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Written feedback as interaction: Knowledge exchange or activity exchange?

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Abstract

This paper examines in-text, handwritten feedback comments on first year undergraduate writing in the discipline of Statistics. Using a small corpus of annotated assignments, I examine the grammar choices and content choices made by tutors as they comment on students' work. To better understand the purposes of the comments, I draw on an interview with a tutor. I make use of Halliday's concepts of knowledge exchange and activity exchange to interpret the choices observed in the data, and the motivations discussed by the tutor, from the perspective of interaction. Finally, I discuss the implications of the analysis in terms of the formative potential of the feedback.

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Introduction

Written feedback to students in higher education is widely researched. There is a consensus (Boud & Molloy, 2012; Carless, 2007; Ferguson, 2011; Price, Carroll, O'Donovan, & Rust, 2011; Rowe & Wood, 2008) that quality of feedback is a problem for many students, although researchers and tutors are convinced of its potential positive role. Educators argue that it can be part of the process of encouraging students to engage as agents in their own learning (Boud & Falchikov, 2006; Ellis, 2009; Nicol, 2011; Shute, 2008); they also agree that an extremely complex range of factors influences the kinds of feedback that tutors may choose to provide or be able to provide, given the constraints under which they work.

Within this general area, in-text handwritten feedback is comparatively under-researched. For obvious reasons, it is difficult to collect. It is likely to appear on shorter, small scale assignments rather than on very formal pieces of work, since major assignments usually attract a standardised, typed comment sheet for purposes of institutional accountability (Bailey, 2009).

And yet, in-text feedback has a unique significance in students’ total feedback experience. It brings particular challenges; it may be difficult to read, and the use of isolated symbols, such as ticks, may be difficult to interpret (Ferguson, 2011). Even so, researchers who have looked at such feedback (Ferguson, 2011; Huxham, 2007) report that in some circumstances students value it highly; it is personal to students and can tell them exactly where they went wrong. Importantly, it can be interactive, responsive to the detail of what students have written.

It is the dialogic potential of in-text written feedback that is the focus of my research in this paper. I treat such feedback as a unique form of communication in which tutors have the opportunity to interact on a micro level with students’ writing. They may also engage students in interaction and, through the modelling of such a process, encourage students to dialogue with their own work.

I examine a small corpus of marked assignments from a first year Statistics course at Warwick University in the United Kingdom (UK). The assignment task is set by a lecturer with overall responsibility for the module, but delivered and marked by tutors who are research students in the department. It is given out immediately following a teaching session, and students have one week to complete it. The students’ hand-written answers are collected in class, then marked and returned within two weeks. Tutors make comments and give a numerical mark for each section. The lecturer provides the tutors with a detailed model answer for the task; this is also passed on to the students once their work has been marked. Since assignments are returned in class, there is an opportunity for general discussion of task performance.

Feedback to the students, then, has three elements: the model answer, the comments, and any class discussion. My focus in this paper is on the second element. Drawing firstly on the Hallidayan framework of systemic functional grammar and secondly on an interview, I analyse the comments from the perspective of their interactive purpose and potential.
Characteristics and purposes of written feedback in higher education settings

In any given higher educational context, written feedback needs to fulfil a range of functions simultaneously. One is to justify the grade given – to the student, but also for tutors themselves and as part of institutional quality control. A second is to teach – to show students how their work can improve. A third, especially important in the first year, is to develop learners as learners – to help them become more engaged with, and able to take more responsibility for, their learning processes (Boud & Falchikov, 2006; Boud & Molloy, 2012; Nicol, 2011; Shute, 2008).

Some scholars suggest that formative and summative feedback are inherently different. Researchers may use textual criteria to identify feedback comments as either formative or summative (Duncan, 2007; Randall & Mirador, 2003), or class feedback as formative if provided on a draft text (Nurmukhamedov & Kim, 2010; Sugita, 2006). However, I would argue that most feedback in first year higher education settings is intended as both summative and formative. In this paper, the data analysed are marked scripts from a weekly task. The feedback is summative in the sense that it accompanies the final mark for the work, and students will not be asked to repeat the task in future. It is formative in the sense that it occurs mid-term, and both the content and the skills targeted by the task are considered by tutors to be of relevance for future work.

Price et al. (2011) argue that the blurring of formative and summative assessment can have a deleterious effect on feedback, with tutors tending to concentrate on justifying a mark rather than on giving formative advice. The current research, based on just such a potentially problematic assessment task, offers an opportunity to investigate how tutors might respond to the challenge of not only correcting students and justifying the mark given, but also helping students see that comments may be relevant for the future. Within the constraints of hand written jottings provided in a tight timescale, this is indeed a demanding proposition.

Various researchers have investigated what students themselves say they want from feedback. Some of the preferences identified are related to the context of feedback – for example students want to it to be timely (Rae & Cochrane, 2008; Rowe & Wood, 2008) and to have the opportunity to discuss written feedback with tutors (Burke, 2009; Rae & Cochrane, 2008). Some students like particular feedback strategies, e.g. model answers as well as personal comments (Huxham, 2007). As for the content of feedback, students are reported as wanting detail (Bailey, 2009; Rowe & Wood, 2008), wanting advice that can be applied to future tasks (Duncan, 2007), wanting their mistakes to be pointed out (Huxham, 2007) and wanting encouragement as well as criticism (Ferguson, 2011).

Other studies have concentrated on tutor feedback comments in specific corpora of assignments, and researchers have taken a range of analytical perspectives. Randall and Mirador (2003) look at feedback comments in terms of content themes such as informed judgement or critical reflection (p. 520). Hyland and Hyland (2001) seek to categorise feedback comments by pragmatic function, referring to praise, criticism and suggestion (p. 185). Orsmond and Merry (2011) work with a more delicate set of functional categories,
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distinguishing for example between correcting errors and explaining misunderstandings (p. 130). Duncan (2007) focuses on comments with the pragmatic function of giving advice, and develops more detailed categories in terms of the nature of advice given, for example whether students are recommended to give more detail or sharpen critique (p. 274).

A different angle of research has been to investigate the language in which tutors phrase their feedback comments. Sugita (2006) and Nurmukhamedov and Kim (2010), both working in language teaching contexts, investigate tutor comments on drafts of students' work. Both papers label comments using functional grammar categories: Sugita labels comments as statements, imperatives or questions and Nurmukhamedov and Kim use the categories statements, imperatives, questions and hedging. Both pieces of research investigate whether comments in particular grammatical forms seem to have particular effects on students' subsequent revisions. Interestingly, their results are different; Sugita finds that comments in the imperative form are more influential on revisions, while Nurmukhamedov and Kim find that hedging comments are associated with more substantive and effective revisions.

Many of the studies reviewed above, whether they categorise feedback comments on the basis of content, function or form, are at least partly concerned to investigate what kind of feedback is likely to be most effective. Boud and Molloy (2012) argue that such a teacher-centred approach to effectiveness is problematic, in that it constructs the students as passive, prone to be “acted upon” by different feedback types. In reality, a wide range of factors – students' relationship with the teacher, their levels of self-esteem (Burke & Pieterick, 2010), their beliefs about the role of the teacher, their previous learning experiences and the strategies which they have available for using feedback (Burke, 2009) – are also likely to influence their response to feedback. This suggests firstly that no single kind of feedback would be inherently more effective than another, and secondly that it would be useful to examine feedback comments using an analytical framework that recognises both the tutor and the students as participants in a communicative interaction.

Higgins, Hartley, and Skelton (2001) argue that “issues of discourse, identity, power, control and social relationships should be central to any understanding of assessment feedback as a communication process” (p. 269). Tutors make comments from a position of authority, based on their knowledge and experience and on their institutional role. The comments simultaneously assign a position to the student. Feedback, then, should be seen not simply as the transmission of information, but also as a consequence and potential cause of a given interpersonal relationship. This dimension of feedback can be investigated by using the systemic functional grammar concept of Language as Exchange.

Language as Exchange

In developing a framework of systematic functional grammar, Halliday (Halliday, 1994; Halliday & Matthiessen, 2004) argues that any piece of language realises three functions simultaneously: it represents realities, it organises itself, and it creates and sustains interpersonal relationships. Within this third function, systemic functional grammar distinguishes two basic exchange types between people:
knowledge exchange and activity exchange. In a knowledge exchange, the focus is on the giving and receiving of information, with participants making statements, asking questions, etc. In an activity exchange, the focus is on action, with participants doing things or getting others to do things.

Knowledge exchanges and activity exchanges can be understood in terms of the principal language functions performed by the initiator and the responder of the exchange. In a knowledge exchange, the initiator may provide information (state) or seek information (question). In an activity exchange, the initiator may volunteer an activity (offer) or elicit an activity from another (demand).

Responders in an exchange have different options available, essentially co-operative or unco-operative. In response to a statement, they may acknowledge, or contradict. In response to a question, they may answer it, or disclaim it, i.e., decline to treat it as a question. In response to the offer of an activity, participants may accept or reject. In response to a demand, they may comply or refuse.

It is important to note that the speech function labels presented here are very general. For example, the speech function statement should be taken to include all sorts of assertions of fact or opinion, from the categorically certain to the carefully hedged. The speech function demand should be understood as including any language whose purpose is to get someone else to do something, however gently it may be phrased.

Systemic functional grammar argues that speech functions tend to be associated with certain grammatical forms, known as moods; this can be illustrated by examples from my data. Statements are typically associated with the grammatical declarative mood: “Data has increased over time” (S1). Demands are associated with the imperative mood: “Mention this in part A” (S40). Questions are associated with the interrogative mood: “How did you get this value?” (S11). These patterns of association between speech functions and grammatical moods are only typical, not categorical. Speech functions can be expressed in non-congruent as well as in congruent moods. For example, in everyday language both demands and offers can be realised in interrogative mood: “Can you open the window?” “Do you take sugar?”

If we understand feedback comments as turns in knowledge exchanges and activity exchanges, we may be better able to see how they position tutors and students in a relationship. We may also see precisely what options are being offered to students, and therefore be able to suggest how the feedback comments might or might not encourage desirable learning behaviours.

**Methods**

**Corpus collection and preparation**

Forty marked assignments were collected, transcribed, and saved as .txt files to facilitate processing using qualitative data analysis software. Such software allows users to classify and arrange information in different ways, thus searching inductively for relationships in the data (Seror, 2005).

Tutor feedback comments were transcribed where they had occurred, were placed inside chevrons < >, and tagged as feedback comments. Only comments using words were included. Isolated ticks or exclamation marks were not. It is
recognised that this is a limitation of the research, since these symbols no doubt have significance to the tutors who used them. However, previous research (Ferguson, 2011; Orsmond & Merry, 2011; Rowe & Wood, 2008) reports students as saying that feedback via such symbols is impossible to interpret clearly and therefore not useful.

The corpus of texts contained 43,027 words in total, with the shortest answer being 523 words and the longest 1,977 words. There were 149 feedback comments in total. Interestingly, these were spread over only 26 texts, meaning that 14 texts had no comments at all. The largest number of comments in any one text was 10, and the smallest 1.

**Coding of data**

The feedback comments located were coded three times: first for grammatical mood, second for basic speech function, and then third for communicative act. The third coding assigned comments to context-specific, qualitative, purposive labels which were arrived at inductively, as I will explain below.

The first layer of coding, grammatical mood, was a deductive application of Halliday’s model. It was relatively simple to carry out since language form is a very good indicator of grammatical mood. For example, most utterances in declarative mood have a subject-verb-object sequence. Each clause was coded, meaning that some feedback comments contained more than one coded stretch of text. For example: “What are possible reasons? India is not an OECD country” (S38) was labelled Interrogative, Declarative.

The second layer of coding, for basic speech function, was also deductive in that it made use of the exchange framework posited by Halliday. It did however require more interpretation on the part of the analyst because, as was discussed above, language form is not necessarily an indicator of speech function. A demand, for example, is often expressed through the imperative mood “Show more statistics, plot summaries” (S25) but can also be realised in interrogative mood: “Can you show more plots or summary stats?” (S21). My decision to code both of these as demands rests on a qualitative examination of the data in context. For this coding it was not found necessary to code individual clauses within feedback comments separately, since speech function describes the function of the comment overall.

The third layer, for a qualitative purposive label of communicative act, began with bottom up, open coding (Richards, 2003). I examined all comments in context and labelled them according to the specific, contextual function that they seemed to be carrying out. Functions that seemed to be very similar were grouped and re-grouped, until a final category label could be assigned. This was an iterative process in which I went over the comments several times refining the labels. So for example on my first round of coding, I labelled the comment “This method will probably not give a very accurate forecast” (S1) as ‘negative comment on chosen method’ and the comment “Poor” (S3) as ‘criticism’. By the final coding, both of these comments were placed in a single category entitled ‘negative evaluation’.

The combination of these three levels of coding allowed patterns to be observed; not only what grammatical moods or speech functions were more frequent, but
also whether there were any tendencies of particular communicative acts to be realised through particular speech functions and/or grammatical moods.

**Discussion with specialist informant**

An interview was held with a tutor who had delivered and marked this task. The interview had a number of purposes. The first was to ask generally about the aims of the feedback. A second was to ask about the contextual background of the feedback process. The third was to check and where necessary adjust my inductive coding. This is an important part of bottom up, qualitative coding – since preliminary categories are generated subjectively by the researcher, it is important to check how far they make sense to insiders in the communicative exchange. In this particular case, I made a major change in response to the interview, bringing three preliminary categories together under a single heading. In the reports of findings below, I use the final category labels, arrived at after the interview.

**Findings**

**Mood**

Clauses in the comments were labelled in five mood categories. The three categories declarative, imperative and interrogative have been explained above. The fourth category was *minor clause*: this is the term used by Halliday and Matthiessen (2004, p. 153) to describe clauses which are incomplete, typically without verbs. In my data some of the feedback comments are simply inserted words, e.g. “The graph shows a linear <weak, positive> correlation” (S11). The fifth category was *non-finite interrogative*. This label describes comments where interrogative mood is indicated by the presence of a question mark, but there is no verb in the clause. For example, “description?” (S24).

The frequency of these five mood categories in the feedback comments was as follows:

- Interrogative: 54
- Declarative: 50
- Minor clause: 37
- Non-finite interrogative: 25
- Imperative: 7

(173 coded clauses over 149 comments)

**Speech function**

Again, each feedback comment was coded for the four basic speech functions identified above: *statement, question, demand, offer*. Frequencies found were:

- Question: 72 (62 in single clause comments, 10 in multi-clause comments).
- Statement: 47 (all in single clause comments).
- Demand: 30 (26 in single clause comments, 4 in multi-clause comments).
- Offer: 0.

It is immediately apparent, then, that there is not full congruence between the basic speech functions which the tutors’ comments express and the grammatical moods which are chosen to realise those comments. For example, 30 comments are categorised as *demands*, but only 7 clauses are in imperative mood. The reasons why tutors might choose to express speech functions non-congruently, as well as the
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possible effects of those choices, are discussed below.

Communicative act

As was discussed above, this level of coding is different to the other two in that the categories do not belong to a pre-existing framework, rather they were developed bottom-up through examination and re-examination of the feedback comments in context. Such categories inevitably rely on subjective interpretation; for this reason, it was particularly important to revise them in consultation with a tutor on the course. They are presented from the least to the most frequent:

Praise (2 comments). There were two comments that indicated an explicit positive evaluation of a point made by a student, both expressed by the single word “good”. For example S2: “poor economy climates might affect the health expenditure <Good!>”.

Instruction about the task. (10 comments). Here, the tutor highlights an aspect of the task brief that the student has not followed. For example S7: “Accordingly, the data may not be accurate enough. <It is explicitly indicated to analyse the distribution of the differences not each group separately>”.

Negative evaluation (13 comments). These are comments where the tutor explicitly marks a student’s point as inadequate in some way. For example S1 “and it well illustrates the reliability of this method. < This method will probably not give an accurate forecast. In particular because the data has increased over time. It is likely to underestimate the total books sale>”.

Insertion (13 comments). Usually within a sentence, the tutor inserts some information into the student’s text. For example: “But apart from that, the other data tend to form a positive < weak> correlation indicating that higher total health expenditure.” (S22). Such comments, then, correct the detail of what the student has written.

Suggest that something is missing (105 comments). This is very obviously the dominant category. The tutor suggested that the existence of a model answer, explaining in detail what should be present in each section, led tutors to focus above all else on communicating to students about elements that they had failed to include. Some of these comments refer to technical elements which are missing, for example S36: “the differences between boys and girls in the eighth grade is greater than the one in the third grade. <Boxplots of the differences>”. Others refer to an aspect of argumentation which the student has not developed, for example S24: “... and life expectancy may not have the same correlation as the other countries <possible reasons?>” or S6 “... a band one top school which has a lot of intelligent students with a school which has students who don’t want to study <How do you know about this?>”.

Six remaining comments were categorised as idiosyncratic, not having a communicative purpose in common with any other comment. They were therefore not coded for communicative act.

Discussion

Having explained the three levels at which feedback comments were coded and having shown some patterns of occurrence, it is now possible to consider how the
comments function as turns within knowledge exchanges and activity exchanges, and thereby construct certain interpersonal positioning for the tutor and the student. It will be argued that these different positionings have different potential with regards to positive learning behaviours which they might encourage.

Within the communicative act **Insertion**, all comments are categorised as *statements* realised in the form of minor clauses. Such comments have the effect of modifying the proposition originally asserted by the student. The student has made an assertion which the tutor partially contradicts, and puts forward their own, alternative assertion. This is then a knowledge exchange in which the turns of both parties are visible within the text; the student’s initial assertion and the tutor’s restatement. A restatement categorically positions the tutor as the person with authority – the tutor not only takes a responding turn, but simultaneously realises another initiation. The position constructed for the student is a rather passive one – their only sensible course of action is to accept the information offered. The speech function *statement* is also dominant for the communicative act **Negative evaluation**; 11 of 13 such comments are *statements* realised congruently in declarative mood. The choice of *statement* in declarative mood to realise a negative evaluation constructs a relationship of high power asymmetry. The tutor is offering knowledge, and the student is positioned as being corrected. This is again a relatively passive position. Feedback comments which position students as receivers in knowledge exchanges are helpful in that they can expand students’ subject knowledge and justify the mark given. However, their relevance for future work may not be completely clear.

For the communicative act **Instruction about the task**, all 10 comments have the speech function *demand*. This places tutor and student within an activity exchange, with the tutor attempting to elicit behaviour from the student. A realisation in imperative mood would be congruent, but only three comments are in this form. For example S35 “… the line for girls is always above the line for boys <Link these comments with your graph>. Other comments are in declarative form using a modal of obligation: For example S5 “expenditure on health (6931 dollars per capita), whereas its life expectancy is 77.7. <You should point out this is an outlier…> This mood choice is conventionally associated with indirectness. It can be a politeness strategy, but Nurmukhamedov and Kim’s (2010) research suggests that students may find it difficult to understand the pragmatic force of *demands* phrased in this way.

Ambiguity as to the intended speech function may also result from the completed status of the work. Comments such as “<Link these comments with your graph>” seem to suggest that the activity is ongoing and the student could follow the instruction. Yet this is not feedback on a draft, it is the final assessment of the work. Students might therefore interpret the comment retrospectively, as explaining what they should have done. Under this interpretation, however, the activity exchange would become a knowledge exchange, with the tutor transmitting information. For the comment to be understood as a *demand*, students need to interpret it as prospective – “do this sort of thing in future”.

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The dominant category of communicative act, **Suggest that something is missing**, includes instances of all the speech functions which appear in the data: **statements** (20) **demands** (17) and **questions** (67 instances). The dominance of **questions** in a communicative act whose purpose is to inform students that something is missing, is clearly worth discussing. Forty of the **questions** are realised congruently, in interrogative mood, for example S35 “…representative enough for analysis in 2010. More data should be collected. < What is the population?>” and the other 27 are in non-finite interrogative mood, for example e.g. S26: “… as the life expectancy in India is lower than the others too. < possible explanation?>”

A **question** positions tutor and student as participants in a knowledge exchange, where the tutor is seeking information that the student could provide. In our interview the tutor said that such comments should be considered as display questions, since the tutor already knows the answer. Nevertheless, they position the student as someone who could in principle provide information; this is a relatively powerful and positive position for the student. By encouraging students to see themselves as potential providers of information, these comments have the potential to encourage a student to enter into dialogue with their own future work and thereby improve it. The tutor’s comment can be seen as modelling a process whereby students might learn to increase the depth and sophistication of their writing by entering into dialogue with their texts as they construct them – anticipating tutor “requests” for more explanation and managing to provide it. In a first year context, this possibility is particularly rich; as Johnston, Cazaly, and Olekalns (2008) argue, first year students are often unsure about how they might beneficially engage with feedback.

**Implications**

Knowledge exchanges and activity exchanges both have formative potential in the feedback context. Via a knowledge exchange, a tutor can offer additional subject knowledge and justify marks given. Alternatively the tutor can position the student as a “knower”. Most tutors are aware of the value of positioning students in this way, and Socratic questioning technique is of course very widely practised in classroom and tutorial exchanges (Mitchell, 2006). Here, we see tutors using it in feedback, to increase the formative potential.

Retrospective comments by the tutor are useful, but they are insufficient in themselves, and need to be balanced by comments oriented to future action. **Demands** in activity exchanges can fulfil this role, eliciting desirable future behaviour. For the comments in this data, the speech function **demand** is sometimes more transparent than others. It would be useful for tutors to talk to student about this function of feedback, and encourage them to look for a **demand** in all comments that they receive. Specifically, students could be made aware that **demands** can be realised non-congruently, using more nuanced language. Similarly, they could be invited to consider how **demands** made in feedback, about a task that is finished, might apply for future work. This would help them to see the future relevance of summative as well as formative feedback, and encourage them to look beyond the grade received.
Feedback practices which encourage engagement, together with discussion around such feedback practices during students’ first year could significantly aid their smooth transition into higher education (Yorke, 2007). The current research, although based on a small and context-specific corpus, seems to underline the importance of functional language awareness for both tutors and students in a first year course. Tutors can be conscious of the importance of their language choices for constructing a beneficial relationship between themselves and their students. Students can be encouraged, perhaps via class discussion, to rise to the active positions that feedback comments might construct for them.

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