From feedback-as-information to feedback-as-process: a linguistic analysis of the feedback literature

Naomi E. Winstone[a,b*], David Boud[b,c,d], Phillip Dawson[b], and Marion Heron[a]

[*]Corresponding Author

[a]Surrey Institute of Education, University of Surrey, Guildford, UK

[b]Centre for Research in Assessment and Digital Learning, Deakin University, Melbourne, Australia

[c]University of Technology Sydney, Ultimo, Australia

[d]Middlesex University, London, UK

Abstract

Feedback is a term used so frequently that it is commonly taken that there is a shared view about what it means. However, in recent years, the notion of feedback as simply the provision of information to students about their work has been substantially challenged and learning-centred views have been articulated. This paper examines whether this shift of focus is reflected in papers written about feedback in higher education. Using a corpus linguistics approach, it analyses the use of the term 'feedback' in papers published in key higher education journals on the topic over two five-year periods: 2009 to 2013 and 2015 to 2019. Analysis focused on the most common noun modifiers of 'feedback' and nouns modified by 'feedback'; verbs with 'feedback' as the object, possessors of 'feedback', and prepositions representing an action or concept on or with 'feedback'. Whilst the analysis demonstrated that transmission-focused conceptions dominate publications on feedback, linguistic signifiers of a shift over time in representation of feedback away from a transmission-focus towards a learning-focus were evident within each grammatical relation category over the two periods. The data indicate that the term 'feedback' is used by different authors to refer to very different representations of the concept, and the paper proposes that greater clarity in the representation of feedback is needed. It suggests that authors use forms of language that more clearly distinguish between the conflicting views of feedback which are discussed so that their assumptions about feedback are revealed.

Keywords: Feedback information; Feedback processes; Corpus linguistics; Discourse analysis

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Feedback is one of the most powerful learning processes. However, it can also be a site of anxiety for students and wasted efforts by educators (Boud and Molloy 2013; Dawson et al. 2019; Ryan and Henderson 2018). A recent shift in the literature has sought to address the problem of feedback by reframing it in terms of what students do, rather than what educators do. Just as in the 1990s when there was a shift to view teaching and learning as 'what the student does' (Biggs 1999) rather than continuing to focus on what teachers do, in the 2010s there has been similar a shift in the international feedback literature to view feedback from the perspective of learning and the learner. A range of terminology is used to distinguish between these older understandings of feedback and newer ones, such as Winstone and Carless' (2019) 'old paradigm' vs 'new paradigm', and Boud and Molloy's (2013) 'Feedback Mark 0' vs 'Feedback Mark 2'. The word feedback itself has also been the subject of redefinition, with multiple new process-oriented definitions gaining favour in the higher education literature. For example, Henderson et al. (2019, 17) define feedback as 'processes where the learner makes sense of performance-relevant information to promote their learning'. Two features of this definition are of note. First, the learner is positioned as the primary agent of the process. Second, there is no prescription in terms of where the 'performance-relevant information' comes from; the source could be a teacher, a peer, or even the learner themselves. Indeed, recent conceptualisations of feedback have placed emphasis not on teacher inputs, but on internal feedback such as that generated by making comparisons between one's own work and the work of others (Nicol 2020).

To proponents of new understandings of feedback, the language used to discuss feedback matters—does it suggest that feedback is defined by what the teacher or by what the student does? Continuing to use outdated definitions reinforces the practices associated with what went before. Taking earlier definitions of feedback such as those by Hattie and Timperley (2007) or Shute (2008) which both focus on 'information' provision leads us to focus efforts on that information, such as attempts to improve its quality or timeliness. New understandings of feedback acknowledge the role of information about students' work but focus on student actions in a multi-faceted process. In a recent meta-review of the role of the student in feedback processes, Van der Kleij et al. (2019) reported that in articles published between 1973 and 2019, there is evidence of a shift away from transmission-focused and towards student-centred representations of feedback, where students are increasingly positioned as active players in feedback processes. Van der Kleij et al. note, however, that this shift is not linear in nature, and even in recent literature, there is still clear evidence of emphasis on transmission-focused models of feedback. Their review focused on *what* was discussed in review papers on the topic of feedback, but not *how* those concepts were framed. We argue that there is much to be learned from scrutinising the way in which the term 'feedback' is used in research publications

Focusing on language

The language used to describe a concept or practice has the power to shape policy and practice. For example, with reference to educational practices representing student-staff partnerships, Matthews et al. (2019, 283) draw attention to the ways in which 'terms can be used to situate, illuminate, or legitimise a practice…they can inform and guide thinking and action'. In this article, we argue that the language we all use around the word feedback – as teachers, researchers, students, leaders and citizens – subtly and not so subtly betrays our

conceptualisations of feedback. If you offer to "give feedback" to someone, the offer contains an undercurrent that casts feedback as a gift from you to them, rather than an active process in which they are engaged, or a dialogue between the two of you. If you lament to your colleagues that "students still have not accessed their feedback on the learning management system" you paint a picture of feedback as information, in this case the bits and bytes stored on a computer, rather than as a process which needs students to complete. We acknowledge that these usages of feedback are consistent with popular usage of the word both within and outside education. However, they are incompatible with the shift that has happened in understandings of feedback in the research over the past decade. The persistence of this language may be an indicator of the persistence of older understandings of feedback. It may also further reinforce older views of feedback and make it harder for new views to flourish.

The 2010s saw a flurry of research around feedback processes (Boud and Molloy 2013; Carless, Salter, Yang, and Lam 2011; Nicol 2010; Price, Handley, and Millar 2011; Winstone, Nash, Parker, and Rowntree 2017). Much of that work has been highly cited, but has the conversation around feedback in the research literature really changed? To understand that we need to pay closer attention to how the term feedback is used in the context of these research papers. However, a qualitative analysis of the entire literature would be infeasible, and so to ensure rigour and a focus on language data, we draw on the tools of corpus linguistics to explore the framing of *feedback* in key higher education journals. In order to study changes over time, we focused on two time periods prior to and following the publication of Boud and Molloy's (2013) seminal article which advocated a shift in representation of feedback.

Corpus linguistics is 'the analysis and description of *language use, as realised in text(s)*' (Bonelli 2010, 18-19, original emphasis), with a corpus simply defined as a collection of texts Corpus linguistics can inform our understanding of patterns of language through systematic analysis rather than observation and intuition (Gardner and Davies 2007). Corpus linguistics is often utilised in English for Academic Purposes to analyse how language is used with a view to developing materials based on authentic language use (Gardner and Davies 2007; Martínez, Beck and Panza 2009) but few studies have used corpus linguistics tools to explore terms in texts from higher education research. One exception is Smith and Kersten (2018) who explored the values assigned to student-staff partnerships by various stakeholders in the university by examining the use of the word '*partnerships*' in university strategic documents. They argue that the methods of corpus linguistics support scrutiny of the ways in which a term is used in specific contexts.

A corpus-informed analysis of the discourse of scholarly papers allows the researcher to use a method which 'moves away from individual preferences to focus on community practices, dematerializing texts and approaching them as a package of specific linguistic features employed by a group of users' (Hyland 2009, 110). In the case of this study, the users are the writers of the scholarly papers. A discourse analysis approach allows us to explore how the term 'feedback' is *repeatedly* established, maintained and reproduced (O'Halloran 2010). The specific research questions we addressed in this study were: how is the term '*feedback*' framed in journal articles (RQ1), and what changes in framing are evident across two time points representing conceptual shifts in the feedback literature (2009-2013 and 2015-2019; RQ2)?

Methods

Sampling and compilation of corpora

We built a specialist diachronic corpus (i.e. representing two time periods) of 1,466,774 words. We sampled papers from six different higher education journals, which, according to ERIC, have published the most papers with the term 'feedback' or 'feed-back' in either the title or abstract: *Studies in Higher Education, Assessment and Evaluation in Higher Education, Higher Education Research and Development, Teaching in Higher Education, Active Learning in Higher Education,* and *Innovations in Education and Teaching International*.

To identify changes over time, we used ERIC to search for papers in these journals with 'feedback' or 'feed-back' in either the title or abstract in two five year periods: a) those published between January 2009 and December 2013; and b) those published between January 2015 and December 2019, leaving a gap over 2014 to enable a diachronic analysis (Marchi 2018). A manual search excluded papers where the focus was on students' feedback to teachers, that is, on teaching evaluations. While we appreciate the similarities between the two areas, we were concerned that the conceptual and linguistic differences between them would muddy our intended analysis. This resulted in a final sample of 107 articles published between 2009 and 2013, and 206 articles published between 2015 and 2019.

A corpus is described in terms of its key features. Our corpus was specialised, in being formed of texts from a specific genre, and in being used for a specific purpose. Although not small, our corpus shared many features of a small corpus, in particular that the compiler is also the analyst (Flowerdew 2004) and the context is familiar (Koester 2010). In building our corpus we followed the criteria as outlined by Martínez et al. (2009) in compiling our corpus with a focus on representativeness, specificity of corpus, use of whole documents and availability in electronic form.

A research assistant downloaded the full text of each paper in our final sample, and converted each paper to a Word document, manually deleting the title page and reference section of each paper. At this stage, we also extracted data representing the discipline and country of location of the first author of each paper. One data corpus was compiled for all articles published between 2009 and 2013, and another for all articles published between 2015 and 2019. Subcorpora were also compiled by splitting our sample of articles by journal, discipline of first author, and location of first author, whilst still maintaining separate corpora for our two time periods in order to facilitate diachronic analysis (See Table 1). We split articles by journal as follows. As the majority of articles in our sample were published in *Assessment and Evaluation in Higher Education* (171 out of 313), we reasoned that this journal is the primary outlet for articles on feedback, so complied a corpus of papers published in this journal (again split by time period), and a further corpus containing articles published in all other journals in our sample. For discipline of first author, we compiled a corpus for authors from Education-related disciplines, and a separate corpus for other disciplines. For location of first author, we created corpora representing first authors from Europe, Australasia, USA/Canada, Asia, South America, and South Africa. There were very few articles from the latter two categories, so we excluded them from further analyses.

<INSERT TABLE 1 ABOUT HERE>

Analytic approach

We adopted a quantitative corpus linguistics approach (Hilpert and Gries 2016), using the leading corpus software Sketch Engine (Kilgarriff, Rychly, Smrz and Tugwell 2004). Quantitative analyses are often combined with qualitative analysis of the corpus which provides complementary understandings of how language behaves (Evison 2010). Sketch Engine has been used in corpus linguistic studies to explore patterns in the British National Corpus (BNC). For example, Pearce (2008) uses Sketch Engine to explore the collocational behaviour of 'man' and 'woman', and Hu and Yang (2015) use Sketch Engine tools to analyse synonymous verbs. In this study we used the Word Sketch function which provides a one-page summary of the word's grammatical and collocational behaviour. Collocation refers to the high frequency co-occurrence of groups of words and so our interest lay in the grammatical and collocational behaviour of the key word '*feedback*', which was fundamental to exploring how it is framed in the context of research articles. After inputting a key word (in our case, 'feedback'), the Word Sketch analyses the frequency of words surrounding the target word, summarising the word's behaviour in terms of common collocations in different grammatical relations. In the 09-13 corpus, the word 'feedback' appeared 7504 times; in the 15-19 corpus, it appeared 20,085 times. We chose to focus on certain grammatical relations, as particular 'linguistic signifiers' of conceptualisations of feedback (see Table 2), which we discuss in further detail below.

<INSERT TABLE 2 ABOUT HERE>

We structured our analysis around three areas of interest pertaining to the representation of feedback through language: a) What is feedback taken to be?; b) Who is involved in feedback?; and c) What matters in feedback? For the first of these areas of interest, we focused on noun modifiers of 'feedback', and nouns modified by 'feedback'. For the second area, in order to understand agency in feedback processes, we analysed verbs with 'feedback' as the object, and possessors of 'feedback'. There were many verbs with 'feedback' as the object, so in order to simplify our analysis, we grouped key verbs of interest into three categories. The first category includes verbs usually signalling the actions of teachers (provide; give; write; deliver; make; offer; produce).The second category includes verbs usually signalling the actions of students that are somewhat passive in relation to feedback (receive; read; get; collect; access), and the third category included verbs signalling those actions undertaken by students that signify an agentic role in feedback processes (use; interpret; apply; utilise; seek; understand; request). Finally, for the third area of interest, we focused on grammatical relations (prepositions) representing an action or concept *on* or *with* 'feedback' that from a theoretically-driven stance might signal either a transmission- or learning-focused model of feedback processes. For some linguistic signifiers, we also included synonyms (see Table 2).

From each Word Sketch, we were able to extract data on the total number of grammatical relations in each category, and the frequency for the collocation of interest. For example, for the 2009-2013 main corpus, there were 2638 modifiers of the term 'feedback'; the modifier 'written' accounted for 268 of these collocations. Raw frequencies were transformed into proportions for purposes of analysis. Normalised proportions representing the occurrence of different terms were compared across the two time periods with log likelihood analyses, using a calculation tool developed by Rayson (2016). We did not apply a correction for Familywise error, recognising that in exploratory studies there is a need to

balance the inflated risk of Type I errors arising from multiple testing against the risk of Type II errors when conservative approaches such as Bonferroni corrections are applied (see Perneger 1998).

Findings and Discussion

We present our findings in two ways that align with our two focal research questions. First, we asked how the term 'feedback' is framed in journal articles (RQ1). Table 3 presents the three most frequent collocations in each linguistic category[1]. These data provide an indication of the most common ways in which feedback is framed.

<INSERT TABLE 3 ABOUT HERE>

Second, we asked what changes in framing are evident across two time points representing conceptual shifts in the feedback literature (2009-2013 and 2015-2019; RQ2). Table 4 presents the normalised proportions for each linguistic signifier, and the Log Likelihood statistic for the change between the two time periods, representing our diachronic analysis. Linguistic signifiers of a shift in representation of feedback away from transmission towards learning were evident within each grammatical relation category.

<INSERT TABLE 4 ABOUT HERE>

In this section, we discuss our findings pertaining to these two research questions in relation to each our three areas of interest pertaining to the representation of feedback through language: a) What is feedback taken to be?; b) Who is involved in feedback?; and c) What matters in feedback? We illustrate the linguistic signifiers of transmission-focused and learning-focused representations of feedback with quotations from articles within our corpus, with the relevant collocations shown in bold.

What is 'feedback' taken to be?

Across the corpus as a whole, articles published between 2009 and 2013 appear to represent feedback most commonly in a transmission-focused way, with 'written' and 'comment' as the most frequent modifiers of the term 'feedback' (as in written feedback, feedback comment) and nouns modified by 'feedback', respectively (see Table 3). These representations of feedback as product that may be handwritten or typed was evident in the stated aims of empirical papers, for example where studies focused on *'the perceptions of students on **written feedback** on assessment'* (Dowden et al. 2013, 349), and *'the use of high impact **written feedback** from lecturers'* (Vardi 2013, 599). The same focus was evident in descriptions of empirical findings, for example: '*most students prefer **written feedback** that provides them with comments rather than just interpretation and explanation of criteria or*

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[1] Note that Table 3 does not include our linguistic signifiers for 'what matters in feedback' because within these very broad categories ('X' with feedback; 'X' on feedback) we focused on specific theory-driven grammatical relations, rather than the entire linguistic category.

marking schemes' (Ferguson 2011, 55). Written feedback and feedback comments were also discussed with reference to pedagogic practices that were the subject of study in some papers, for example in description of *'an assignment-specific feedback template containing a matrix of assessment criteria and **feedback comments**'* (Parkin et al. 2012, 970). The practices surrounding the provision of written feedback comments in the absence of further dialogue was also problematized by some authors, for example through recognition that *'even if tutor feedback was 'good' and students understood their academic discourse there would still be a need to develop strategies to unpack **written feedback** on their work'* (Burke 2009, 42).

For articles published between 2015 and 2019, the most frequent modifier of 'feedback' was 'peer', and the most frequent noun modified by 'feedback' was 'process' (as in peer feedback and feedback process; see Table 3). The former reflects in part the growth in articles specifically focused on peer feedback, although in some cases the practice of peer feedback was discussed as part of a growing repertoire of practices that place greater emphasis on the role of students in feedback processes. For example, references to peer feedback include a recognition that *'the inclusion of **peer feedback** requires students to assume a more active role in the assessment design'* (Bader et al. 2019, 1025), and that *'**peer feedback** might alleviate the problem of not understanding and using feedback, because students often perceive **peer feedback** as more helpful and understandable than teacher feedback due to more accessible language'* (Dijks et al. 2018, 1259).

Recognition that feedback is not a product but a process was evident in the ways in which studies were framed, for example where *'[this paper] addresses the question of how we might examine **feedback processes** in context in order to identify the effects produced'* (Ajjawi and Boud 2017, 253), and where chosen approaches *'enabled us to provide a general characterization of the **feedback process**'* (Esterhazy and Damşa 2019, 265). This focus is also illustrated by more general statements about the role of feedback in supporting student learning, for example where authors argued that *'**feedback processes** are critical to effective learning through assessment'* (Bearman et al. 2016, 547).

Comparison between the most common modifiers of and nouns modified by feedback appears to indicate a shift towards a more learning-focused representation of feedback; however, in order to determine whether these changes are statistically significant, we need to turn to our diachronic analysis (see Table 4). The use of modifiers of 'feedback' indicates a significant decrease in the use of 'written', 'teacher', and 'detailed', with a significant increase in 'peer', 'verbal', and 'video'. A focus on 'teacher feedback' places primary emphasis on the actions of teachers as providers of feedback, for example, *'while a variety of strategies are used to support students in their writing and rewriting, the provision of **teacher feedback** during the rewriting process is a significant feature'* (Vardi 2012, 169). A focus on detailed feedback is evident in discussion of what students are perceived to want from feedback, for example, Tang and Harrison (2011, 597) discuss how some teachers hold a belief that *'**detailed feedback** should be provided to students'*. Feedback comments themselves, no matter how detailed, can only influence student learning if they are understood and implemented by learners, and a focus on the provision of detailed comments does not recognise this important role of the learner.

There was a significant decrease in the use of the term 'formative' as a modifier of 'feedback', which is surprising given that formative feedback is often positioned in learning-focused terms, for example through claims that *'when learners are provided with **formative feedback**, assessment becomes a learning opportunity'* (Tang and Harrison 2011, 584). However, the addition of 'formative' may be seen as redundant if feedback is seen intrinsically as formative in a learning-centred perspective.

Moving to the nouns modified by 'feedback', there was a significant decrease in the prevalence of 'comment' and 'sheet/form'. The presentation of feedback in artefacts such as proformas and standard feedback sheets arguably focuses on how the comments provided are transmitted to students, for example, through the use of *'a proforma tick sheet and a **feedback form** with space for narrative comments only'* (Cramp 2011, 120), and where *'students received a proforma **feedback sheet** that highlighted areas of excellence and areas in need of improvement'* (Fisher et al. 2011, 229).

Our analysis demonstrates an increase in the use of 'dialogue' as a noun modified by the term 'feedback'. This aligns with growing recognition of the importance of student response to feedback, where it is recognised that *'through creating conditions in which **feedback dialogue** can emerge, purposes of feedback other than correction can be fostered* (Mahoney et al. 2019, 158). However, there was also an increase in the use of 'information' as a noun modified by 'feedback'. This might be a sign that process-oriented authors wish to distinguish the element of input in feedback—feedback information— from the rest of feedback processes. This is reflected, for example, in recognition that *'it is essential to take into account the way students understand and use the provided **feedback information'*** (López-Pastor and Sicilia-Camacho 2017, 83).

Who is involved in feedback?

For both time periods the most frequent verb with 'feedback' as the object was 'provide', which we categorised as a teacher action in our analysis, (e.g. *'We endeavour to alert casual markers to the need to **provide** sensitive and carefully constructed **feedback'***; Dowden et al. 2013, 358). The most common possessor of 'feedback' was 'teacher' or 'tutor' (e.g. *'A recommendation for further research…is to supplement the analysis of **teachers' feedback** through interviews with at least some of the students'*; Sellbjer 2018, 172). Both of these linguistic markers (see Table 3) are indicative of a transmission-focused representation, where emphasis is placed on the actions of teachers rather than students as fundamental to feedback processes. This pattern of findings was also evident for articles published in *Assessment and Evaluation in Higher Education*, articles where the first author came from an educational discipline, and where the first author was located in Europe.

A few deviations from this pattern are worthy of comment. In the corpus containing articles published in journals other than *Assessment and Evaluation in Higher Education*, and in the corpus containing articles published by an author located in USA/Canada, the most common modifier of 'feedback' was 'peer', both for articles published between 2009 and 2013, and between 2015 and 2019. As discussed above, references to peer feedback were made in describing empirical studies, for example: *'This study further examined the role of **peer feedback** obtained by the participants in their subsequent performance'* (Chen and Tsai 2009, 114). In addition, articles made reference to the importance of better understanding peer feedback processes, for example: *'much more work is needed to understand how **peer feedback** works'* (O'Neill et al. 2019, 854), and *'Understanding these changes would…provide further insight into how **peer feedback** supports learning'* (Reinholz 2017, 4).

Both the 'other disciplines' corpus and the 'Australasia' corpus showed a similar pattern in terms of the possessors of 'feedback', whereby a shift from 'teacher' for articles published between 2009 and 2013 to 'student' for articles published between 2015 and 2019 was evident. 'Student' as a possessor of the term 'feedback' largely reflected a growth in

discussion of students' feedback seeking behaviours, for example, '*This study aims to provide insight into **students' feedback** seeking behaviour and their antecedents*' (Leenknecht et al. 2019, 1071).

In our diachronic analysis (see Table 4), linguistic signifiers of who is involved in feedback indicated an increase in passive student actions (e.g. receive, collect, get), and a decrease in agentic student actions (use, seek, apply). Of course, an increase in discussion of students receiving feedback may represent greater problematisation of such passive responses; nevertheless, the decrease in discussion of agentic student actions is concerning given the clear advocacy in conceptual thinking for greater student agency in feedback processes.

Looking beyond changes over time, it is also important to note some areas where, on the basis of the normalised proportions, transmission-focused representations of feedback continue to dominate. For example, in terms of verbs modified by 'feedback', despite the shifts in student actions discussed above, teacher actions remain the most common, representing 28% and 30% of all verbs modified by feedback in articles published in 2009 and 2013, and 2015 and 2019, respectively. Similarly, for articles published between 2009 and 2013, nearly half of all possessors of the term 'feedback' was 'teacher', remaining high (36%) for articles published between 2015 and 2019.

What matters in feedback?

We explored this area of interest using our diachronic analysis (see Table 4) and found a decrease in references to 'satisfaction' with feedback and 'reflection' on feedback. Satisfaction with feedback is most commonly discussed in the context of national surveys of the student experience, such as the UK NSS and the Course Experience Questionnaire in Australia, for example, in providing the context where '*Student ratings of **satisfaction with feedback** are consistently lower than other teaching and learning elements within the UK higher education sector*' (Robinson et al. 2013, 260). Whilst student satisfaction with feedback remains prominent in Universities' agendas, research may have come to focus on other dimensions of feedback. Indeed, the prevalence of references to satisfaction with feedback was lower than that of the learning-focused representations of feedback we studied across both time periods: engagement, action and reflection. It is notable that whilst the prevalence of references to engagement with feedback did not change over time, this was the most prominent preposition of those in our analysis.

Implications

In the present study, we sought to understand how the term 'feedback' is framed in journal articles (RQ1), and to explore changes in the framing of feedback over time (RQ2). Our data provide evidence of a shift in what feedback is taken to entail, in ways that align with a shift from a transmission-focused towards a learning-focused representation. Across our two focal time periods, there was evidence of a decrease in the use of 'written', 'teacher', and 'detailed' as nouns modifying the term feedback, and an increase in the use of 'peer', 'verbal', and 'video'. There was also evidence of a shift away from feedback artefacts ('sheet' or 'form' as nouns modified by feedback), with greater focus on 'dialogue'. However, our data also indicate that transmission-focused representations of feedback continue to dominate the literature, despite the increase in learning-focused representations over time. Thus, our

findings provide support for the conclusions drawn by Van der Kliej et al. (2019) in their meta-review of the role of the student in feedback processes, expanding the focus to not just *what* is discussed, but *how*.

The continuing dominance of transmission-focused representations of feedback in the literature is significant because the way in which practices are presented in research has the potential to drive practice. This study provides evidence of the existence of two conflicting understandings of the meaning of the word feedback: an information-centric understanding and a process-centric understanding. When these two understandings co-exist, confusion and argument can result. We propose a compromise set of language that will enable conversations between researchers and practitioners of both persuasions: *feedback information* and *feedback processes*. Feedback information is information learners can use to improve the quality of their work or learning strategies. Comments from teachers, the glazed-over eyes of an audience during a presentation, and the red squiggly line underneath a misspelling in a word processor, all qualify as feedback information. This has strong similarities to the term Performance Relevant Information (PRI) from the medical education literature (van der Leeuw et al. 2018); however, feedback information is more concise, less jargonistic, and retains the everyday term feedback, all of which may make it more readily understandable by scholars, educators and students. When the word feedback is used on its own by those with an information-centric understanding of feedback, it usually means feedback information. Feedback processes are the activities undertaken by learners to obtain, understand and use feedback information. Asking a friend for a critical read of an assignment, converting harsh comments into a list of actionable improvements, and fixing the referencing in a paper based on a report from plagiarism software, are all feedback processes. When the word feedback is used on its own by those with a process-centric understanding, it usually means feedback processes, but it is not always clear whether an author using the term on its own has an information- or process-centric understanding. For the sake of clarity we suggest researchers move away from the term feedback on its own towards whichever of these two terms is most appropriate for a given usage.

Whilst we have focused our analyses on feedback in higher education, we recognise that similar conceptual shifts have occurred in research and practice in other aspects of the university ecology, such as the role of students in learning and teaching, and the role of end users in research. Recognising that many processes in higher education are entangled, we believe that there is value to adopting corpus-based methods to explore the framing of concepts and processes in other areas of education, in order to build an interconnected understanding of the ways in which the educational landscape is framed by language.

Limitations

The study focused on the use of the term feedback in literature published in highly rated journals. It does not reflect the full use of feedback in the literature and certainly not the ways in which feedback may be discussed on a day-to-day basis by teachers or students. It is likely therefore that the greater deliberation taken by paper writers might overrepresent the extent to which the emergent, process-centred view of feedback is prevalent. For the purposes of our analysis, the term 'feedback' was represented as a noun, which may place greater emphasis on the product (i.e. comments) than a process. The corpus approach also focuses on key terms and collocates, rather than the broader context in which this term is being used. For example, authors may have been talking about transmission-oriented concepts such as feedback comments or forms, but in a way that sought to critique this framing of feedback. Whilst we

endeavoured to explore the wider context within which statements were situated, it is important to recognise this limitation of our analytic approach. We have also necessarily focused on the ways in which language represents transmission-focused and learning-focused approaches to feedback, as these are those most heavily discussed in the literature to date. However, we do not see these as an exhaustive, binary representation of feedback, and we recognise that new perspectives are emerging in the literature, including sociocultural (e.g. Chong 2020; Esterhazy and Damşa 2019) and sociomaterial perspectives (e.g. Gravett 2020). Over time, further shifts may well be evident in the literature, and could readily be detected using the corpus-based approach we adopted here.

Conclusion

Discussion of feedback is constantly evolving. Two distinct and conflicting conceptions have been proposed and these are represented by the language used with respect to the term. However, interpretation of what is meant by feedback in any given instance is dependent on the assumptions of the writer. While it is easier to detect process-focused uses of feedback in the texts, the use of the term in any given sentence is not conclusive. We urge authors to be mindful of the particular conception of feedback they use and to signal this explicitly in their papers to aid effective communication. This is particularly salient for those who do not show any indication that the term feedback is contested. If we are to change how we practise feedback and how we think about it, the first step should be to change the language we use – and if research is to be the cutting edge of feedback, it should be the first to change.

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Table 1. Details of papers in corpus

Publication Period	Paper Characteristics		Journal[a]					
			AEHE	IETI	SHE	HERD	TIHE	ALHE
2009-2013	Total number of papers		61	15	7	6	8	10
	Location of First author	Europe	36	8	5	1	4	6
		USA/Canada	4	3	0	0	2	2
		Australasia	18	4	0	5	2	2
		Asia	3	0	1	0	0	0
		South America	0	0	0	0	0	0
		South Africa	0	0	1	0	0	0
	Discipline of First Author	Education	34	8	3	3	3	6
		Other	27	7	4	3	5	4
	Empirical	Yes	54	13	6	5	7	9
		No	7	2	1	1	1	1
2015-2019	Total number of papers		110	23	22	20	18	13
	Location of First author	Europe	55	7	14	7	6	5
		USA/Canada	8	3	0	0	1	4
		Australasia	19	8	7	11	4	3
		Asia	24	3	1	2	4	1
		South America	1	0	0	0	0	0
		South Africa	3	2	0	0	3	0
	Discipline of First Author	Education	49	11	11	10	12	1
		Other	61	12	11	10	6	12
	Empirical	Yes	94	22	22	20	16	13
		No	16	1	0	0	2	0

AEHE = *Assessment and Evaluation in Higher Education*; IETI = *Innovations in Education and Teaching International*; SHE = *Studies in Higher Education*; HERD = *Higher Education Research & Development*; TIHE = *Teaching in Higher Education*; ALHE = *Active Learning in Higher Education*

Table 2. Linguistic indicators

Question	Grammatical relations	Indicators (alternative terms)[b]	Illustrative quotation showing keyword and indicator in context
What is feedback?	Modifiers of 'feedback'	*Written*	…dissatisfaction with **written feedback** is also a prime concern internationally… (Ali et al. 2015)
		Teacher	…Some students believed **teacher feedback** provided different perspectives on their work… (Bader et al. 2019)
		Detailed (Extensive)	…Providing **detailed feedback** in a timely manner… (Warner and Miller 2015)
		Formative	…a deeper appreciation of other forms of **formative feedback** and their significance… (Aoun et al. 2018)
		Peer	…low domain knowledge students' **peer feedback** was dominated by praise… (Alqassab et al. 2019)
		Verbal (Oral; face-to-face)	…including assignment grades, **verbal feedback** from a professor… (Ekholm et al. 2015)
		Audio	…compared to written feedback, **audio feedback** can provide significantly more detail and depth… (Broadbent et al. 2018)
		Video	…students valued **video feedback** because it is usually more useful… (Chong 2019)
	Nouns modified by 'feedback'	*Comment (Statement)*	…Writing constructive **feedback comments** is a time consuming process… (Ali et al. 2015)
		Information	…Timeliness in the form of **feedback information** being available when the student needs it… (Dawson et al. 2019)
		Provision	…the misalignment in perception and **feedback provision** between tutors and learners… (Huang 2016)
		Form (Sheet)	…The assessment criteria are summarised in the **feedback form** given to students… (Leger et al. 2017)

		Process	… for students to benefit from the **feedback <u>process</u>**, they should have positive perceptions of it… (Ekholm et al. 2015)
		Dialogue (Interaction; Exchange)	…This excerpt involves two loops of **feedback <u>dialogue</u>**… (Ajjawi and Boud 2018)
		Literacy	…students could be introduced to the notion of **feedback <u>literacy</u>** in their first semester… (Carless and Boud 2018)
Who is involved in feedback?	Verbs modifying 'feedback'	*Teacher Actions*	…Tutors were advised to **<u>provide</u> feedback** to students on their initial assignments… (Bloxham and Campbell 2010)
		Passive Student Actions	…Students **<u>received</u> feedback** about their first presentation… (De Grez et al. 2012)
		Agentic Student Actions	…are more likely to have **<u>used</u> feedback** to improve their performance… (Hughes et al. 2013)
	Possessors of 'feedback'	*Teacher*	…students getting less benefit from **<u>teachers'</u> feedback** on their work… (Ferguson 2011)
		Peer	…she relied on **<u>peers'</u> feedback** more often than on tutors' feedback… (Poverjuc et al. 2012)
What matters in feedback?	'X' with/on feedback	*Satisfaction*	…a good method of increasing student **<u>satisfaction</u> with feedback** in a time effective manner… (Robinson et al. 2013)
		Engagement	…The influence of motivation on students' **<u>engagement</u> with feedback** information… (Wingate 2010)
		Action	…developing skills in critical reflection, listening to and **<u>acting</u> on feedback…** (Crossman and Kite 2012)
		Reflection	…helping students recognise the value of **<u>reflecting</u> on feedback…** (Irwin et al. 2013)

[b]*Transmission-focused indicators shown in italics*

Table 3. Three most frequent collocations for each linguistic category (N/A = insufficient data to represent this category)

	Time period	Rank	Linguistic category			
			Modifiers of the term 'feedback'	Nouns modified by the term 'feedback'	Verbs with 'feedback' as the object	Possessors of the term 'feedback'
Whole corpus	2009-2013	1	written	comment	provide	tutor
		2	peer	process	use	teacher
		3	audio	practice	give	student
	2015-2019	1	peer	process	provide	teacher
		2	written	practice	receive	supervisor
		3	audio	comment	give	tutor
AEHE only	2009-2013	1	written	comment	provide	tutor
		2	audio	process	give	teacher
		3	tutor	channel	use	student
	2015-2019	1	peer	process	provide	teacher
		2	written	practice	receive	student
		3	audio	comment	give	peer
Other Journals	2009-2013	1	peer	practice	provide	teacher
		2	written	process	use	supervisor
		3	quality	comment	receive	N/A
	2015-2019	1	peer	comment	provide	supervisor
		2	written	process	receive	student
		3	video	practice	give	tutor
Discipline: Education	2009-2013	1	written	comment	provide	teacher
		2	peer	process	give	peer
		3	tutor	practice	receive	tutor
	2015-2019	1	peer	process	provide	teacher
		2	written	comment	receive	supervisor
		3	video	practice	give	student
Discipline: Other	2009-2013	1	audio	practice	use	tutor
		2	written	comment	provide	teacher

		3	formative	channel	give	student
	2015-2019	1	peer	process	provide	student
		2	audio	practice	receive	supervisor
		3	written	comment	give	teacher
Location: Europe	2009-2013	1	written	comment	provide	tutor
		2	audio	process	use	teacher
		3	peer	practice	give	student
	2015-2019	1	peer	process	provide	teacher
		2	written	comment	receive	student
		3	audio	practice	give	peer
Location: Australasia	2009-2013	1	written	experience	provide	supervisor
		2	student	loop	receive	teacher
		3	assessment	process	give	N/A
	2015-2019	1	video	process	provide	student
		2	audio	dialogue	receive	tutor
		3	peer	comment	give	N/A
Location: USA/Canada	2009-2013	1	peer	practice	provide	N/A
		2	immediate	setting	use	N/A
		3	instructor	culture	receive	N/A
	2015-2019	1	peer	perception	receive	N/A
		2	instructor	session	provide	N/A
		3	formative	method	individualize	N/A
Location: Asia	2009-2013	1	tutor	practice	provide	peer
		2	sustainable	process	give	N/A
		3	peer	provision	receive	N/A
	2015-2019	1	peer	practice	provide	supervisor
		2	written	process	give	teacher
		3	teacher	literacy	receive	peer

Table 4. Diachronic analysis.

Area of focus	Linguistic domain	Paradigm	Linguistic signifiers	09-13 Normalised proportion	15-19 Normalised proportion	Log Likelihood[c]
What is feedback?	Modifiers of 'feedback'	Transmission-focused	Written	0.10	0.08	16.01**
			Teacher	0.07	0.04	43.94**
			Detailed	0.02	0.01	34.72**
		Learning-focused	Formative	0.04	0.03	5.82*
			Peer	0.07	0.21	274.27**
			Verbal	0.02	0.03	7.19**
			Audio	0.06	0.05	1.55
			Video	0.00	0.03	152.89**
	Nouns modified by 'feedback'	Transmission-focused	Comment	0.11	0.06	22.09**
			Information	0.01	0.02	4.47*
			Provision	0.02	0.02	0.18
			Sheet/Form	0.03	0.02	7.49**
		Learning-focused	Process	0.09	0.09	0.05
			Dialogue	0.01	0.03	16.52**
			Literacy	0.02	0.02	0.06
Who is involved in feedback?	Verbs with 'feedback' as the object	Transmission-focused	Teacher Actions	0.28	0.30	1.65
			Passive Student Actions	0.12	0.16	21.30**
		Learning-focused	Agentic Student Actions	0.14	0.09	46.45**
	Possessors of 'feedback'	Transmission-focused	Teacher	0.48	0.36	1.67
		Learning-focused	Peer	0.09	0.10	0.01
What matters in feedback?	'X' with/on feedback	Transmission-focused	Satisfaction	0.16	0.06	20.27**
		Learning-focused	Engagement	0.38	0.46	2.64
			Action	0.18	0.17	0.09
			Reflection	0.22	0.13	5.74*

[c] Log Likelihood * $p < .05$ ** $p < .01$