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Processing tutor feedback: a consideration of qualitative differences in learning outcomes for high achieving and non high achieving students

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Abstract

Little is known as to how students process tutor feedback. In this study 36 third year Biological Sciences students from four higher education institutions took part in 1 interviews or focus groups concerning their processing of tutor's written feedback. Students were divided into high achieving and non high achieving cohorts. A thematic approach was used to analyse the interview data. While there was some commonality in how both groups of students processed tutor feedback, for example, both showed an awareness of the hidden curriculum, there were overall major differences between how high achieving students processed feedback compared to non high achieving students. These differences concern primarily three areas; (1) self assessment or self regulation, (2) the degree of external regulation, (3) the way social learning was contextualised. The findings are discussed in terms of variation theory, dispositions to learning and constructive and destructive frictions. It is concluded that guidance to students regarding their use of feedback needs to be designed with respect to approaches to learning.

Introduction

Feedback is often written and normally involves the returning of marked work to students in the absence of any social context. Yet in the research literature feedback is increasingly discussed in social terms and often with an emphasis on self-assessment (Elwood and Klenowski, 2002) and self-regulation (Nicol and Macfarlane-Dick, 2006).

Self-regulation is considered to be integral to the learning process and it can be understood in a number of ways (see Zimmerman and Schunk, 2001). Broadly, self-regulated learning entails students generating their own learning goals through thoughts, feeling and actions.Within the context of feedback, Nicol and Macfarlane-Dick (2006) present a model of self-regulated learning underpinned by seven feedback principles.

Vermunt (1998) has argued that self-regulation strategies are important within models of learning that assume that learners must construct their own knowledge and insights. This compares with models that emphasise transmitted knowledge where external regulation is given more prominence. However, a complex interplay exists between internal and external regulation, as discussed by Vermunt and Verloop (1999).

Orsmond and Merry (*in press*) have noted that there is often a misalignment between tutors' intentions in giving feedback and students use of feedback that also relates to the ideas of internal and external regulation.

Firstly, students often use feedback to assess what needs to be done in terms of the current piece of work, rather than making self-assessment judgements in terms of what they need to do as a learner in the future (e.g. possibly in terms of learning to think and act like a biologist). The authors concluded that a lack of variation in tutor written feedback was partly reasonable for this lack of self-assessment. Merry and Orsmond (2008) had previously shown that variation was important in stimulating student awareness of different aspects of audio feedback. Variation leads to an '*awareness of coming to see a phenomenon or topic in an importantly new way*' (Marton, 2007, 20).

A second possible explanation for students' failure to discern the tutors' meaning within feedback is that for some students what they take from reading feedback is dependent on their current understanding of specific biological concepts. Dahlgren and Marton (1978, page 26), who investigated students learning from reading text found that students appear to '*pay selective attention to parts of the text that they consider relevant to their own (erroneous) interpretation of what is required, a process known as technification*'.

Although reading a set text and reading feedback differ much might be gained from trying to understand the process by which students learn from feedback.

A number of studies have considered how students read texts. In their seminal paper Marton and Säljö (1976a, 10) identified two different levels of processing during reading, each dependent on the focus taken by the learner. Deep learners focused on what the text signified and surface learners paid attention primarily to the text itself. They concluded that '*a highly significant aspect of learning is the variation in what is learnt i.e. the diversity of ways in which the same phenomenon, concept or principle is apprehended by different students*'.

Svensson (1977), in considering study skill and learning, used an identical sample and procedure as Marton and Säljö (1976a) and also identified two distinct cognitive approaches. Students when reading a text displayed certain characteristics, such as focusing on specific comparisons, or parts of the text in sequence, rather than the more important parts. These students were thought to take an atomistic approach. Students who attempted to understand the overall meaning of the passage read and searched for the author's intention and took a holistic approach. In order to illustrate the difference Svensson (1977) argues that only students taking a holistic approach would recognise fact/conclusion structures, because the relationship had been looked for as it could not be known in advance as the structure was implicit in the text and could not be recognised by students adopting an atomistic approach. He concluded that a holistic learning process is a prerequisite for a deep level of understanding.

Marton and Säljö (1976b) considered the use of questions as a means of encouraging learning from reading a given text. They found that students adapted their way of learning to their conception of what was

required of them. Here, the authors present examples of how learning can be 'technified', that is *runs the risk of being reduced to a search for the type of knowledge expected on the test*' (124)

While self-regulated learning is important in using feedback, there is little experimental evidence as to how students self-regulate their learning from feedback in higher education. Furthermore, there is little evidence regarding the balance between self-internal regulation and tutor-external regulation. This present study is designed to consider processes used by students in their responding to tutor feedback and specifically attempts to address three questions

1. Is there a qualitative difference in how high achieving and non high achieving third year undergraduate students use self regulatory processes when reading tutor feedback?
2. What institutional/tutor external regulatory processes influence students learning from tutor feedback?
3. Is there a social learning aspect to students' use of feedback?

Method

1. Participants

The research was carried out in four UK universities comprising a mixture of established and post 1992 institutions. All student interviewed were studying within the field of biological sciences. A total of thirty six third year undergraduate students were selected by tutors at the respective universities. Twenty four students participated in focus group interviews at three different universities. At university M six students formed a focus group of high achieving students and six for non high achieving students. These students are referred to as MH or MNH in the results and discussion. At university C four students formed a focus group of high achieving students and four for non high achieving students. These students are referred to as CH or CNH. At university L two students formed a focus group of high achieving students and two for non high achieving students. These students are referred to as LH or LNH. At university S twelve students were in individually interviewed of which five where high achieving students. These students are referred as SH with the remainder as SNH.

2. Instruments

Semi-structured interviews or focus groups were carried out in order to investigate how student use discussion with others to support their university learning. The interview schedule primarily concerned:

- The reading of tutor feedback
- What actions were taken in response to reading tutor feedback
- Who students spoke to about their work
- How those discussions helped them understand their feedback

The schedules were derived as described in Fielding (1993, page 142-143). Briefly, this involved (1) identifying topics surrounding the research questions; (2) clustering of and sequencing relevant topics; (3) designing informal prompts.

3. Design and procedures

Tutors at the individual institutions identified individual students for inclusion in focus groups and interviews. Judgements were made against students' marks within their respective university cohorts. The focus groups and interviews were confidential and the data generated was anonymous. Focus groups and interviews were audio recorded and in the presence of two tutors who also made contemporaneous notes. Transcriptions were made from the audio recordings.

3. Analysis

Qualitative analysis of student focus group and interview data involved clustering units of relevant meaning and identifying general and unique themes (Cohen & Manion, 1994; Smith & Osborn, 2003). Quotations which exemplified these themes were then extracted from the interview transcripts.

Results

A total of twenty four students participated in focus groups and 12 students in interviews. Overall there were no discernable institutional differences as to how these students processed tutor feedback. Students perceptions at all institutions was that tutor feedback contained mostly information about errors or correction of errors and was mainly content orientated.

Students' use of self regulatory processes when reading tutor feedback?

There were a number of examples of self regulation in high achieving students, who did seem to explore interconnections by restructuring things in their head. These students appeared to take the essence of the feedback message as indicated by these quotes

[Feedback] *'Starts as a funnel, it starts off really broad and wide, like the subject and you're looking at lots of different aspects and then you get narrower and narrower until you like get to a point where you know exactly what you're on about sort of thing....you know more about a specific thing than.....having a general idea about it'* (MH 2).

'Like you may absorb stuff just from it [feedback] and ..I think anything you're told about how you're writing does have an impact on you...in a sub-conscious way...this particular thing tells me that...I'm developing this way as a writer' (LH 1).

'It [the need for correct referencing] I think for the tutor, looking at the references, that gives them an idea on what sort of route you've taken for your research, gives them an idea why you're writing about in the way you are' (MH 3).

Non-high achieving students did not seem to have any sensitivity to the wider variation of feedback; they were unable to discern differences between tutor comments and their own written work

'I did this essay and I wrote something.....then she [the tutor] wrote something like 'no actually it's this', but it was just what I'd written in different words and I was just like what!' (LNH 1).

Other students re-read their feedback as if they were trying to memorise it

'I probably read it [the feedback] a few times, sometimes just to...keep going over it, going back to what they [tutors] put' (MNH 6).

Some responses indicated a lack of inclination to respond to the feedback:

'If you have done badly in a certain essay, then the next time you do an essay you will sort of try and do better...or you'll take the feedback on board and think about it...but I wouldn't say you go out of your way to make sure you do it right' (CNH 4).

There was also an indication that students found some acceptance of the mark they were awarded

'If you're sort of used to getting a certain mark, then you're going to aim to that mark as opposed to maybe doing a bit better, because that's what I'd be expecting to do anyway' (CNH 1).

There were three factors that only high achieving students seemed to utilize with respect to self regulation of feedback (1) motivation to do well, (2) interest in the subject, and (3) in relation to future careers. The following quote attempts to capture all three

'So I take it [feedback on scientific writing] and superimpose it on my [creative] writing style...but it depends on what you are aiming for...if you are aiming to be a research scientists then you are more likely to take that feedback and think I can use that when writing papers in the future.....I don't really have any intentions of writing scientific papers.....I want to do more creative writing' (CH 2)

The role of institutional/tutor external regulatory processes influence students learning from tutor feedback

There were a number of examples of institutional/tutor regulatory processes. Both high achieving and non high achieving students from different universities were given exemplars of previous students' work. High achieving students were able to recognise the range of work they were given and felt competent they knew how to complete first class work as shown in the examples. Non high achieving students recognised high quality work

'We had four essays and we marked them like 20%, 40%, 60% and 80% and that was really useful because we're focusing on the essays for exams, which try and see what is a good essay' (CNH 2).

However, when they came to write essay they were unable to use the exemplar experience to achieve high grades.

[You read the question] *'and you know you answer one bit, then you answer other bit and then you read the title and you know the whole question actually means something different.....so you've got a lot of points in there, but not necessarily together'* (CNH 1).

All students were aware of marking criteria and standards, but high achieving and non high achieving students responded to marking criteria and guidance on standards differently. High achieving students seemed were able to accept variation in their tutors' requirements

'You could get a bad mark, but you could have a really good understanding or knowledge about the subject but.....if you write the report and don't hit the tutor requirements you could get a very bad grade...tutors might want an essay, but they might want a completely different route [taken] and I might write differently cause of that' (MH 2).

This contrast with non high achieving students

'I know one lecturer who wants you to do it exactly as he says.....do it slightly differently, which another tutor might approve of, and he wouldn't. I think there needs to be consistency' (MNH 1).

[On getting a higher than expected mark] *'I was chuffed, but then I was annoyed as it made me doubt the sort of credit to which lecturers mark'* (CNH 3)

High achieving students, but not non high achieving students, showed awareness of issues such as weightings for different aspects of work, and question the objectivity of work

[Marking] *'is always subjective because we don't have a precise key saying which aspect of the write up is worth more....its not possible to really evaluate each of these comments and say this is worth more points than others'* (CH 1).

Both groups noticed issues related to the hidden curriculum (Sambell and McDowell, 1998)

'Sometimes we get feedback about things, really obvious things they haven't told us about in advance that we should be doing' (CH 4).

'It is almost like the criteria are the base line used by lecturers, but they also got favourite things they want to see crop up' (CH 2).

Feedback *'picks up on things you've done wrong in the essay and it doesn't relate them to the criteria'* (CNH 4).

High achieving students were willing to challenge tutors interpretation or marking often on principle *'For a particular grade there may be a good set of evidence and from that you could say 'well OK they didn't think I had enough and you look back and say OK. Other times I know what I put in. scientific evidence quoted from the paper [and the tutor writes No]...does no mean that it's wrong?....the evidence isn't wrong because it's taken from the paper.....if it's not relevant they should say not relevant'* (LH 2)

Overall high achieving students were able to accept that tutors could be right or wrong. They would make a judgement about this. Furthermore, If they, the students didn't understand a comment made by the tutor, they'd evaluate how meaningful the comment was before seeking clarification from the tutor. High achieving students did not feel the need to understand all aspects of tutor's feedback.

Non high achieving students however, always sought clarification for aspects of feedback not understood.

These students saw tutors as being overall right and accepted the tutor view

'I suppose I don't really [challenge tutor], I usually think it must be the case...if it says 'good' I think – Oh that must be good cause he said good...and if it says a bit muddled I'd think like Oh that must be like I do pretty much...or I read it [the feedback] and sort of know where I went wrong, but I don't really acknowledge it sort of thing' (CNH 2)

If errors were pointed out in feedback, non high achieving students generally sort further clarification, often by talking to the tutor. They felt that tutors needed to say more perhaps in the light of information being needed for examinations:

'Putting no [and nothing else] well I'm not learning why no.....cause like that work I'm going to be tested on later, and if I don't know why I didn't do it right I'm not learning at all' (LNH 1)

The majority of course work undertaken by students in all of the institutions seemed to be essays. High achieving students seemed able to use feedback from one task, for example an essay on a separate task, for example a written report providing they saw the connection:

'Well you do [use feedback for a range of tasks] obviously if applicable.....there are certain things that are...well you've got to use your loaf haven't you.....you have to decide what you can transfer from...what you gain from one piece to take it somewhere else [another piece of work]' (SH 1).

Whereas non-high-achieving students had a tendency to use feedback from one task specifically when undertaking a similar task, that is, feedback from an essay to be used when undertaking another essay.

High achieving students felt that if they were given no written feedback, just a mark then they would still be able to 'get by':

'Yeah you could get by I don't think it would be so good...over time I could....find out the way to do things anyway.....by asking, by like reading other peoples' things you know.....you'd find out how to do things in the end it would just take longer' (SH 2).

Non high achieving students said they would not be able to get by without written tutor feedback.

The role of social interaction in learning from feedback

Both high achieving and non high achieving students discussed feedback with peers. High achieving students spoke about their feedback openly

'I think it is always useful to talk to your friends or other people...cause you might think you understand something fully...but somebody else might just pick up a point...you've not thought about just cause they've had a different experience of it ...it sort of makes you look wider at the topic' (MH 4)

Discussion with peers was also used to identify issues over tutor marking. In the following quote a student was having difficulties with dissertation feedback. At first they thought the tutor feedback related to

something they were doing wrong but they could not understand what it was, but after speaking to their peers who had the same project supervisor they realised their peers had the same problems too

'It wasn't a case that we were doing something wrong....it was more the feedback he was giving wasn't relevant to what we were trying to say' (CH 2)

Non high achieving students spoke to others, but often with respect to having greater understanding of the tutor's needs rather than of the topic

'I've spoken to friends...and the chances are they've been marked by a different tutor...not being able to talk to the tutor [who marked their friends work]...so talking to friends you gives you a broader perspective of what they [tutors] are after' (MNH 1)

Some non high achievers only spoke to peers about their mark. The quote below shows a reason why this may be

'By the time I get the feedback its kind of...I'm not quite sure how I wrote that or what I did there, so I'm not going to ask anybody else...because it shows as though I may not know my working out as well as I did when writing it' (CNH 1)

Discussion

This study set out to address three main research questions: (1) is there a qualitative difference in how high achieving and non high achieving third year undergraduate students use self regulatory processes when reading tutor feedback? (2) What institutional/tutor external regulatory processes influence students learning from tutor feedback? (3) Is there a social learning aspect to students' use of feedback?

Qualitative differences in how students use self regulatory processes when reading tutor feedback.

The majority of feedback received by students was task orientated and this, emphasis on one type of feedback, as discussed by Hattie and Timperley (2007) can detract from performance as it encourages students to focus on the immediate goal and not on strategies to attaining the goal. When considering the responses from non high achieving students this may be true. However, it appears that there are other factors that need to be considered. Responses that correspond to MNH 1 indicate an emphasis on reading

the text and looking for meaning in the 'sign' as opposed to the 'significances' of what the writer may have been attempting to convey (Marton and Säljö, 1976a). As if memorising what the tutor wrote will help in undertaking further assignments where this feedback could be implemented. There appears to be little self regulation in terms of student monitoring and regulating actions towards learning goals.

Student (LNH 1) shows a different response to the tutor feedback. Here the student has not been able to discern the variation (Marton and Pang, 2006) between her words and those written by the tutor.

Subsequently, this lack of awareness to see a different perspective limits their learning from the tutor feedback. This lack of discernment may result from the tutor not conveying the variation to help the student see a different perspective, or it may result from other reasons such as the student having an intuitive way of understanding the concept that was written about and that old understanding acting as a barrier to a new more complete understanding.

Student (CNH 4) illustrates a particular thinking disposition as discussed by Perkins and Tishman (2001). Here the student indicates sensitivity or awareness of the need to do something, but does not have the inclination or motivation to do anything. Here the student shows a lack of self management, not having the ability to monitor and regulate learning behaviour, perhaps through a lack of planning (Hattie and Timperley, 2007)

Finally, student (CNH1) seems to have self belief patterns that they have constructed, as discussed by Dewck (2000) which prevent them using feedback to improve their mark. Self beliefs can be considered as a construct of a dispositional motivational characteristic (Schiefele 2001) where intrinsic motivation can be reduced by external controlling conditions, perhaps in the form of negative competence feedback. Thus students are not self appraising and as such are unable to evaluate their own abilities. Similar responses have been reported in Orsmond and Merry (*in press*).

In all these four cases, there appears to be a diverse set of reasons why students are not achieving as a result of reading and acting on their tutor feedback. Non high achieving students seem to take a step-wise, atomistic (Svensson 1977), approach to implementing feedback. Although there appear to be different reasons as to why students are not achieving, one commonality in the majority of non high achieving

students was in their lack of awareness of a purpose or object for their learning. Lo and Pong (2007, 14) discuss the object of learning in terms of '*the end towards which the learning activity is directed and how it is made sense of by the learner*'. The non high achieving students focussed on the text in an atomistic way often seeing feedback in terms of producing a better essay in assessments (the object of learning). The essay became the focus, and in this respect these student appear to be 'form' orientated as discussed by Orsmond *et al.* (2006): they see successful completion of their module in terms of producing a good assessment such as an essay or poster, not in successfully meeting the module learning outcomes as 'function' orientated students would do.

High achieving students seem to be more effective self regulated learners. There is much greater commonality in their approach to self regulation. These students as illustrated by student (LH 1) seem to take the essence of the feedback, giving the impression of being more holistic in their understanding of feedback. In the same way as Svensson (1977) described holistic learners ability to identifying implicit fact/conclusion structures within the text they read, so high achieving students were able to identifying similar implicit structures in their feedback. Even through these students received task orientated feedback they seemed more aware of the importance of different aspects of the feedback. The majority were able to discern variation (Marton and Pang, 2006). They also displayed sensitivity of awareness, inclination to be motivated and ability to follow through (Perkins and Tishman, 2001). So in this study, as with Winnie and Bulter (cited in Hattie and Timperley, 2007, 95), the beneficial effect of feedback on the task seems dependent on the individual learners. High achieving students do want to use the feedback to produce better essays, thus showing some 'form' orientation. However, they also recognise the significance of tutor feedback in terms of 'function' orientation, that is, in terms of meeting a broader set of learning outcomes, and then further, in terms of wider learning, such as life long learning for future careers.

High achieving students were both motivated and interested, if not always in particular pieces of work, then in developing an understanding of their subject or in succeeding. Marton and Säljö (1992) comment that learning out of interest; the desire to find something out, may be linked to a deep approach to learning.

Both high achieving and non high achieving students of students were influenced by the mark they received. High achieving students saw the mark as an indicator of where they are, and this perhaps influenced the way they responded to tutors comments. Getting a lower than expected mark, termed high confidence errors by Kulhavy and Stock (1989), is the time when the learner examines their feedback longer and in more depth in order to identify and correct any misconceptions. This effect was reported in undergraduate biology students in Orsmond *et al.* (2005). Non high achieving students saw the mark they received in very different terms. It was often seen in terms of a result of hard work and as something that needed to be improved.

What institutional/tutor external regulatory processes influence students learning from tutor feedback?

The differences in the ability to self regulate are reflected in the influence of external regulators. High achieving students in the absence of written feedback and providing they were given a mark indicating 'where they were', all claimed they would be able to complete module assignments. They would find it more difficult, and would work more closely with peers looking at their work to gain feedback, but they could do it.

These students worked with criteria seeing their functional aspects in helping them complete their assignments. A number of students read their feedback against institutional/tutor written criteria and standards. Students seemed to understand the criteria as a result of their prior learning experiences. However, these students also recognised that official criteria were not the only way by which work was marked, and seemed to accept that individual tutors had specific 'hidden' approaches to marking. So here the hidden curriculum (Sambell and MacDowell, 1998) was accepted and worked with. Part of this acceptance may have resulted from high achieving students recognising that tutors can be wrong, or that they, the students, could be making valid points that the tutor was not prepared to accept.

Non high achieving students with poor self regulatory systems were much more dependent on external regulation. All these students felt they would be unable to proceed without tutor feedback; a mark would not be enough. These students felt that the tutor was right and sought clarification from the tutor regarding meaning. They were aware of marking criteria and conscious that tutors didn't always relate marking to the

criteria. However, unlike the high achieving students, these students seemed unable to cope with this inconsistency. These students gave no indication of reading feedback in relation to provided criteria.

The role of social learning in student's use of feedback

Both high and non high achieving students spoke to peers about feedback. This reflects the wider non curriculum social learning reported by Orsmond (2009) and Orsmond and Merry (*in preparation*) whereby students demonstrate learning through working with peers, but also in developing wider social learning networks which can be analysed in the context of social capital. In this study, as with self regulation and the influence of external control systems, there was a discernible difference between how both groups discussed feedback with peers. High achieving students discussed their work in a way that suggested the outcome of such discussions fed into their self regulatory processes. They were interested in finding out about peers experiences of either the subject matter or of marking in general. That is, students were aware of their peers in terms of social capital (Putnam, 2000). Non-high achieving students focussed peer discussions of feedback on understanding what tutors were looking for and they realised that their peers, who may have done the same assignment, but had it marked by a different tutor, provided opportunities for them to see what other tutors wanted. Again, peers can be seen in terms of social capital, but the outcomes of these discussions reflect the need for external regulatory control, rather than feeding into a developed self regulatory system.

Conclusions

This study reflects two things. Firstly how different perceptions of the role of tutor feedback influence learning, and secondly the importance of having an intrinsic purpose for studying. Students need to see the end point of feedback in terms of 'self' rather than in terms of 'others'. Changing the perception of tutor feedback in non high achieving students could have a major effect in their learning. This cannot be done through tutors writing more detailed feedback, or even in tutors and students discussing feedback that has been given. Such discussions are more likely to focus the students on what is being discussed, similar to the experience of Marton and Säljö (1976b).

Recommendations for Tutors

The findings of this study lead the authors to suggest the following recommendations that tutors should:

- Establish what learning the student is trying to accomplish in reading and acting on tutor feedback.
- Identify students' interpretation of what is demanded of them. In particular they should identify perceived requirements leading to technification.
- Introduce students to approaches to learning/variation theory and thinking dispositions early in their study.
- Encourage students to identify areas of 'interest' in the work undertaken and this may be achieved by seeing the same topic taught in different ways
- Be aware of redirecting students focus to false outcomes of feedback.

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