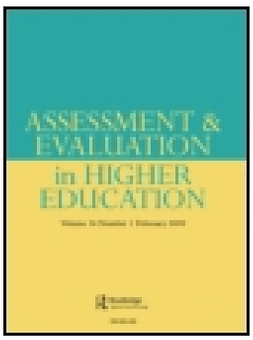

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The focus, function and framing of feedback information: linguistic and content analysis of in-text feedback comments

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ABSTRACT

In-text comments, in the form of annotations on students' work, are a form of feedback information that should guide students to take action. Both the focus of the in-text comments, and the ways in which they are linguistically communicated, have potential to impact upon the way in which they are perceived by students. This study reports on an analysis of 2101 in-text comments added by markers to 60 summative essays from two disciplines. The majority of comments, regardless of the grade awarded, were found to be directed at the task performance, rather than relating to the level of process or self-regulation. Work awarded higher grades received fewer annotations; these essays were found to include more feedback comments expressing a positive tone, with limited opportunities for informing further development. Work awarded lower grades mainly received corrective comments, as well as comments characterised by interrogative language and words expressing risk. It is argued that the linguistic style may influence engagement with in-text comments, impacting upon students' affective and emotional states, and their level of cognitive engagement with the feedback information. Recommendations for markers' practices are identified, to facilitate the opportunities for engagement and action that in-text comments might afford.

KEYWORDS

annotations; written feedback; feedback modalities; linguistic style; self-regulation

Types of written feedback information

Within higher education, written feedback has become the dominant form of feedback information (Agricola, Prins, and Sluijsmans 2020). Feedback is referred to as 'a process through which learners make sense of information from various sources and use it to enhance their work or learning strategies' (Carless and Boud 2018, 1315). Carless (2015a) refers to this as the new paradigm of feedback, which is contrasted with the old paradigm where feedback merely serves to transfer information. Whilst feedback with characteristics of the new paradigm is identified by students as being of utmost importance (Winstone et al. 2017), it has been well established across the sector that student experience surveys frequently indicate dissatisfaction with assessment and feedback (Pitt and Norton 2017). Thus, there is a need to continue to review feedback practices and the quality of written feedback. The new paradigm advocates active participation by encouraging students to use feedback, which is essential for self-regulation

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(Carless 2015b; O'Donovan, Rust, and Price 2016). This may be more challenging to facilitate within a post-Covid world, if practices continue to involve fewer opportunities for face-to-face interaction and discussion, meaning that written feedback practices will need to be even more effective.

Written feedback information is commonly provided as comments added directly onto students' work, which we refer to as in-text comments. This is often used in conjunction with rubric-referenced feedback, but the purpose and function of these different forms of feedback are not always clear. Nordrum, Evans, and Gustafsson (2013) identified that students viewed in-text comments and rubrics as having different feedback functions. Students regarded in-text comments as useful for task-related concerns, such as suggesting corrections or highlighting errors. Rubric-referenced feedback was viewed as useful for a more holistic overview and identifying new perspectives or understandings. Dirkx et al. (2019) stress the importance of considering the intention of the different types of feedback and the importance of identifying that the focus of each is clear for both markers and students. They argue that written comments using a rubric provide greater potential for more detailed comments at the level of self-regulation than in-text comments, which are more suited to providing information on the task.

Feedback delivered as in-text comments can be helpful in providing bite-sized pieces of information, situated in the place to which the comment refers (Rand 2017; Watkins et al. 2014). This has the effect of enabling the markers' words to interact directly with the students', potentially influencing students' interaction with the comments and encouraging engagement (Liu 2006). This is perhaps more useful than longer narrative style feedback, as students are inclined to only read written feedback once and therefore messages need to be powerful and succinct (Rand 2017).

Arts, Jaspers, and Joosten-ten Brinke (2016) carried out an analysis of eight pieces of formative work which contained a total of 299 annotated comments, using Hattie and Timperley (2007) seminal model of feedback as a coding framework. Hattie and Timperley argue that feedback tends to be directed at different levels: self, task, process and self-regulation. They claimed that personal feedback focused on the self is likely to be too disconnected from the task or performance to impact on learning, and feedback at task level is only effective if it can be used to improve future performance. Feedback about the process and at the level of self-regulation are the most effective forms of feedback, having potential to inform future practice. Arts et al. discovered that most annotated comments in their sample related to the task or were classified as corrective comments. Explanations about how to improve future work were scarce. Dirkx et al. (2019) analysis of in-text comments also identified that most were focused upon task-specific corrections and evaluative advice, with directive comments being provided in the rubric-referenced feedback.

Whilst rubrics may potentially provide a valuable source of directive comments, Liu (2006) has also pointed towards the value of in-text comments for encouraging students' engagement with the feedback. Therefore, it is our contention that in-text comments should be both task and process focused, because of their perceived benefit in terms of increasing engagement, thus enabling students to take action. Whilst previous analyses provide an indication of the focus of feedback comments, they do not provide insight into *how* comments are conveyed. Thus, it is important to also consider the linguistic features used by markers as an important influence on the impact of feedback on learning.

Language used in written feedback

Both the content of the message and the way in which it is communicated is important, as with the absence of facial and vocal cues written feedback can be misconstrued (Winstone and Carless 2019). The manner in which the feedback message is conveyed can generate an

emotional response which has the potential to affect student engagement and thus influence on-going development (Lipnevich and Smith 2009). Students are inclined to engage more with positively evaluated feedback and disengage from negative comments (Pitt and Norton 2017). Negatively-phrased comments may lower self-esteem and perceived self-efficacy, impacting upon the learners' beliefs about themselves, and confidence in their ability and behaviours (Ryan and Henderson 2018). Boud (1995) suggests that critical or judgmental language may provoke resentment and apathy which subsequently impacts upon learning. In addition, feedback information that focuses upon highlighting errors may be regarded as personal criticism, obscuring the value of the feedback message. Students may find it difficult to make a distinction between identifying errors made and feeling like they have failed as an individual (Yorke 2003).

The use of academic language, jargon and vague comments can act as barriers to the interpretation of feedback information (Sutton 2012), leading students to disregard it and eliminate its potential for learning (Weaver 2006). Whilst words and phrases which suggest delight may encourage engagement, the use of annotation such as '??' or '!!' may be interpreted as incredulity or irritability on behalf of the marker (Ball 2010). Although authentic questions posed by the marker have potential to promote internal dialogue and action, interrogatives such as 'Why?' or 'Evidence?', may convey a negative tone and require contextualisation in order to be useful to the student (Ball 2010).

Feedback information and attainment level

The number of feedback comments given, depends to an extent on the student's level of achievement (Hyland 2001). Students performing well often receive fewer comments and less guidance for improvement, perhaps based on the assumption that they will be happy to have performed well and have less issues to 'correct'. Orsmond and Merry (2013) compared undergraduates' responses to feedback and found high achieving students placed greater emphasis on self-direction following feedback, believing they could manage with less feedback, as long as they had information about how they had performed which could subsequently be used for their own self-assessment. In contrast, non-high achieving students placed greater emphasis on external regulation from markers and were less likely to generate questions and actions for themselves on the basis of feedback information.

In order to optimise the potential of in-text feedback, both the focus and the linguistic features of the message need to be considered. This study analyses written feedback information presented in the form of annotations on students' work, with the aim of providing insight into both the focus and function of the comment, and the framing in terms of how the marker expresses an intention through linguistic features. The following research questions were posed:

1. What is the focus of in-text feedback comments?
2. Does the usage of different types of in-text feedback comments vary according to grade awarded?
3. Do the linguistic features of in-text feedback comments vary according to grade awarded?
4. Do different types of in-text feedback comments differ in their linguistic features?

Method

Data source

Favourable ethical opinion was obtained to use anonymised feedback comments for the purpose of this research. In-text comments ($N = 2101$) that were annotated on 60 essays formed the data

source for the study. Essays were selected from three health sciences modules and three psychology modules, across each level of undergraduate study (i.e. first year, second year and third/final year), and spread evenly across grade boundaries (i.e. 12 essays graded under the pass threshold of 40%; 12 essays graded 40-49%; 12 essays graded 50-59%; 12 essays graded 60-69%; and 12 essays graded 70% and above).

Content of in-text feedback comments

In order to analyse the in-text comments, a coding scheme was devised (see Table 1) based upon Hattie and Timperley (2007) theoretical model. As this model has been used in previous studies (e.g. Arts, Jaspers, and Joosten-ten Brinke 2016; Dirkx et al. 2019), it was considered a useful framework for analysing feedback comments. The category 'feedback on task' was broken down into three sub-aspects: edits, evaluative comments and corrective advice. An initial review of the data suggested that comments related to this category were exceptionally varied and detailed and would have not been captured by classifying this feedback category in a single code. The sub-codes therefore enabled additional depth to the analysis.

In order to ensure the scheme was able to be used to consistently to categorise comments, Lombard, Snyder-Duch, and Campanella Bracken (2004) guidance for the assessment and reporting of inter-coder reliabilities in content analyses was followed. After coder training in which all authors and a research assistant independently coded all of the comments on four essays (two from each discipline) against a draft version of the scheme, an appropriate level of agreement was reached. The scheme and coding instructions were refined further, followed by a formal pilot coding stage where 30 randomly selected comments were independently coded by the first author and the research assistant. A Krippendorff's alpha (Hayes and Krippendorff 2007) coefficient of .83 was obtained, which is seen to be an acceptable level of reliability in

Table 1. Model of feedback to enhance learning coding scheme.

	Feedback Category Level	Feedback Category Descriptor (*with examples of in-text feedback comments*)
Feedback on self-regulation level	6	Informative developmental guidance *You'll recall we discussed the strengths and limitations of different methodologies in class. Reconsider your argument for the method you've chosen; consider both its strengths and limitations and thereby provide a stronger rationale.*
Feedback related to the process	5	Directive developmental guidance in relation to future work *When referencing, you don't need to include the author's Christian name. Please use this link to access and check referencing guidelines to ensure this is correctly referenced in the future.*
Feedback related to task performance	4	Corrective or directive advice related to task *This isn't a correct interpretation of this theoretical model.* *You need to relate this to your own experience and evidence with reference to the literature.*
	3	Evaluative comment related to task *This is a good example to illustrate the case.* *You've repeated the same point made earlier in your work.*
	2	Edit *A full stop is required.* *Omitted word 'care'.*
Feedback on the self or personal level	1	Personal Opinion *You have worked hard.*

most situations (Lombard, Snyder-Duch, and Campanella Bracken 2004). Clarifications were discussed for any discrepancies and changes were agreed upon. Comments coded during the training and pilot stages were not included in the final sample of comments that were analysed.

During the formal reliability checking stage, 10% of the total comments ($n = 212$) were randomly selected to be independently coded by the first author and the research assistant, and a Krippendorff's alpha value of .85 was obtained. Subsequently, the research assistant coded all remaining comments.

Linguistic features of in-text feedback comments

To assess the linguistic features of in-text comments, we used the Linguistic Inquiry and Word Count (LIWC) text analysis software (Pennebaker et al. 2015). LIWC returns basic information about text excerpts (e.g. the number of words, number of verbs, etc.) as well as analysing the percentage of words in a text excerpt falling under a range of different linguistic categories. For our analysis, we selected linguistic categories that aligned with aspects of feedback practice thought to have potential impact upon students.

Henderson et al. (2019) outline different ways in which feedback may have impact on students, and we used these to organise our exploratory linguistic analysis (see Table 2). They argue that feedback information may have relational impacts, influencing students' perceptions of credibility, trust, perceived safety and threat. These impacts can influence students' engagement with feedback (e.g. feedback seeking, interpretation and action). We selected four linguistic categories from LIWC aligning with the relational impacts of feedback: personal pronouns, impersonal pronouns, words associated with power, and words associated with affiliation (Table 2).

Henderson et al. (2019) also describe potential affective and motivational impacts, where feedback information has the potential to influence students' affective and motivational states. LIWC includes linguistic categories associated with affective processes. Five categories were

Table 2. Linguistic categories.

Impact type	Linguistic indicators	Examples
Relational	Personal pronouns	I, you, your, we, our
	Impersonal pronouns	It, that, this, those
	Power	Judge, comply, inferior, follow, reject, request, weakness
	Affiliation	Help, let's own, share, together, we
Affective/motivational	Positive emotion	Best, confident, engaging, excellent, interesting, strong
	Negative emotion	Bad, careless, confused, difficult, missing, poor, weak
	Reward focus	Achieve, earned, gain, good, reward, success
	Risk focus	Beware, careful, caution, doubt, fail, risk
	Achievement	Ability, attain, advantage, determination, try, effort, excellent, progress
Cognitive	Interrogatives	How, what, why, where, when
	Negations	Aren't, can't, didn't, haven't, done, shouldn't
	Discrepancies	Could've, couldn't, lack, inadequate, needed, should, unnecessary
	Differentiation	But, didn't, either, else, if, otherwise
	Insight	Aware, choice, complicated, decide, wonder, consider, notice, think, perspective
	Causal language	Because, create, depend, lead, result, use
	Assent	Absolutely, agree, ok, yes, alright
	Questions	?
	Tentativeness	Almost, appear, guess, hope, if, mainly, maybe, might, quite, sometimes
	Certainty	Absolutely, always, all, clearly, extremely, must, never, specific

selected representing words associated with: positive emotion, negative emotion, reward focus, risk focus and achievement (Table 2).

Finally, Henderson et al. (2019, 27) draw attention to the ways in which feedback information can impact on students' thinking, where comments can influence 'the way in which [students] attend to details, process information, form concepts, and how they store and retrieve memory'. Drawing from the linguistic categories in LIWC associated with cognitive processes, we focused on the extent to which in-text comments contained words representing: interrogatives, negations, discrepancies, differentiation, insight, causal language, assent, questions, tentativeness and certainty (Table 2).

Results

What is the focus of in-text feedback comments?

Table 3 shows the usage of in-text comments on each essay in terms of the number of comments used on student work and how they were coded within each category of the coding scheme.

Breaking down Table 3, the number of in-text feedback comments ranged from 8 to 119 annotations ($M = 35.02$, $SD = 27.22$) on each essay. Of these comments, only those coded as 'corrective or directive advice related to task' (feedback category level 4) were present on all essays in the sample. The majority of comments on each essay was coded as 'corrective or directive advice related to task' (on average, 44% of in-text comments on each essay were coded to this category) and 'evaluative statement or comment related to task' (feedback category level 3; an average of 37% of in-text comments on each essay were coded to this category). An average of around 12% of comments on each essay were coded as 'directive developmental guidance in relation to future work' (feedback category level 5). Only an average of 5% of comments on each essay were coded as 'edit' (feedback category level 2) and 1% coded as 'informative developmental guidance' (feedback category level 6). No comments were coded as 'personal opinion' (feedback category level 1).

Due to the low number of 'informative developmental guidance' comments (only six essays included comments that were coded to this category), this category was excluded from further analyses. The number of comments coded to each category for each essay formed variables for use in further statistical analyses. Technical details about data cleaning and rationales for using each of the statistical tests can be found in the online supplemental material.

Focusing only on feedback categories 2 to 5, a one-way within-subject analysis of variance (ANOVA) using Greenhouse-Geisser corrections confirmed that there was a significant difference in the usage of feedback comment categories across essays, $F(2.48, 146.25) = 102.07$, $p < .001$, $\eta_p^2 = .63$. Post hoc pairwise comparisons between all feedback categories were also significant (all $ps < .001$ after Bonferroni adjustments), except for the difference between comments coded

Table 3. Usage of in-text feedback comments coded within each category per essay.

Feedback Category Level	In-text feedback comment category	Min		Max		*M*		*SD*	
		f	%	*f*	%	*f*	%	*f*	%
N/A	Total number comments	8		119		35		27	
6	Informative developmental guidance	0	0	13	25	1	1	2	4
5	Directive developmental guidance in relation to future work	0	0	18	42	4	12	4	9
4	Corrective or directive advice related to task	1	7	68	78	17	44	16	17
3	Evaluative statement or comment related to task	0	0	47	93	11	37	8	21
2	Edit	0	0	15	30	2	5	3	6
1	Personal opinion	0	0	0	0	0	0	0	0

Note. Values have been rounded to the closest whole number.

as 'evaluative statement or comment related to task' and 'corrective or directive advice related to task', $p = .313$ (after Bonferroni adjustment).

Does the usage of different types of in-text feedback comments vary according to grade awarded?

To determine whether there were relationships between the usage of comments coded to each category and essay grades awarded, scatterplots were scrutinised for linear relationships and Pearson's correlations were then performed. These correlation analyses were initially run separately for each discipline and for each year of study. However, the patterns of each correlation between feedback categories and grades did not differ across disciplines or year of study (although there were differences in statistical significance of effects due to the reduced sample size), so these were combined into a single data set for the analyses. There was no relationship between the usage of comments coded as 'edit' (level 2) and the grade given to the essay, $r = -.19$, $p = .148$. There was a significant positive relationship between grades and usage of comments coded as 'evaluative statement or comment related to task' (level 3), $r = .32$, $p = .014$. There were significant negative relationships between grades and usage of comments coded as 'corrective or directive advice related to the task' (level 4), $r = -.44$, $p < .001$, or 'directive developmental guidance in relation to future work' (level 5), $r = -.50$, $p < .001$. Finally, there was a significant negative relationship between grades and the total number of in-text feedback comments on essays, $r = -.29$, $p = .027$. Significant correlations with grades are depicted in the scatterplots in Figure 1.

A multiple regression analysis was performed with the usage of feedback comment categories as predictors and grades as the outcome variable, to determine whether relationships still existed when controlling for each other in the same model. The 'edit' category was not included, as it did not significantly correlate with grades.

The regression model suggests that feedback categories explain 44% of the variance in grades. As Table 4 shows, after controlling for the three feedback comment categories in the

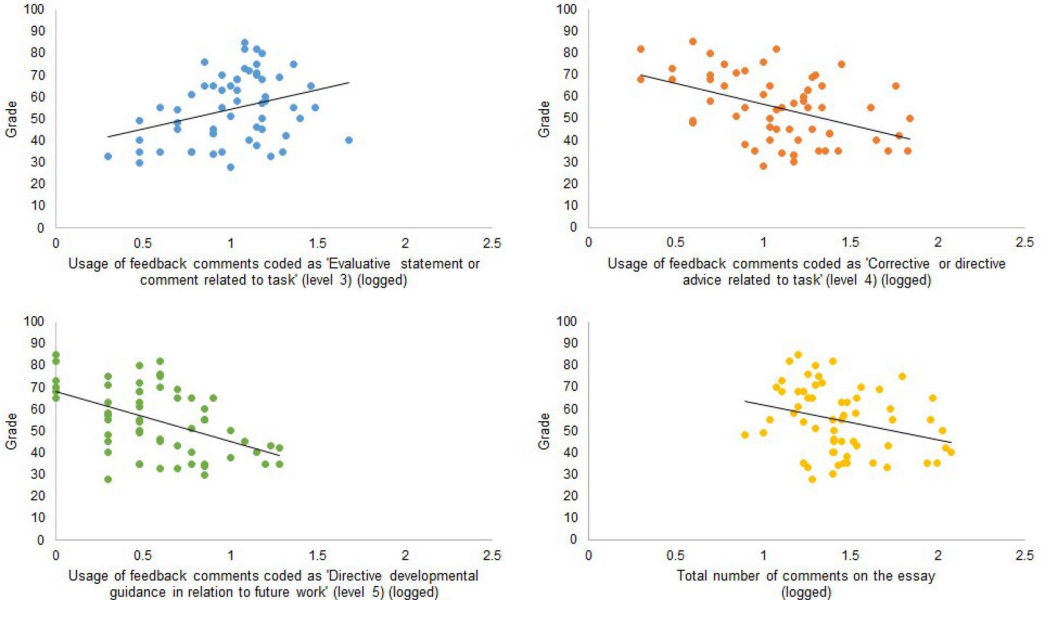

Figure 1. Scatterplots showing the relationship between grades and usage of feedback comments coded at different levels, and between grades and total number of in-text feedback comments on the essay.

Table 4. Regression model of the usage of in-text feedback comments coded within each category as predictors of grades.

	B	*SE B*	β	*p*
Constant	55.11	6.78		<.001
Evaluative statement or comment related to task (level 3)	23.78	5.90	.43	<.001
Corrective or directive advice related to the task (level 4)	−15.34	6.10	-.36	.015
Directive developmental guidance in relation to future work (level 5)	−13.18	6.47	-.28	.047

Note. $R^2 = .44$, $F(3, 55) = 14.41$, $p < .001$.

same analysis, usage of comments coded as 'evaluative statement or comment related to task' (level 3) significantly positively predicted grades, whereas usage of comments coded as 'corrective or directive advice related to the task' (level 4) or 'directive developmental guidance in relation to future work' (level 5) significantly negatively predicted grades.

Do the linguistic features of in-text feedback comments vary according to the grade awarded?

LIWC software was used to calculate the percentage of words in each in-text feedback comment that formed part of each of the selected linguistic domains in Table 2. These percentages were then averaged for each essay to produce the average percentage of words within each linguistic domain across all comments in that essay. In order to understand whether the language used in in-text feedback comments was related to the grades assigned to the essay on which the comment was present, a series of Pearson's correlation analyses were performed. Table 5 displays correlations between the linguistic features of comments and grades.

Significant positive relationships were found between grades and the use of words expressing positive affective/motivational impacts, including positive emotion (e.g. '**Nice** clear start with a **good** overview') and having a reward focus (e.g. '**Great** discussion'). Significant negative relationships were found between grades and words expressing negative affective/motivational impacts, including words with a risk focus (e.g. 'Please be **careful** with your grammar'), and

Table 5. Correlations between the linguistic features of in-text feedback comments and grades.

Linguistic domain	Grades [*r*]
Relational	
Personal pronouns	-.16 [-.40, .10]
Impersonal pronouns	-.20 [-.41, .06]
Power	.004 [-.28, .29]
Affiliation	.07 [-.16, .33]
Affective/motivational	
Positive emotion	.57** [.35, .73]
Negative emotion	.11 [-.24, .56]
Reward focus	.61** [.41, .76]
Risk focus	-.43** [-.57, −.30]
Achievement	.24 [-.09, .43]
Cognitive	
Interrogatives	-.23 [-.42, −.02]
Negations	-.13 [-.39, .15]
Discrepancies	-.04 [-.27, .17]
Differentiation	-.14 [-.36, .06]
Insight	-.13 [-.37, .12]
Causal language	-.20 [-.42, .06]
Assent	-.19 [-.41, .30]
Questions	-.37* [-.53, −.20]
Tentativeness	-.17 [-.37, .05]
Certainty	-.0003 [-.30, .31]

Note. *$p < .01$; **$p < .001$. Bias-corrected and accelerated bootstrap 95% CIs reported in parentheses.

between grades and cognitive impacts, including interrogatives (e.g. '**Why**?'), and the use of questions (e.g. How do you know this**?** Evidence**?**).

Do different types of in-text feedback comments differ in their linguistic features?

To determine whether comments coded to the different feedback categories in the coding scheme differed in their linguistic features, we examined the average percentage of words in comments coded to each feedback category that formed part of each linguistic domain (we did not examine the 'edit' category, as these comments consisted of corrections to the existing text, meaning that the linguistic features would not make sense outside of the context of the essay on which they were written). Wilcoxon signed-rank tests were used to analyse pairwise comparisons between each of the feedback categories for each linguistic domain (a complete account of these statistical tests can be found in the online supplemental material). Figure 2 displays the linguistic features of comments coded to each feedback category with significant differences summarised.

As Figure 2 shows, comments coded as 'evaluative statements or comments related to task' (level 3) are defined by having more words expressing affective/motivational impacts (positive emotion and reward focus), and fewer words expressing either relational impacts (impersonal pronouns) or cognitive impacts (interrogatives, discrepancies, insight, causal language, and questions). Comments coded as 'corrective or directive advice related to the task' (level 4) are defined by the use of more words expressing either relational impacts (impersonal pronouns) or cognitive impacts (interrogatives, discrepancies, insight, causal language, and questions), and fewer comments expressing affective/motivational impacts (achievement and positive emotion). Comments coded as 'directive developmental guidance in relation to future work' (level 5) include more words expressing certain affective/motivational impacts (achievement), but fewer words expressing other affective/motivational impacts (positive emotion). These comments also include more words expressing certain cognitive impacts

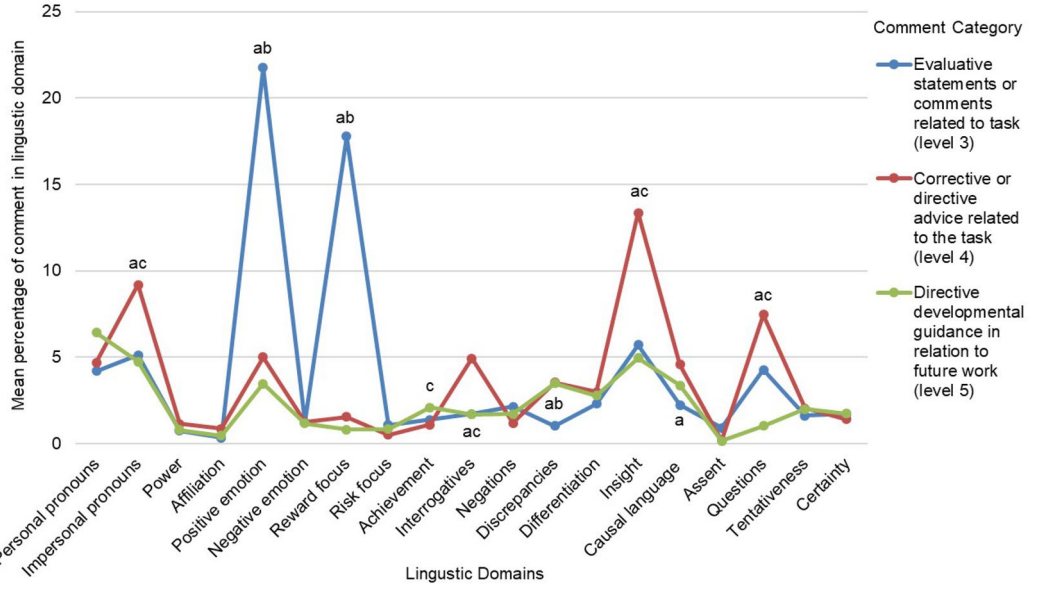

Figure 2. Linguistic features of the in-text comments coded to each feedback category. a = significant difference between levels 3 and 4; b = significant difference between levels 3 and 5; c = significant difference between levels 4 and 5.

(discrepancies), but fewer words expressing other cognitive impacts (interrogatives and questions). Finally, level five comments include fewer words expressing relational impacts (impersonal pronouns).

Discussion and recommendations

Whereas previous research has focused upon the content of in-text comments, this study has also considered the linguistic features of the feedback messages, thereby combining two elements which may impact upon the way in which feedback information is perceived by students. In keeping with other research findings (Nordrum, Evans, and Gustafsson 2013; Arts, Jaspers, and Joosten-ten Brinke 2016; Dirkx et al. 2019), our results indicate that in-text comments are primarily related to task performance, rather than process, and comments at the level of self-regulation were rarely identified. This focus on task is information-centric and reflects old paradigm feedback practice (Carless 2015a). In order to provide feedback with characteristics of the new paradigm, a better balance needs to be achieved between feedback at the level of task, process and self-regulation. This is not to suggest additional feedback is required, but instead that markers should focus upon providing feedback at the level of process and self-regulation.

Crafting feedback which enables students to develop their understanding and future work is a more complex process than that which highlights errors (Price et al. 2010), but benefits may be achieved with a change of focus, to reflect practices associated with deep annotators (Liu 2006). Deep annotators provide critical and analytical comments, whereas surface annotators tend to reuse information and write comments which lack analytical engagement with the text. Lipnevich and Smith (2009) argue that a consequence of surface level feedback is surface level understanding and engagement by the student, thus limiting opportunities to take action.

Essays awarded higher grades received fewer comments. The feedback served to affirm the grade and offered opportunities for evaluative judgement (Tai et al. 2018), but offered little developmental guidance. The lack of directive comments and comments at the level of self-regulation leaves students with less opportunity for on-going development. This is despite the fact that high achieving students are receptive to critical feedback comments, because they help them to attain their high grade goals (Carless 2019). Not surprisingly the linguistic style for these students reflected a positive affect and was reward focused. This is likely to elicit a positive emotional reaction and students are subsequently more likely to process and make use of the feedback (Lipnevich and Smith 2009). However, positive comments without directive guidance do not provide advice which makes action possible. All students, including those with high marks, require feedback which enables them to enhance future work. It is therefore recommended that markers refocus and ensure the feedback provided to these students achieves this goal.

It is important to consider the linguistic style of comments in order to encourage engagement and action. Corrective advice was often phrased in a style which did not provide decisive direction. Phrases such as '*You might like to…*' suggests optionality and an invitation to respond. '*You should always ensure…*' provides more certainty but should be accompanied by an explanation as to why this direction has been given. Corrective feedback was prevalent in work which received lower grades and featured words with negative connotations such as '*careless*' and '*poor*'. In addition, comments were often risk focused: E.g. '*This is a poor explanation of this concept and you need to be careful with referencing*'. Such feedback may lead to feelings of anxiety, a sense of inadequacy and lower self-esteem (Shields 2015).

Rewording to encourage engagement and more direction is recommended: E.g. '*I notice the explanation here does not include X and Y, which are essential to this concept and should form part of your explanation. You need to include the date for this reference source. Please use this link to access and check referencing guidelines to ensure this is correctly referenced in the future*'. Although it could be argued that this longer, more detailed feedback may add to workload, it is suggested

that fewer, more carefully worded comments would improve quality and student satisfaction. As Forsythe and Johnson (2017, 853) argue, learning from feedback is less effective when students 'spend time monitoring the extent to which they make mistakes because they will have less cognitive resources available to solve problems and questions posed to them'.

Whilst written feedback is largely one-directional communication, the presentation of feedback as authentic or exploratory questions has potential to promote internal dialogue and enable action. Nystrand (1997) suggests questions are a means of presenting a dialogic approach, which may encourage students to engage with feedback, if they are considered part of an interaction which prompts a response and invites further communication and action. Questions which appear as interrogatives, such as *How?* or *Why?* are unlikely to achieve a meaningful response, particularly when focused at the level of task, where the feedback is of limited value if the student is unlikely to revisit the assignment again. The same applies to the use of annotations such as? ?. To be effective, questions need to be posed at the level of process, containing direction and enabling self-regulation if the new paradigm is to be achieved. In addition, the use of personal pronouns and words expressing an affiliation are encouraged to foster a sense of relationship and encourage dialogue. For example, simply rephrasing '*Please arrange a tutorial prior to submission*' to '*I can help you to develop your work before you resubmit, when we meet for a tutorial*' may be all that is required to encourage engagement.

The amount of feedback is arguably less important than the focus and linguistic style, whether this is provided as an in-text comment or within accompanying rubric-related forms. A change in framing feedback comments should not increase academic workload, but instead make the time spent more productive and effective. There is the need for shared understanding between markers and students about the purpose of both formative and summative feedback and both should have a landing place; that is, a future task or assignment, where the comments provided have relevance and thus support students in on-going development of skills or understanding. Winstone and Carless (2019) argue that positive outcomes are achieved not through substantial changes requiring extra workload, but through the combined effects of small improvements to feedback that help achieve the paradigm change.

Limitations and opportunities for future research

The focus of this research was on in-text comments only, without consideration of accompanying rubric-related feedback information. Therefore, it is not known if more detailed, directive feedback at the level of self-regulation was provided in comments within a rubric or as a general overall comment about the work. Dirkx et al. (2019) discovered more directive feedback and process-related comments in rubrics than in annotations, but the majority of comments were still task-focused. Thus, it is likely that students are not receiving a balance of feedback at different levels with the use of different modalities, but this would be an area to explore further both in terms of the focus of the comments and the linguistic features.

A further limitation is the extent to which we could explore linguistic features, which was bound by the pre-set categories within the text analysis software (Pennebaker et al. 2015). To overcome this, a broad range of linguistic categories were selected which aligned with key potential areas of the impact: relational, affective and motivational, and cognitive aspects (Henderson et al. 2019). An area for future research could be to explore how students receive and act upon in-text feedback comments which present different linguistic features.

Although we sampled essays across multiple years of students' study, we did not examine how the focus, function and framing of in-text comments might change as students progress through their courses and assignments become more demanding. Therefore, a longitudinal analysis of change in content and linguistic style of in-text comments might enrich any follow-up research.

Conclusion

Feedback provided as in-text comments is characterised primarily by remarks focused upon the task, without an accompanying sense of direction. This reflects the old paradigm, (Carless 2015a) and has limited potential impact upon future development. The focus of this research reinforces the need to consider linguistic features which may encourage self-regulation. Whilst it is recognised that students need to understand their own role in the feedback process and levels of feedback literacy (Winstone, Balloo, and Carless 2020), providing feedback which facilitates student development by encouraging engagement, understanding and action, is the first vital step in this process. The way in which feedback is presented will have consequences, and the extent to which it prompts a response is likely to depend upon the affective and cognitive response of the student. Lipnevich and Smith (2009) refer to written feedback as the start of a conversation, in that it provides direction and advice to which the student can then respond. It is helpful to consider in-text comments as the beginning of a conversation and thus markers need to be mindful of the way in which they open up that conversation, by providing feedback information that leaves students feeling motivated and able to take action.

To achieve a paradigm shift there needs to be a better balance between feedback on task performance, directive developmental guidance, and feedback at the level of self-regulation. Markers can effectively convey their intention to inform, encourage and create a relationship with students through their linguistic style. Comments should be positively framed and supportive, even when there are criticisms of work, in order to enable students the opportunity to engage and take action. The intention and consequences of feedback, regardless of the format in which this is presented, therefore requires consideration. All students need the call to action that feedback can provide, regardless of the quality of their work. Currently, in-text comments do not appear to fulfil the potential to promote self-regulation. In order to maximise their impact, it is argued that feedback practices should be modified to ensure the content and style enables engagement, understanding, motivation and action. Modifications to the focus of comments and linguistic features, ensuring direction through the use of appropriate language, could have a more positive impact upon students' learning by maximising the benefit of in-text comments.

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