handwritten comments are one of the most widely used forms of feedback to students (Race, no date). The advantage of handwritten comments on (or about) students' work is that feedback can be personal, individual, and directly related to the particular piece of work. The obvious disadvantage however is that it can be time-consuming to write individually on each piece of students' work. The feedback request labels will ensure that the time spend by staff adding comments will be better focused on individual needs of the students. Whilst staff are taking the time to give considered feedback, common errors and common strengths can be discussed with the whole class to ensure prompt feedback is given. Model answers can also be provided which students can refer to and compare with their feedback, to develop their own understanding.

Another benefit of this project is that staff will be made aware of the common areas where feedback is requested. Staff can then address these areas in their teaching to further enhance the learning experience. It is acknowledged that for assessment and feedback strategies to be carried out effectively they need to be manageable for staff. This method will ensure that time spend by the staff in providing feedback will be spent appropriately.

Based on the student quote provided earlier it is clear that students' awareness of feedback needs to be raised. The presence of the feedback request labels will facilitate this. These labels will start encouraging students to engage with their feedback (by asking them what they would like) and will allow staff to make clear when feedback is given. This project focuses on ensuring that feedback is aligned to students' requests. It will enhance the quality of the student experience by putting their requests at the centre of the feedback strategy to ensure that their needs are met.

“Opportunities for engagement in dialogue between markers and student-writers should not only be provided but actively encouraged as these too play an absolutely crucial pedagogic role in helping to induct students into the particularities of an academic discourse community, which offers them a position from which to challenge, a ‘critical inclusion’ in the community, so they are not simply disempowered apprentices whose role is to follow and reproduce” (Hyatt, 2005 p.351).

Researchers at Oxford Brooks University involved in the ‘Engaging Students with Assessment Feedback’ (ESWAP) project developed a conceptual framework for their investigation into improving the students’ engagement with feedback. The framework they developed focused on several areas which included “the structural influences embedded in the ‘context’, the interaction between the students and the assessors, and the temporal dimension through which student and staff experiences (and styles of engagement) are shaped by succeeding assessment/framework episodes” (Handley, 2007). From a staff prospective the contextual and temporal aspects of assessments and feedback methods refer to the way in which contextual factors such as the traditions of the academic, the institutional policies and the socio-cultural norms, influence the preparation of the assignment and the feedback. The conceptual framework also acknowledges that students are also influenced by contextual factors however these are not necessarily the same ones. It is also recognized that any assessment or feedback event has a response outcome for both staff and students.

The conceptual framework developed by the ESWAP project has been adapted below to demonstrate the operating framework of the ‘Feedback Request Label’ project.

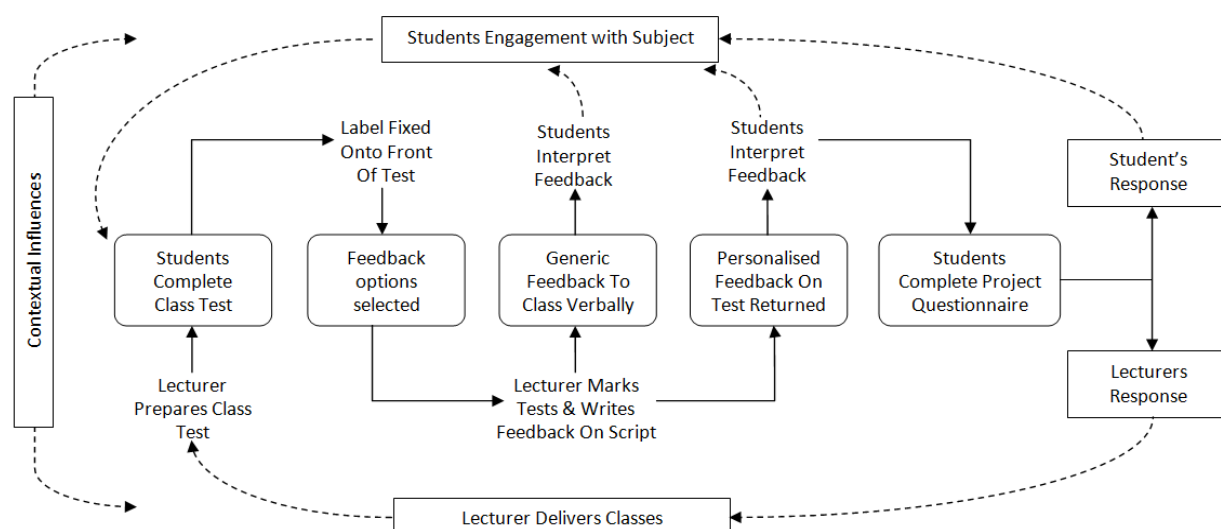


Figure 1: Conceptual Framework for Feedback Request Label Project (adapted from the ESWAF project, Handley, 2007)

Implementation

This paper reports on the first phase of the Feedback Request Label project. A pilot study is being carried with students in Level 3 and Level 4 Engineering classes, offering them the option to request specific feedback on class tests in selected engineering theory modules through the completion of a 'feedback request label'.

The feedback request label is a printed label instructing the students to select the area of their work they would like feedback on, for example, their written response to a question, the way equations are rearranged, the conversion of units etc. If the students would like feedback on an area that is not listed they can select the 'other' option on the label and state the required area of feedback. The options provided on the label were selected by the staff involved in the project based on their own previous experience of marking class tests and also their experience of moderating the work of other colleagues in the subject team. It was found that the feedback given to students on the scripts often fell into one of the three options provided. It was assumed however that the 'other' option could be the most useful to staff; allowing an insight into the areas where students were most concerned, and most wanted feedback. An example of a feedback label is shown in Figure 2 below.



Figure 2: Example of initial 'Feedback Request Label'

Students affix the label to the front page of their test scripts and then following completion of the test they make their feedback request. Staff can then assess the students work as they would usually. Staff can give feedback as they would in a normal situation however that are asked to give greater attention to responding with personal and relevant feedback as identified on the labels.

Students' work should then be returned with their personal feedback on within the agreed timescale. Generic feedback however can be given verbally, and almost immediately, to the class while they await their written responses.

Data Collection

A questionnaire was administered to all students who were involved in the first phase of the project to allow it to be evaluated. The questionnaire provided students with the opportunity to comment on the project and to suggest improvements/changes to labels.

Data was also collected from the initial use of the labels to identify the most frequently selected feedback options. This data also allowed the types of feedback requested for the 'other' option on the labels to be recognised. The 'other' choice option on the feedback labels is possibly the most important option provided on the labels because it allows the student to request feedback that is personally relevant.

The data collected from the completion of the labels and the questionnaires will allow the design of the labels to be reconsidered for their subsequent use. Alterations will be made to the feedback options as deemed necessary based on the results of the questionnaires to ensure that options on the feedback labels are as relevant as possible to the students' needs.

Results

The labels were used with a mechanical engineering Level 3 class size of 66 students and Level 4 class size of 82 students. In the Level 3 class 65 students opted to make use of the labels and 40 completed the questionnaire. However in the Level 4 class of 82 students only 47 students opted to make use of the labels, and 61 completed the questionnaire.

The following table shows the options that were selected by the Level 3 and Level 4 students upon their first use of the feedback request labels. Although the labels asked students to select one option from the four provided (one of which was the 'other' option where students were expected to specify their request) it was noted that some students chose more than one of the options.

Table 1: Feedback Request Options Selected by Students

Option Selected	Number of students selecting option	
	Level 3	Level 4
Students identified that they would like feedback on their manipulation of formula.	2 (4.5%)	2 (4.3%)
Students selected that they would like feedback on their manipulation of formula and their conversion of units.	11 (25%)	2 (4.3%)
Students identified specific questions that they would like detailed feedback on.	10 (22.7%)	12 (25.5%)
Students identified that they would like detailed feedback for all class test questions.	2 (4.5%)	21 (44.7%)
Students identified they would like detailed feedback for all questions , in particular focussing on their manipulation of formula.	10 (22.7%)	6 (12.8%)
Students selected the other option and requested for any errors in calculations to be identified.	1 (2.3%)	1 (2.1%)
Students selected the other option and specified they would like general feedback comments rather than just comments or notes on each questions.	3 (6.8%)	2 (4.3%)
Students selected the other option but failed to specify.	5 (11.4%)	1 (2.1%)

The initial questionnaire given to students consisted of 5 '4-point' likert scale questions and 2 open questions. The questionnaire design will be revisited in conjunction with the design of the labels after the first use. Table 2 below discusses the responses to the questionnaire given by both the level 3 and 4 students.

Table 2: Responses from Student Questionnaires

Questions	Responses	
	Level 3	Level 4

I understand the aims of the Student Feedback Request project	17 (42.5%) strongly agreed 21 (52.5%) agreed 2 (5%) disagreed 0 strongly disagreed	23 (38%) strongly agreed 36 (59%) agreed 2 (3%) disagreed 0 strongly disagreed
There were sufficient options provided on the feedback labels for me to select a suitable feedback request	6 (15%) strongly agreed. 27 (67.5%) agreed 7 (17.5%) disagreed 0 strongly disagreed	7 (11%) strongly agreed 36 (59%) agreed 14 (23%) disagreed 4 (7%) strongly disagreed
I received feedback on my class test within 3 weeks	24 (60%) strongly agreed 14 (35%) agreed 1 (2.5%) disagreed 1 (2.5%) strongly disagreed	29 (47.5%) strongly agreed 29 (47.5%) agreed 3 (5%) disagreed 0 strongly disagreed
I found the feedback provided to my feedback request helpful	15 (6%) strongly agreed 27 (67.5%) agreed 7 (17.5%) disagreed 0 strongly disagreed	8 (13%) strongly agreed 39 (64%) agreed 13 (21%) disagreed 1 (2%) strongly disagreed
I have made use of the feedback I've received to improve	15 (6%) strongly agreed 27 (67.5%) agreed 7 (17.5%) disagreed 0 strongly disagreed	8 (13%) strongly agreed 38 (62%) agreed 14 (23%) disagreed 1 (2%) strongly disagreed

The two open ended questions which were then asked by the questionnaire were:-

- **'If I could add another feedback option to the request labels it would be...'**
- **'The feedback I received would've been more helpful if...'**

The quotes below show the range of answers given in response to the open questions. There were elements of repetition in the responses given and so the exact quotes have not been provided as found on every questionnaire and rather summarised in themes of the responses given.

To the question **'If I could add another feedback option to the request labels it would be...'** students responded:

- Model answers to be provided
- Staff to comment on the presentation and organisation of the response
- For comments to be made on conversion between prefixes and SI units
- Staff to identify which subject they feel the students need to further concentrate on.
- Staff to comment on common mistakes students have made throughout
- Staff to comment on where I went wrong in the question that I lost the most marks.
- Staff to identify students' weaknesses.

To the question **'The feedback I received would've been more helpful if...'** students responded:

- A few students identified that the feedback could only have been more useful to them if they had done badly in the test
- Students reiterated that for the feedback to be useful it should still be general feedback as well as addressing the specific option chosen
- Clarify of staff handwriting was identified as a area that should be addressed, that for feedback to be useful students must be clearly able to read the comments provided

- One student identified that they would like feedback to be accompanied with model answers to compare their work too, this was done verbally with model solutions shown on the whiteboard so it is assumed that the student in this comment meant that they would like a written copy of model answers
- More information, more details and more specific where options which occurred several times as a way in that feedback could be improved.
- Two students identified that one-on-one feedback would be more helpful
- Staff to indicate areas for additional reading.
- Students suggested that feedback should be written as a report rather than as comments on the test paper since the small comments can sometimes be confusing.
- Feedback showing worked solutions to be given on the electronic learning platform (e-LP).
- More explicit explanation provided on the e-LP to substantiate the feedback.

Discussion

As can be seen from the results for the first use 98% of the Level 3 students and 57% of the Level 4 students opted to make use of the feedback request labels. As identified by Higgins et al. (2002) students now increasingly rely on written correspondence (both paper based and electronic) as a result of the decline in face to face contact. (Glover, 2004) showed that students perceived written feedback as the most useful form of feedback (as cited in Bryan & Clegg, 2006) which may be why so many of the Level 3 students opted to make use of the labels. It is necessary to consider why fewer students at Level 4 opted to make use of the labels; it is suggested that this is partially explained through the questionnaire with several students feeling that they only needed feedback if they had done badly. It will be interesting to see with the second use of the labels if the number of students opting to make use of the labels changes.

The results showed 98.5 % of the Level 3 and 97% of the Level 4 students understood the aims of the project. It was essential that students understood the purpose of the project and how it might benefit them so that they could confidently evaluate the project and engage in the objective of improving the feedback request labels to ensure that relevant options are provided.

It is also shown that 15% of Level 3 and 11% of Level 4 students strongly agree, and 67.5% of Level 3 and 59% of Level 4 students agree, that there were sufficient options provided on the labels. However 17.5% of Level 3 and 23% of Level 4 students disagreed with 7% of Level 4 students strongly disagreeing that there were sufficient options on the labels. Although the majority of the students felt that the options provided on the labels were sufficient 4 of the Level 4 students strongly disagreed. The feedback options on the labels will be revised with this in mind by taking into consideration the responses received for the first open ended question in the student completed questionnaire.

60% of the Level 3 and 47.5% of the Level 4 students strongly agreed that they received their feedback within the three weeks after their class test. However 4 students in total disagreed with 1 student strongly disagreeing. This could be due to the fact that these students were not present in class when their class test scripts were returned to them. Although 67.5% of Level 3 and 64% of Level 4 students agreed that the feedback they received was useful 17.5% of Level 3 and 21% of Level 4 students disagreed. 1 student strongly disagreed with the statement that they received useful feedback. This clearly shows that there is scope to improve the usefulness of the feedback given to the students.

67.5% of Level 3 and 62% of Level 4 students agreed that they have made use of their feedback to improve their learning. However 17.5% of Level 3 and 23% of Level 4 students disagreed with 1 student strongly disagreeing. There is a high level of agreement showing that the students have positively engaged with the feedback to move on their learning experience. However it also shows that some students have not used the feedback to improve their learning experience. This could be because the feedback did not actually address the areas of their difficulty or weakness, or because the students did not feel feedback was needed at that time.

From the responses of the two open questions the researches will alter the labels for the next class test to incorporate the suggestions made by the students. This will be done to further assist the students in obtaining the appropriate feedback that they are seeking to help them in their learning experience. It is noted by Gibbs and Simpson (2004-05) that "lecturers may need to take special

steps to engage students with feedback” (as cited in Rowe & Wood, 2007), one method identified was for lecturers to ask students to specify the areas they would like feedback on their assignment. This project has opened up discussion avenues with colleagues about the quality of feedback given and more importantly has opened up dialogue with our students about the feedback they are receiving and what they feel would be more helpful to them.

It can be seen from some of the responses of the two open questions that the students’ expectations are in sync with the realities of current day academia where face to face or one to one feedback is getting rarer. With the shift to providing more written correspondences both paper based and electronic this has given rise to requests for even more detailed and explicit feedback from the students. This shows the complex relationship between feedback and student expectations as highlighted by Higgins *et al.*, (2002).

At the time of writing this paper the second use of the feedback request labels is about to take place. Based on the data collected from the student questionnaires the labels were redesigned for issue to the Level 3 and Level 4 students. The introduction to the labels was also modified to make it more specific. The options provided to both sets of students were slightly different on the redesigned labels following the analysis of the requested options from each cohort. Both redesigned labels are shown below in figure 3 & 4.

“Getting your feedback right”

In addition to feedback comments on each question I would like one of the following:

- feedback highlighting which topic I most need to work on
- feedback on how I've converted units
- detailed feedback on question number
- feedback on common mistakes I've made
- Other

Figure 3: Level 3 labels

“Getting your feedback right”

In addition to feedback comments on each question I would like one of the following:

- feedback highlighting which topic I most need to work on
- feedback on how I've converted units
- detailed feedback on question number
- feedback on the way I have rearranged formulae
- feedback on common mistakes I've made
- Other

Figure 4: Level 4 labels

In redesigning the labels to include the highlighted student responses the researchers are looking to address the students’ perspective of the feedback process. This reaffirms the findings of Careless (2006) where the challenge to enhancing feedback is identified as uniting the diverse academic and student perspectives in the feedback process (as cited in Rowe & Wood, 2007). Careless (2006) proposes the introduction of “assessment dialogues” to reduce negative outcomes such as student dissatisfaction, underachievement or poor retention rates.

Conclusion

In general the majority of the students valued the feedback and used it to improve their learning experience. This confirms the findings summarised by Rowe & Wood (2007) where it has been identified that feedback is valued and that students want helpful comments from their tutors.”

Research has shown that where lecturers care deeply about their students and their learning then this caring is likely to be revealed to students through their feedback (Jollands *et al.*, 2009). The notion of caring being revealed to students was suggested by Jollands *et al.*, (2009) to possibly be more important than the feedback itself, leading to more motivated satisfied students. It is hoped that this method of involving the students in their feedback is allowing the students to see how valuable their engagement with the feedback process is.

This project will continue throughout the academic year with the third iteration incorporating further redesigned labels making use of the feedback received by the students involved. This project could be transferred across any teaching area, with modifications made to the “student feedback request” labels so that the options are more suitable to specific assessments. The label template would be standard; giving brief introductions to students about how the labels can be used, and then staff would be free to alter to the feedback options to suit.

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