Feedback encounters: towards a framework for analysing and understanding feedback processes

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Abstract

There is growing agreement that feedback should be understood as a contextual and social process, rather than as receipt of teacher comments on students' work. This reframing brings with it new complexities, and it can be challenging for researchers and practitioners to adopt a process perspective when making sense of feedback practices in naturalistic settings. This paper takes the nascent notion of *feedback encounter* and propose it as an analytical lens for understanding and analysing feedback processes. Based on a rich dataset from a cross-national digital ethnographic study of student feedback experiences, the paper identifies three categories of feedback encounters - *elicited*, *formal*, and *incidental* - and explores how they

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are experienced by students, in relation to perceived usefulness, control, and self-exposure. Furthermore, the paper investigates how individual feedback encounters may interconnect to form simple and complex sequences, revolving around distinct uncertainties or dilemmas. This operationalization of feedback encounters builds the foundations of a framework that can help researchers and practitioners make sense of authentic feedback processes in naturalistic settings. Such a framework is useful because it offers a structured way of analysing processes that are inherently complex and unfolding.

Keywords

Introduction

Feedback has been identified as among the most powerful influences on achievement (Hattie, 2008), but despite significant attention from higher education researchers, feedback practices are still considered unhelpful by many students (Henderson, Ryan, & Phillips, 2019; Li & De Luca, 2014). Traditionally, feedback is conceptualised as simply new information about students' work. This misses the most important part, namely what the student does with the information (Boud & Molloy, 2013). New perspectives on feedback recognize that it is a complex process, inherently contextual and social (Esterhazy, 2019). This notion of feedback-as-process is theoretically well-developed and increasingly accepted (Winstone, Boud, Dawson, & Heron, 2021; Winstone & Carless, 2019). However, moving beyond the everyday notion of feedback-as-information to understanding it as a social and contextual process adds considerable complexity for both practitioners and researchers that seek to understand authentic feedback processes as they occur in online, blended, or face-to-face courses. Clarity of concepts and terms regarding feedback processes will provide researchers, students, and teachers with the platform to discuss feedback meaningfully.

In this paper, we commence with the notion of *feedback encounters* as a useful analytical lens for examining how students experience, seek out and make use of feedback processes to support their learning. We then inductively categorise different kinds of feedback encounters from a cross-national digital ethnography. These categories provide a useful frame that can help researchers and practitioners make sense of complex feedback processes.

Changing feedback paradigms

Traditional understandings of feedback have been criticised for a singular focus on the teacher's production of comments while ignoring how the student uses them to improve understandings and performance. Following from this, feedback is now increasingly understood as a formative and iterative *process of meaning making*. In this process, students self-generate or are exposed to information that is relevant to their performance, make sense of this information, and take decisions about their next step (Boud & Molloy, 2013). Winstone and Carless (2019) refer to this shift of focus from what teachers do to what students do as the *new feedback paradigm*.

In recognition that feedback processes can also arise from self-generated information, Nicol (2020) has introduced the notion of *inner feedback* as a natural process of comparison, that occurs when students are exposed to e.g. exemplars or work of their peers, and generate feedback information by relating these to their own work. Self-assessment and help seeking are initiated and to some degree controlled by students. This highlights the need for research that considers the role of student intentions and preferences (Joughin, Boud, Dawson, & Tai, 2020).

In much contemporary feedback practice the teacher is somewhat removed. This can be because of technological mediation of interactions with students that are operating in sites away from campus, or because of greater use of peer assessment, automatically generated feedback comments, or practices where the student uses digital resources to self-generate the feedback information. The new feedback paradigm, with its focus on student activity and agency, is well suited to understand how feedback processes play out in this space (Dawson et al., 2018), without being caught up in the old paradigm's over-emphasis on the production of teacher's comments (Winstone et al., 2021).

Feedback encounters

These developments necessitate a way of demarcating feedback processes that can account for contextual factors and complex interactions. For this, we borrow the concept of *feedback encounters*, from the work of Rachelle Esterhazy (Esterhazy, 2018, 2019). Building on current feedback research and sociocultural theory, her work envisions feedback as a *relational process* that unfolds through a series of *encounters* (Esterhazy & Damşa, 2019). These feedback encounters are source agnostic, and can be with teachers, peers, or others with relevant expertise, or with objects or artefacts inside and outside the learning space.

Importantly, a feedback encounter is more than the exposure to some performance relevant information. It also includes the assumptions, intentions and agency that the student brings to the encounter, the student's *meaning making* of the new information, as well as the actions undertaken by the student as a consequence of this meaning making.

In order to clearly distinguish feedback from other aspects of learning, we offer the following definition. First, a feedback encounter must relate to some kind of student generated work or performance. This performance could be substantial and reflect the work of an entire course, or it could be as modest as answering a short multiple-choice question in an online quiz. Therefore teaching or inputs independent of any student-generated activity is not feedback, but as soon as the student produces work (through outputs or presentations of their understanding) the opportunity for a feedback encounter focussed on that work becomes possible. Second, the feedback encounter should involve some kind of information about this student generated work or performance. Finally, feedback encounters entail a learning purpose must help the student address at least one of the three *feedback questions* (Hattie & Timperley, 2007): Where am I going? How am I doing? Where to next? In other words, a feedback encounter should change the student's understanding of the *learning outcome* (criteria, quality), their *own level* (the quality of own work/understanding), or what would be *a good next step* (planned actions).

Methods

To explore the value of feedback encounters as an analytical lens, we draw on data from a digital ethnographic study focussed on feedback processes in digital environments. Following from our sociocultural perspective on feedback, the research is done against the backdrop of a constructivist epistemology. This implies that the paper presents what we argue to be a useful perspective on feedback, rather than the uncovering of an underlying truth.

This section first provides a short introduction to the digital ethnographic study, and then presents the analytical process that took us from a rich detailed dataset about feedback processes to the identification and analysis of the feedback encounters.

Data and setting of the digital ethnography

Digital ethnography is a research strategy that prioritizes collection of rich, qualitative data through online observations and accounts of participants in order to make detailed descriptions of what they do and why they do it (Murthy, 2008; Pink et al., 2016). With its

focus on creating 'thick' descriptions of online interactions, this approach can generate knowledge that is richer in context and reality than other approaches commonly used in digital education research (Angelone, 2019; Jensen, Bearman, Boud, & Konradsen, 2022).

The empirical data was collected from 18 students (13f, 5m) enrolled in six online and blended learning courses at two large universities, one Australian and one Danish. This included both master's and bachelor's courses, within the disciplines of psychology and humanitarian studies. All fieldwork took place online and the dataset includes observations in the online course rooms (captured in screenshots and field notes), digital documents, semi-structured interviews (n=27), and longitudinal audio diaries (n=33). Most interviews were conducted in a 30-50-minute-long audio/video call. Each participant was interviewed once or twice. The longitudinal audio diaries were recorded by study participants as responses to individualised text prompts that they received throughout their course. Most recordings were 1-5 minutes long. Both interviews and audio diaries were focussed on the feedback experiences of study participants. We did not use the term "feedback encounter" in our interactions with study participants. To maintain their anonymity, this paper refers to them by pseudonyms.

Such an ethnographic dataset, characterized by rich, qualitative data of multiple types, has the advantage of being high in reality, and particularly suitable for inquiries into the lived experiences of study participants. However, an early thematic analysis decoupled feedback information from both the performance and subsequent student interactions. Therefore we chose to use the nascent notion of feedback encounters as the unit of analysis because it linked actions to substantive tasks and strategies. This move was the culmination of a reflexive process, in which we sought to handle the tension between the need for an analysis to take reductive steps while still working within a paradigm that considers feedback to be a social, contextual process.

Identifying feedback encounters

The identification of feedback encounters was informed by our definition. Most importantly, a feedback encounter had to relate to some form of student work and that it had to address the student's understanding of learning outcomes, quality of the work, or what would be a good next step. Each student's data was analysed holistically. First step was to collect all observational data, field notes and transcriptions of interviews and longitudinal audio diaries pertaining to a student into a single chronological document. While reading and rereading

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these documents, each instance of a feedback encounter was noted down, and portions of the data that related to that encounter copied, so by the end all data related to a single encounter was available in one place. At times it was almost impossible to disentangle whether an encounter took place online or blended, due to the integrated nature of the digital in higher education. In cases where it was not clear whether an occurrence represented a single or several feedback encounters, we followed the student perspective: if they described the process as a single experience it was interpreted as a single encounter.

Overall, 80 feedback encounters were identified. They represent a wide variety of encounters between students and teachers, peers, study support staff, and the students' professional and personal networks, as well as feedback encounters with materials (e.g. exemplars, templates, rubrics, assignment criteria) and interactive digital tools (e.g. quizzes, plagiarism checkers, grammar and spell checkers). These encounters represent all the feedback encounters that were reported with enough detail to be suitable for individual analysis. As we analysed these 80 encounters, our understanding of the concept of feedback encounter evolved: we progressed from a digital ethnography of online feedback to understanding that this represented a broader framework for analysing and understanding feedback processes.

Results

This results section has two parts. The first presents a categorization of feedback encounters, which can help us make sense of the diversity of interactions that make up the feedback process. This part is illustrated with examples from across our dataset. The second part focuses on how feedback encounters are best understood as interconnected events, appearing in sometimes non-obvious sequences throughout the feedback process. To illustrate the interconnectedness, we introduce the detailed case of Anne and the ten feedback encounters she participated in throughout her work on a single assignment.

Elicited, formal, and incidental feedback encounters

From our analysis of feedback encounters we interpreted three categories, namely *elicited*, *formal*, and *incidental* feedback encounters. Each category has certain characteristics that influence how they are experienced and used by students, and each differs in the level of self-exposure the student risks, and the control the student retains over the encounter. We describe each in turn.

Elicited feedback encounters

Elicited feedback encounters are those encounters with human and non-human sources that a student actively seeks out to develop an understanding of how well they are doing and what would be a good next step. These were the most common in our dataset (40 of 80) and could be anything from asking a friend to read an assignment draft to making a structured comparison between an exemplar and one's own work. Self-assessment with rubrics was common, and often done as an extra check just prior to submitting: "at the end I looked at the rubric [and] made sure that if I was marking it that I would mark it to high standards" (Claire).

Common for elicited feedback encounters is that the student can influence when, how and why the encounters take place. Another characteristic is that they are always intentional. If the student does not have a feedback need, the encounter will not take place. Often, the student's motivation for seeking out a feedback encounter is an experience of uncertainty that makes it difficult to continue work. Some students also elicited feedback encounters about matters that they know the answer to: "I have asked this question, even though I knew that it had been answered before. I just wanted to be like 100%" (Sandaya). The uncertainty can relate to specific issues like unclear task criteria or gaps in domain knowledge or be related to bigger challenges and dilemmas such as the appropriateness of their own approach or assumptions.

When students elicit feedback encounters, they must decide between sharing their work, simply describing their ideas, or framing it as a generalized question. Sharing a draft may lead to a feedback encounter that is pointing out issues that are difficult or labour-intensive to address. Describing ideas is less risky and allows the student to make the feedback encounter address their understanding without having to expose any work. Asking a generalized question, without sharing any work or exposing any thought process, is a way to limit the scope of the feedback encounter and ensure that what comes out of it does not require comprehensive reflection or adjustments to work. An intention to limit the scope can also be seen when students come to the encounter with specific and close-ended questions, seeking to make sure that the encounter only addresses a certain issue and in a certain way. Based on this, elicited feedback encounters can be characterized as high in control, allowing students to align the encounters to their needs and select their degree of self-exposure.

Formal feedback encounters

Formal feedback encounters are those that are integrated into the course design, such as occur when teachers comment on submitted assignments or feedback information from automated quizzes is provided. Of the 80 feedback encounters we identified, 25 were formal. This category of feedback encounters dominates public discussion of feedback. Such encounters are typically initiated by teaching staff, and students cannot avoid them unless they deliberately ignore them. Formal feedback encounters usually comment directly on student performance, and at times they are perceived as one-way communication. One student complains that "there is not an invitation to have a debrief face to face or over Skype […] so I feel like there is a bit of a shortfall in learning there" (James).

Most of the courses examined had the particular design feature that formal feedback processes were intended to be relevant to the work on subsequent tasks. This means that the student must identify how a feedback encounter related to a task that has already been submitted may be relevant for their current or upcoming task. This forward-looking element of formal feedback encounters may influence what the student hopes to get out of the encounter. After receiving teacher comments on a submitted assignment, a student describes how "the overall feedback that I have got was not really helpful and it does not explain how I can improve in the next one. So that was a little bit disappointing" (Claire).

In many formal encounters, the student has a limited possibility to direct attention towards current feedback needs. This has the consequence that formal feedback encounters often may be perceived as unhelpful. At the same time the student is usually forced to self-expose by sharing a performance or work. This combination of low control and high self-exposure, and the possible connection to summative assessment, mean that formal feedback encounters may create strong reactions. One study participant, surprised by a harsh formal feedback encounter, describes it as "a real kick in the guts" (Mila).

Incidental feedback encounters

Incidental feedback encounters are those that are neither elicited by students nor planned by teachers. On campuses, this form of informal feedback encounter happens frequently, for instance when students discuss coursework with each other or if they overhear a fellow student interacting with a teacher. Online, where students primarily work alone, most incidental feedback encounters take place when clicking through online discussion forums or

(less often) when witnessing an interaction during a live online seminar. In our dataset, 15 of the 80 feedback encounters were incidental.

One challenge is that incidental encounters may not directly concern the student's own work, so to make sense of it and use it the student needs to make a connection between what they observe and some issue in their own work. Incidental feedback encounters may give insight into the feedback needs of fellow students, revealing where they are struggling. This form of incidental feedback encounter thus provides the observing student with a basis for comparison to determine how well they are doing or may lead them to change their work or question their own approach or understanding of task criteria.

As with the formal encounter, incidental feedback encounters can produce strong emotional reactions, and comparisons may leave students with feelings of inadequacy. One student describes her experience of reading peer posts in the online discussion forum as "it was like, you know, wow, I do not know anything about what they are talking about" (Magda). Another student had the opposite experience, after seeing the simple questions of her peers it made more confident, thinking that "okay, I have got my head round it, I feel confident that I know what I need to do and where I need to go" (Mila).

Unexpectedly seeing peers struggle, may also lead students to reassess their own work. After finishing an assignment in the form of a video, one study participant visits discussion forums: "The video had a time limit of two minutes and lots of people were saying, 'oh, it is hard to keep it under two minutes,' and I did not find it hard. I … did about a minute of video. So, on reflection, I think I might have missed an opportunity to speak more about a particular model and show a bit of knowledge of that at the end of the video" (Kate).

While some study participants never mentioned incidental feedback encounters, others seem to have sought them out – not knowing what exactly they were looking for, but frequently monitoring discussion forum for interactions that may be helpful. Despite this agency, students have little control over incidental feedback encounters. They happen unplanned and unintended. The lack of control, however, is different from what we see in formal encounters. Unlike formal ones, incidental feedback encounters are not imposed on the student. An experience only becomes an incidental feedback encounter if the student treats it as such. This filtering means that such encounters tend to address a student need, or in some cases even create a need by introducing an unexpected new perspective. In other words, events not experienced as relevant, will never become incidental feedback encounters.

Interconnected feedback encounters

Examining feedback processes through a feedback encounter lens essentially takes what is a complicated web of interconnected experiences, sense making, behaviour, and human and non-human agents and conceptualizes it as a series of distinct events. To fully understand how students navigate feedback processes, it is important to also consider ways that feedback encounters may influence and feed into each other. To illustrate this we present the detailed case of a single student. This allows us to chronologically follow the diverse ways that a student engages in and makes sense of different feedback encounters while working on an assignment.

Anne's ten encounters

The case centres on the psychology student Anne and her experiences with feedback in a fully online bachelor's level course with about 900 students enrolled. The task she is working on is the first of two written assignments. The format is an 800-word *critical analysis* that makes up 20% of the mark for the course. In the analysis the students "critically evaluate the empirical basis for the central claims made in an online article", which are "that St John's wort can elevate mood, increase energy levels, insulate neurons, improve bodily resilience, and has anti-inflammatory, anti-viral and antidepressant effects." The assignment requires Anne to choose 2-3 of those to focus on. Aside from a 4-page description of the assignment, the students were also provided with a scoring rubric, an example of a critical analysis, and an APA6 Word template. Anne's words below are transcribed from interviews and longitudinal audio diaries. The feedback encounters are presented in chronological order.

Feedback encounter 1 (incidental): The online course room has a very busy discussion forum, with dedicated subforums for each topic and assignment. While working on her draft, Anne visits the subforum for the critical analysis, to see what questions her peers had asked. "Lots of people wrote the arguments they were going to choose, and it did not change the arguments I chose, but the issues they were facing sort of reinforced why I did not want to choose [those claims]". The experience also made her more confident: "some people were asking things like 'can we do this?', and I have already got all my articles and my draft written and I am well beyond that point. It makes you a bit confident that you are doing okay."

Feedback encounter 2 (incidental): While reading in the discussion forums, Anne sees a peer criticizing the credibility of the online article's author: "when you are critically

analysing this general article, do you look at the author and her motives and all that as far as integrity, or is really just based on the fact that she has good evidence? And that was sort of interesting because it made me look at who she was and […] not only wasn't she a health scientist but she owned a company that sells St. John Wort as a herbal remedy, claiming to do these things". The experience makes her look at her own work in a new way: "it would further challenge me to maybe look at mine a bit further. Am I really going that depth with mine?"

Feedback encounter 3 (elicited): To find out if she should address author bias, she reaches out through the discussion forum and asks directly if this kind of information belongs in a critical analysis. The teacher's reply is that it is a good observation, but Anne is advised to not include it, because it is not assessed in the rubric.

Feedback encounter 4 (elicited): While writing her draft, Anne analyses the exemplar provided with the assignment: "I analysed the way he did it and I basically made sure that I ticked off everything that he did, and I did the same. Not the wording, just like how he has addressed the study, how he criticized it."

Feedback encounter 5 (elicited): Once she had a full draft of her assignment, she used the rubric to do a self-assessment: "And the rubric, I had that copied out, cut and copied it, at the bottom [of the draft document] and as I ticked things off, I deleted it."

Feedback encounter 6 (elicited): After doing this self-assessment Anne shares her updated draft with a learning advisor. This is a service offered by her university, where teachers (external to the course) can assist students with their assignments. The learning advisor reads her draft and recommends that she make her essay more personal, and less technical. Anne considers this to contrast with her understanding of the exemplar, which she considers as having a more technical tone. She concludes that the learning advisor may not know her discipline well enough: "it was conflicting what she said. […] it had probably been better to get advice from a psychologist." In the end, she makes only minor changes to the draft before submitting: "I re-read it and maybe changed one or two words. Rather than for example saying, 'as stated' […] I would say 'an interesting study by such and such' and you know, in a way, making it a little bit more personal with my own words."

Feedback encounter 7 (incidental): After doing the minor changes prompted by her meeting with the learning advisor, Anne submits her assignment. Afterwards, however, she sees a conversation between a peer and one of the teachers in the discussion forum: "I found

out through one of those questions that you do not have a ten percent grace on the word limit. I thought you did, like other subjects, but you do not." Reading this she realizes that her own submitted work is too long. Luckily, the course allows for resubmission until the deadline, so she shortens her critical analysis and resubmits it.

Feedback encounter 8 (formal): Her mark and accompanying teacher comments are less positive than she had hoped, and they did not match her self-assessment. Because of the rubric, she can see where she needs to improve, but there is no information about how to do it. The central issue raised is that she needs to elaborate more: "They just thought I was vague on a couple of things, which again is probably to do with the word count and because I was trying not to be like conclusive, 'this means this,' which is… we are taught not to do that." It also makes her reconsider, if she was trusting the style and quality of the exemplar too much.
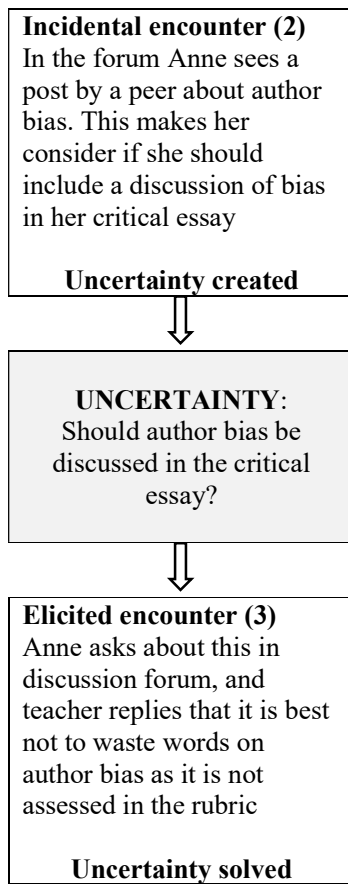
Feedback encounter 9 (formal): The teachers also provided general comments on the assignments of the entire class in a video shared with all students. "Some of it was very obvious. Did not apply to me. […] It would seem that people missed the point. But it is good to hear, because maybe I would not have realized that I had done it right. Because I got a couple [of] comments on that. One that said 'good', but I was not sure what that was referring to. It was nice to know something I got right. […] It was useful for the next assignment. It gave me a bit of an insight on what they were looking for. […] Better than the feedback that I got personally." However useful, the group comments did not bring clarity to the tensions between more elaboration, word count and following the structure of the exemplar: "I feel like you could be penalized to doing either."

Feedback encounter 10 (elicited): I order to free up space for more elaboration in subsequent assignment, Anne looks for alternative ways to reduce word count. She reaches out to her teachers through the online discussion forum: "I did ask about abbreviating [St. John's wort]. Whether or not I can […] abbreviate it in the Abstract and then have it abbreviated in the introduction - I asked that specifically." The teacher, realizing she is asking this as a way to reduce word count, suggests another strategy: "he actually sent me this […] link to a blog which was about reducing your word count, but it […] was not really that helpful in the end. Because it is saying the same, 'Do not just use acronyms', and that you need to totally look at the whole structure of it. And I was running out of time. Could not look at the whole structure again, you know. So, in the end I just cut what I thought was repetitive but probably will end up being not repetitive, it will be what they wanted."

Simple and complex sequences

A chronological account of feedback encounters, as the one above, will often have sequences of interconnections between the individual encounters. These interconnections do not necessarily follow the chronological order. To fully understand the how students make sense of and use individual encounters, it can be an advantage to untangle these sequences. Our analysis suggests that feedback encounters interconnect in different ways. Some interconnections are straightforward in the sense that one prompts the next, while others make up more complex sequences of encounters revolving around an unsolved dilemma or tension. In Anne's case, both are present. Below we will use her experiences to illustrate the main characteristics of simple and complex sequences.

The most straightforward way that two encounters can be connected is when one feedback encounter leaves the student in doubt, and the student therefore elicits another to solve that doubt. An example of this is the short and very straightforward sequence consisting of Anne's incidental encounter in the discussion forum that makes her wonder if she should discuss *bias* in her assignment (no. 2), which leads her to elicit a feedback encounter with a teacher, that can help her clarify it (no. 3). This sequence, illustrated in figure 1, includes only two encounters: the one that sets it off by introducing uncertainty or doubt, and the one that the student elicits to overcome the uncertainty. This form of aligned pairing is common in our dataset. They more typically start with an incidental or formal encounter followed by an elicited one. In this form of simple sequence the student keeps a high degree of control, and the second encounter is closely aligned with student needs. If the second encounter brings clarity, the sequence stops.

Incidental encounter (2)
In the forum Anne sees a post by a peer about author bias. This makes her consider if she should include a discussion of bias in her critical essay

Uncertainty created

⇩

UNCERTAINTY:
Should author bias be discussed in the critical essay?

⇩

Elicited encounter (3)
Anne asks about this in discussion forum, and teacher replies that it is best not to waste words on author bias as it is not assessed in the rubric

Uncertainty solved

Figure 1. *Simple sequence of two feedback encounters, one that creates an uncertainty and another that solves it. The numbers in parentheses refer to the ten encounters of the case description.*

If the uncertainty is not resolved through a simple sequence, there is the potential for a more complex sequence of feedback encounters. Complex sequences typically centre on unresolved dilemmas or tensions which can persist through several encounters, dominating the student experience. In Anne's case there is a sequence that concerns her dilemma of elaborating more while staying below word limit. This is illustrated in figure 2.
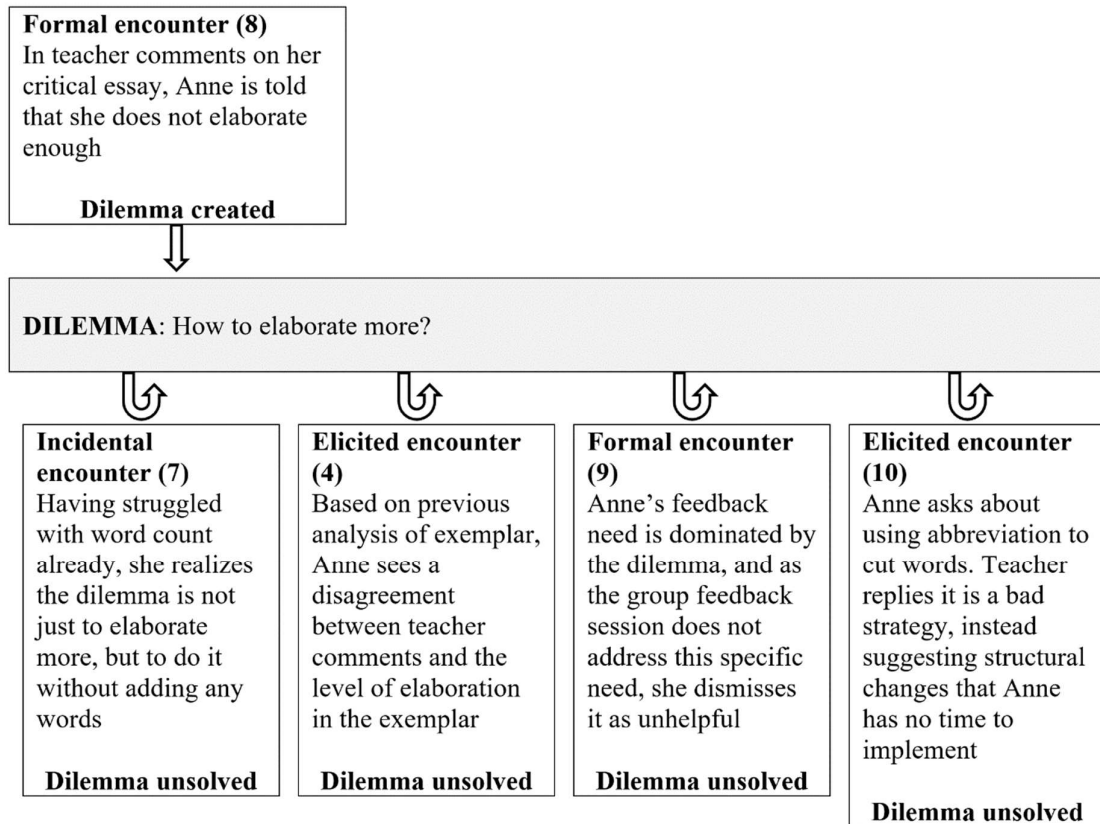
Figure 2. Complex sequence of five feedback encounters. The numbers in parentheses refer to the ten encounters of the case description.

Unlike the simple sequence of figure 1, this dilemma never gets resolved. The U-shaped arrows indicate that the encounters do not help Anne move beyond the dilemma, but rather return her to the dilemma and strengthen the perception that it is unsolvable. This example illustrates four different ways that feedback encounters can interconnect through a dilemma: An encounter can create the dilemma (no. 8), previous encounters can serve as context and reinforce the dilemma (nos. 4 & 7); subsequent encounters can be made sense of through the lens of the dilemma (no. 9); and finally the dilemma can be the reason why a new encounter is elicited (no. 10).

We do not consider simple and complex sequences to be exclusive categories. A sequence may require several elicited encounters to solve an uncertainty, without adding enough complexity for it to be considered a tension or dilemma. Similarly, a dilemma may be recognized by a student, but for whatever reason, the sequence never includes more than two contradicting encounters. Across the dataset we found many cases in which a feedback encounter makes up a key part of another feedback encounter's context. A mapping of their

interconnections through causation, contradiction, or dilemmas may provide a level of understanding not available when encounters are analysed in isolation.

Discussion

In recent years, many researchers have advocated for the adoption of a student-centred, dialogic view of feedback *processes*, replacing a primary focus on teachers creating feedback *information* (Boud & Molloy, 2013; Winstone & Carless, 2019). This study contributes the first elements to a framework that supports this approach through providing a unit of analysis for feedback processes as they naturally occur. This is needed, because unless we can understand and represent how students operate in and across the range of feedback processes, we cannot design feedback interventions that influence and maximise the effects we desire. Feedback encounters provide us with a discourse to identify and analyse these processes from the perspective of the student. Our categorization differs from other frameworks, which primarily focus on formal feedback processes, and categorize them according to either teaching practices (peer, portfolio, video, etc.) or the source of the feedback information (teacher, quiz, peer, self, etc.), by analysing the student's experience of feedback.

Elicited feedback encounters cover both the feedback processes that the literature describes as feedback seeking (Joughin et al., 2020), as well as encounters with resources, such as the use of exemplars (To, Panadero, & Carless, 2021) and rubrics (Panadero & Jonsson, 2013), where feedback information is self-generated by students by way of comparison (Nicol, 2020). Despite being diverse in their format and practice, elicited feedback encounters all offer the student a high degree of control over when, where and how they take place. This means that they are often closely aligned with student needs and will be thus experienced as useful. This form of student-driven feedback process may be beneficial for the development of student feedback literacy which is valuable beyond the immediate task or even course (Carless & Boud, 2018). At the same time, however, we observed a tendency for students to use their control to limit the scope of the encounter, with the consequence that the encounter may appear more useful, but risk missing weaknesses or potentials for improvement to which the student may be blind.

Formal feedback encounters require a teacher assessing student performance. This category has received the most attention in the feedback literature, and within teacher-centred approaches to feedback it is indeed the only category. Taking a student perspective, our analysis highlights that formal encounters are different from the elicited and incidental

because students will experience them as low-control and high self-exposure. This may mean that such encounters risk being perceived as unhelpful or irrelevant. While the potentially negative emotional impact of formal feedback encounters is well documented in the literature (e.g. Pitt & Norton, 2017; Ryan & Henderson, 2018), more research is needed, to explore the affective impact of elicited and incidental encounters.

The role of incidental feedback encounters has received less attention. In campus-based education, they may simply be considered part of the informal and invisible ways that students benefit by being part of a disciplinary environment. In online education, this type of encounter may be less prevalent, and when it happens, may be experienced as more distinct, because they may not happen during lunch or informal chats, but as part of actively engaging in the online course room. By including incidental feedback encounters, our framework draws attention to the informal economy of teaching and learning. Since no course design is likely to accommodate all issues identified here, the challenge for teachers is to decide what aspects of feedback encounters to make explicit and formal and which to leave to the unprompted agency of the student.

One strength of the feedback encounters perspective is that it allows the researcher to follow feedback processes over time – both by analysing sequences of encounters, and by examining how the feedback behaviour of students may change as their needs change during production of work. Being able to handle time and timing as part of the analysis is also a crucial element when considering the impact of feedback, namely the changes to a student's understanding, work, or approach that emerge from individual encounters (Henderson, Ajjawi, Boud, & Molloy, 2019).

Although the identification and analysis of individual feedback encounters is central to our approach, feedback encounters should not be understood in isolation. Rather they are interconnected in sometimes non-obvious ways. Although this paper does not seek to offer a typology of interconnections, we show how interconnectedness can be handled in analysis – both for simple and complex sequences of encounters. In our analysis, the short sequences are characterized by perceived uncertainties that are solved by eliciting, whereas the more complex sequences revolve around larger dilemmas or tensions, which may become the main lens through which a student makes sense of feedback encounters and perceives their own feedback needs.

Despite using data from online students, we consider our approach also applicable to campus-based courses. Higher education is increasingly digital, and many feedback related practices are technologically mediated in both modalities. At the same time, we see that students in online courses also elicit feedback in face-to-face situations, leading us to think that the online-offline dichotomy is less important when considering feedback in higher education. In many ways the digital setting is helpful because it allows for some forms of data collection (e.g. observations in discussion forums), that may help reveal feedback processes that are otherwise difficult to observe. That is not to say that our development of the notion of feedback encounters is not influenced by the modality in which we collected our data. For instance, the setting may have foregrounded the role of elicited feedback encounters, because the solitary nature of online learning puts high demands on student self-regulation, with an expectation that students elicit feedback encounters with rubrics, exemplars, and from each other in online discussion forums. The relative frequency of encounters from each category – 40 elicited, 25 formal and 15 incidental – may reflect such a tendency in digital education, and the many dilemma-driven complex sequences we observed may have been less prominent in a learning environment with more immediate and informal access to dialogue with teachers.

Implications and future research

The approach to analysing feedback processes presented here can be used for many different purposes. Research that is based on data from uncontrolled or naturalistic setting can benefit from this way of operationalizing something that is inherently contextual, unfolding, and hard to grasp. Although this analysis above is based on ethnographic data, we believe that the approach is relevant for all projects that conceptualize feedback as a process and wish to be able to follow these processes as they unfold over time.

Conclusions

Recent literature in feedback has argued that feedback should be considered a social and contextual process rather than simply information about student performance. However, adopting a process view of feedback adds considerable complexity for both practitioners and researchers that seek to understand and analyse feedback processes as they occur in naturalistic settings. In this paper, we examined *feedback encounters* as a framework for appreciating how students experience, seek out and make use of various feedback processes.

Based on an analysis of eighty feedback encounters from an ethnographic dataset, the paper identified three main categories of encounters, namely *elicited*, *formal*, and *incidental*, and considered how each differs in relation to the student experience of control, self-exposure, and usefulness. We showed how feedback encounters interconnect, and provided an example of how this can be handled in an analysis, by identifying characteristics of simple and complex sequences of feedback encounters.

This way of conceptualizing feedback is useful for researchers and practitioners because it provides a vocabulary for processes that are rendered invisible in common feedback discourse. Rather than revealing something new about feedback, this paper calls for more empirical research firmly based in new paradigm conceptualizations of feedback.

Additional information

References

Angelone, L. (2019). Virtual Ethnography: The Post Possibilities of Not Being There. *Mid-Western Educational Researcher, 31*(3), 275-295.

Boud, D., & Molloy, E. (2013). Rethinking models of feedback for learning: the challenge of design. *Assessment & Evaluation in Higher Education, 38*(6), 698-712.

Carless, D., & Boud, D. (2018). The development of student feedback literacy: enabling uptake of feedback. *Assessment & Evaluation in Higher Education*, 1315-1325. doi:10.1080/02602938.2018.1463354

Dawson, P., Henderson, M., Ryan, T., Mahoney, P., Boud, D., Phillips, M., & Molloy, E. (2018). Technology and Feedback Design. In M. J. Spector, B. B. Lockee, & M. D. Childress (Eds.), *Learning, Design, and Technology: An International Compendium of Theory, Research, Practice, and Policy* (pp. 1-45). Cham: Springer International Publishing.

Esterhazy, R. (2018). What matters for productive feedback? Disciplinary practices and their relational dynamics. *Assessment & Evaluation in Higher Education, 43*(8), 1302-1314. doi:10.1080/02602938.2018.1463353

Esterhazy, R. (2019). Re-conceptualizing Feedback Through a Sociocultural Lens. In M. Henderson, R. Ajjawi, D. Boud, & E. Molloy (Eds.), *The Impact of Feedback in Higher Education* (pp. 67-82): Springer International Publishing.

Esterhazy, R., & Damşa, C. (2019). Unpacking the feedback process: an analysis of undergraduate students' interactional meaning-making of feedback comments. *Studies in Higher Education, 44*(2), 260-274. doi:10.1080/03075079.2017.1359249

Hattie, J. (2008). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*: routledge.

Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research, 77*(1), 81-112.

Henderson, M., Ajjawi, R., Boud, D., & Molloy, E. (2019). Why Focus on Feedback Impact? In *The Impact of Feedback in Higher Education* (pp. 3-14): Springer.

Henderson, M., Ryan, T., & Phillips, M. (2019). The challenges of feedback in higher education. *Assessment & Evaluation in Higher Education, 44*(8), 1237-1252. doi:10.1080/02602938.2019.1599815

Jensen, L. X., Bearman, M., Boud, D., & Konradsen, F. (2022). Digital ethnography in higher education teaching and learning - a methodological review. *Higher Education*. doi:10.1007/s10734-022-00838-4

Joughin, G., Boud, D., Dawson, P., & Tai, J. (2020). What can higher education learn from feedback seeking behaviour in organisations? Implications for feedback literacy. *Assessment & Evaluation in Higher Education*, 1-12. doi:10.1080/02602938.2020.1733491

Li, J., & De Luca, R. (2014). Review of assessment feedback. *Studies in Higher Education, 39*(2), 378-393. doi:10.1080/03075079.2012.709494

Murthy, D. (2008). Digital Ethnography: An Examination of the Use of New Technologies for Social Research. *Sociology, 42*(5), 837-855.

Nicol, D. (2020). The power of internal feedback: exploiting natural comparison processes. *Assessment & Evaluation in Higher Education*, 1-23. doi:10.1080/02602938.2020.1823314

Panadero, E., & Jonsson, A. (2013). The use of scoring rubrics for formative assessment purposes revisited: A review. *Educational Research Review, 9*, 129-144. doi:10.1016/j.edurev.2013.01.002

Pink, S., Horst, H., Postill, J., Hjorth, L., Lewis, T., & Tacchi, J. (2016). *Digital Ethnography: Principles and Practice*: SAGE.

Pitt, E., & Norton, L. (2017). 'Now that's the feedback I want!'Students' reactions to feedback on graded work and what they do with it. *Assessment & Evaluation in Higher Education, 42*(4), 499-516.

Ryan, T., & Henderson, M. (2018). Feeling feedback: students' emotional responses to educator feedback. *Assessment & Evaluation in Higher Education, 43*(6), 880-892. doi:10.1080/02602938.2017.1416456

To, J., Panadero, E., & Carless, D. (2021). A systematic review of the educational uses and effects of exemplars. *Assessment & Evaluation in Higher Education*, 1-16. doi:10.1080/02602938.2021.2011134

Winstone, N. E., Boud, D., Dawson, P., & Heron, M. (2021). From feedback-as-information to feedback-as-process: a linguistic analysis of the feedback literature. *Assessment & Evaluation in Higher Education*, 1-18. doi:10.1080/02602938.2021.1902467

Winstone, N. E., & Carless, D. (2019). *Designing effective feedback processes in higher education: A learning-focused approach*: Routledge.