Authentic feedback: supporting learners to engage in disciplinary feedback practices

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Abstract

How can learners be supported to engage productively in the kinds of feedback practices they may encounter after they graduate? This paper introduces a novel concept of authentic feedback to denote processes which resemble the feedback practices of the discipline, profession or workplace. Drawing on the notion of authentic assessment, a framework for authentic feedback is proposed with five dimensions: realism, cognitive challenge, affective challenge, evaluative judgement, and enactment of feedback. This framework is exemplified and interrogated through two cases of authentic feedback practice, one in the subject of digital media in an Australian university, the other focused on bedside rounds in medicine at a university in Hong Kong. The framework enables the identification of both highly authentic aspects of feedback, and aspects that could be made more authentic. The framework informs the design of feedback practices that carry potential to bridge university and workplace environments.

Keywords: Authentic assessment; Authentic feedback; Feedback literacy

Introduction

Feedback is a powerful process for learning, but learners need a specific set of capabilities to make the most out of feedback opportunities. These capabilities have recently been labelled feedback literacy, and they span cognitive, social and affective domains (Carless and Boud 2018). In this paper, we argue that for feedback literacy to be transferrable from university to the workplace, students need opportunities to engage in feedback practices that resemble those that take place in the workplace. Drawing on the parallel field of authentic assessment (Ashford-Rowe, Herrington, and Brown 2014; Gulikers, Bastiaens, and Kirschner 2004; Villarroel, Bloxham, Bruna, Bruna, and Herrera-Seda 2018), we develop a framework for authentic feedback, which can be used to analyse the authenticity of feedback practices.

Feedback literacy has arisen out of a broader movement in the literature to reconceptualise feedback from something teachers provide, to something that learners do (Boud and Molloy 2013; Henderson et al. 2019). This shift in unit of analysis from *feedback information* to *feedback processes* raises the issue of whether learners are well-equipped to participate productively and how they can be supported better. Effective feedback processes are only feasible if learners are able to obtain, understand, and make use of feedback. Feedback literacy is thus a key set of capabilities for learning at university (Molloy, Boud, and Henderson 2019), in the workplace (Noble et al. 2019) and for lifelong learning (Carless and Boud 2018).

Feedback literacy within a domain should therefore also incorporate purposeful activities congruent with that domain's professional feedback practices. Feedback literate graduates who have experienced 'authentic' feedback practices of their discipline may be better prepared to participate effectively in feedback in their graduate workplace.

Despite trends towards authentic assessment that represents disciplinary practices (Sambell, McDowell and Montgomery 2013; Villarroel et al. 2018), university feedback processes tend to involve practices and forms that are specific to the academy. One of the problems of current university feedback practices is that they are often end-loaded, with comments generally being received by students after a task has been completed. Workplace feedback may include a range of processes, for example, 360 degree feedback; reviews and action plans focused firmly on improvement; and in less productive environments, perfunctory annual performance reviews which do little for morale or development. Within summative assessment in the university, feedback is usually not designed to be acted upon (Boud and Molloy 2013) because the course has finished and grades have been awarded. In effective workplace cultures, there may be social expectations that employees should make good use of feedback they receive. In these instances, the imperative to act on feedback and demonstrate improvement over time may be more salient in the workplace than at university.

This paper proposes a novel concept of 'authentic feedback', which we define as feedback processes that resemble the feedback practices of the discipline, profession or workplace. Examples of disciplinary feedback practices that are adapted into authentic university feedback processes can be found across the professions: the pitch processes used by newsrooms in sharpening stories; daily code review methodologies used by computer programmers; peer observation processes used by teachers; and debriefing processes used by surgical teams. Authentic feedback in the university setting might be targeted at real-world professional competencies, relate to internships or placements, or be provided by practitioners from industry or the professions. Authenticity of feedback does not imply better feedback – both more and less authentic feedback practices can carry value when they enable learners to develop feedback literacy. There may be ineffective or even damaging feedback practices in workplaces that we never want to emulate in education – but we may need to prepare students for. As with authentic assessment (Gulikers et al. 2004), a goal of authentic feedback is to promote the development of capabilities that transfer effectively from university to the world of work. We acknowledge that preparedness for the workplace is not the only goal of a university education, but we maintain that it is an important goal for many students. Adapting existing work on authentic assessment, we propose a five-dimensional framework for authentic feedback. The framework is illustrated through two cases of practice: one of digital media in an Australian university, the second concerning bedside rounds at a university in Hong Kong. These two examples illustrate different aspects of authentic feedback and enable us to interrogate our framework.

A framework for authentic feedback

Authentic feedback is not a binary; different feedback processes are authentic to greater and lesser extents across different dimensions. In developing a framework to represent that diversity we have drawn on the literature that identifies the dimensions of authentic assessment. Several researchers have proposed approaches to conceptualise authentic

assessment, including well-regarded frameworks by Gulikers et al. (2004), Ashford-Rowe et al. (2014) and the related implications for employability (Yorke 2010). On systematically reviewing the authentic assessment literature, Villarroel et al. (2018) identify three key dimensions for authentic assessment: realism, cognitive challenge, and evaluative judgement. We have used those three dimensions as a starting point for our framework, and have added two additional elements that are particularly important for understanding feedback practices: affective challenge, and enactment of feedback.

Realism

A desire for realism unifies most conceptualisations of authenticity in the assessment literature (Villarroel et al. 2018). Accordingly, a key goal for authentic feedback at university is that it faithfully represents and prepares students for the reality of their lives as graduates of their disciplines. The realism of authentic assessment makes it attractive and motivating to students (Sambell et al. 2013; James and Casidy 2018), and authentic feedback processes aim to stimulate similar forms of student engagement.

Context is key to realism, and is divided into physical and social contexts (Gulikers et al. 2004). One obvious feature of the physical context is the setting: a school; a forest; and a hospital emergency department all shape the way feedback works. The physical context includes the materials and modalities of feedback: checklists; debriefing chats; bug reports; and word processor tracked changes comments would each be a meaningful part of authentic feedback in the disciplines that use them. Time is also a feature of the physical context, and authentic feedback may feature realistic time constraints within which learners must capture or use feedback information. The content of the feedback information itself also features in authentic feedback, and in some contexts it may include complex and even unhelpful inputs.

Authentic feedback also realistically represents the social contexts in which feedback in the discipline takes place. To promote realism in social context, the individuals involved in a feedback situation might simulate those in the discipline or profession, for example, patients or clients. Accountability, power relationships and social expectations are key features of the social context of feedback, including differing degrees of collaboration, competition and dialogue. In some contexts, there is an expectation of reciprocity in each party commenting on the work of the other. Alternatively, if there are ways of behaving when engaging in feedback in a discipline, such as apologising for errors, defending one's work against criticism, or not admitting fault, then these expectations enhance the realism of an authentic feedback situation. Some of these expectations may create tensions between feedback authenticity and the design of university feedback processes.

Cognitive challenge

Educational uses of the term authenticity tend to be accompanied with an expectation of cognitive challenge (Villarroel et al. 2018). The rationale is that professional practice depends on capabilities like problem-solving and synthesis more than lower-level capabilities like memorisation. Authentic feedback requires students to engage in higher-order thinking, decision-making and problem-solving in making use of feedback comments. Active cognitive engagement within the scope of professional practice is a requirement for authentic

feedback. Strategies to encourage higher-order thinking in feedback engagement at universities might include focusing comments on more abstract features of the work, or providing detailed comments on a sub-section and requiring the student to extrapolate further.

Problem-solving and decision-making are cognitively challenging features of feedback in professional work. Catering for customer preferences or complaints may involve, for example, a judicious combination of problem identification, problem-solving and communicative sensitivity. Multi-source feedback, such as reviewer comments on a draft, often contains inconsistencies or contradictions that need to be reconciled by the recipient. Sometimes university feedback from a single helpful individual may deprive students of the opportunities to engage in complex decision-making about multiple sources of feedback. A key component of feedback literacy is the capability to be discerning with feedback (Carless and Boud 2018), so providing students with authentic feedback decision-making moments may develop this capability.

Peer feedback can be made more cognitively challenging by involving students in cumulative peer review activities, mirroring the authentic experiences of professional researchers (Harland, Wald and Randhawa 2017). The cumulative aspect is important because early-year students may need scaffolding to support them to engage in cognitively rich authentic feedback practices, such as engaging with and interpreting comments from multiple sources.

Affective challenge

Given the distinctly affective nature of all feedback encounters (Pitt and Norton 2017; Ryan and Henderson 2018), we have added an affective element to our framework. Attempts to improve feedback are sometimes accompanied by calls to make feedback less emotionally difficult for students (e.g. Shields 2015). If students are, however, to develop their feedback literacy in ways that enable them to operate in challenging workplace environments, they need opportunities to practice making productive use of their emotions. The 'crit' in architecture, for example, is a challenging affective experience where students and novice professionals may find frank and direct critique off-putting (Smith and Boyer 2015). Yet it is a fundamental part of the disciplinary and workplace cultures of practising as an architect. Recognising the fluid and subjective nature of human communication, lifelong learners need to develop resilience to handle the contextually-dependent affective challenges of feedback.

Affective challenge may be the most difficult element of authentic feedback to implement, and it may require substantial scaffolds. First-year students in particular would likely find the everyday feedback practices of their chosen discipline's workplaces very challenging. But it is important to think beyond just year level, and consider the various cultural, power and other dynamics that may influence students' capability to engage affectively with feedback. Potential scaffolds might include the use of intellectual candour (Molloy and Bearman 2019), where educators discuss their challenges in dealing emotionally with the feedback processes of their discipline. However, by the end of a program these scaffolds need to be carefully withdrawn to provide students with the opportunity to engage in the real-world emotional challenge of feedback in their discipline. Well-communicated and supportive implementation of affective challenge in the university allows students to experience what critical professional feedback feels like.

Evaluative judgement

In those workplace feedback settings where there is a productive feedback culture there is often an expectation that feedback will 'stick'. That is, employees will take an instance of feedback on board for the long term by incorporating it into their understanding of what high-quality performance looks like and applying it to similar situations in the future. In university settings, however, feedback practices often involve learners receiving similar information repeatedly without it necessarily leading to sustained improvements. Feedback journals or eportfolios are one enabling strategy and are most effective when connected across courses and student learning experiences. These strategies need to be facilitated by the development of evaluative judgment which represents the capability to make decisions about the quality of your own work and other people's work (Tai, Ajjawi, Boud, Dawson, and Panadero 2018). This capability is seen as a component of authentic assessment, with dialogic feedback acting as a specific lever for the development of evaluative judgment (Villarroel et al. 2018). Evaluative judgements are made throughout the feedback process in both work and education settings (Tai et al. 2018), and integrating opportunities for evaluative judgement development and enactment is necessary for authentic feedback.

Authenticity of criteria and standards is required for authentic evaluative judgement. Rather than merely inducting students into what quality looks like in the university, students also need to develop understandings of criteria for good performance in professional practice. For example, authentic feedback may need to focus less on some of the mechanics of writing in the academy, and more on developing students' understanding of the criteria that concern practitioners in the discipline. Feedback in the workplace is often centred on professional judgment so university feedback practices which enable the development of evaluative judgment may be particularly useful. Standards of professional practice may also need to be more explicitly communicated to facilitate authentic feedback. Just as students need to understand how their work meets the required standards for the university, in an authentic feedback process students also need to understand how the work would fare against relevant professional or industry standards.

Enactment of feedback

At university it is often an unfortunate norm for feedback comments to be provided without any expectation that students will act on them (Boud and Molloy 2013). Whilst this may also occur in the workplace, in many professions the expectation is that feedback will be enacted at some point. For example, in the context of academic peer review, there are cultural expectations around how reviewer feedback should be enacted. In response to an invitation to revise and resubmit, successful academic authors prepare an improved version of their manuscript, along with a response letter detailing how they have responded to specific criticisms. There are several steps in producing these documents, including deciding whether some or all of the reviewer comments will be used or not; processing the feedback information into actionable items; liaising with any co-authors; carefully crafting a response letter; and so on. An undergraduate research project that ends with the submission of a paper which teachers provide comments on without any expectation of action on the student's part, is inauthentic in terms of the enactment of feedback dimension. However, if that task were

instead reconceptualised as a two-stage project, where comments from an initial submission are used to improve a subsequent submission and produce a response letter, it would become more authentic.

The enactment of feedback dimension includes both the informal processes used by professionals to make sense of feedback, as well as the more formal products of feedback enactment. The processes of enactment may need to be explicitly taught. Continuing the undergraduate research project example, students may need instruction in how to develop some of the intermediate artefacts of feedback enactment that are not usually seen by journal editors, such as spreadsheets detailing which comments will be responded to and by whom. Enactment of feedback is therefore just as much about authentic processes as it is about improved work products.

Authentic feedback in practice

We now discuss two cases of feedback practices from contrasting disciplines to illustrate some of the possibilities and challenges afforded by our framework. By presenting and analysing two examples from university teaching in different contexts, we demonstrate some of the implications and issues arising from the framework. The cases have been chosen because they highlight different aspects of authentic feedback practice. The first case arises from an Australian Office for Learning and Teaching project on Feedback for Learning (Henderson et al. 2019). The second arises from a project investigating feedback processes in different disciplines in Hong Kong. A descriptive analysis of each case is provided first, then analysis against the framework is provided in a table. Both cases used the same qualitative research approach and interview schedules, and each received ethical approval from the relevant institutional committees.

Case 1: Digital media

This case is an introductory digital media course that focuses on social media. Data sources for the case consist of interviews with two educators on the course and three students, as well as a write-up of the feedback practices that was critically reviewed by the lead educator. We selected this course for analysis because it uses social media not just for teaching, but also for feedback, such as 'likes', replies and retweets on Twitter, and comments on YouTube, blogs and Soundcloud. Learners completed two assignments consisting of blog posts with different kinds of integrated media content, such as images, infographics and edited video. The use of authentic tools and contexts suggested that it was likely to be a site of authentic feedback.

In terms of realism, the course located feedback within an authentic physical context: online, in real time on social media. Feedback information largely took the authentic forms it takes in that context, for example, notifications from apps that your Tweet has been retweeted, liked, replied to; or emails from blog services that somebody has commented on your post. Fully authentic forms of feedback were not, however, universal in the case. Audio feedback was used by the educator to provide comments on student work. This is a format commonly

used by educators to provide a conversational feel to feedback but is not a feature of digital media practice.

Feedback also largely took place in an authentic social context, in the form of unbounded social media spaces. Students engaged in public conversations on a course hashtag with both student peers and members of the public. In relation to the latter, student participants voiced appreciation of engaging in feedback dialogue with practitioners in the field. There was an implied social contract in terms of feedback information being engaged with and replied to, another feature common to professional digital media feedback practices.

A less authentic feature of the social context was that interactions were incentivised, in the form of a gamification system that rewarded online interactions with additional course content or learning opportunities. This was used by the educator to stimulate discussion which he regarded as crucial for engagement, particularly in the early weeks of the course. This seems to be a useful educational strategy illustrating that good practices are not always fully authentic. The enactment of feedback involves students undergoing iterative cycles of improving on their blog posts prior to submission based on this constellation of feedback information. This could be regarded as relatively authentic feedback enactment, as online content is often revised and improved, rather than being static after it is published.

In terms of cognitive challenge, there was a mixture of feedback design elements that might promote higher-order thinking, and elements that could be engaged with in a quick, low-level manner. While the diversity of feedback sources was promising, some of the feedback information was surface level and ephemeral; likes and retweets convey little actionable information. Opportunities for problem-solving were dependent on the quality of the feedback information conveyed through the varied channels available. There was extensive opportunity for decision-making, as the many and sometimes conflicting sources of feedback information available to students required them to make sense of a variety of inputs. In terms of affective challenge, students told us that the feedback design was somewhat demanding in terms of emotional regulation, particularly because feedback took the form of a constant trickle of information, in addition to the usual university practice of large chunks of feedback information following summative tasks.

Evaluative judgement was an authentic feature of this case, including opportunities for the further development of student capacities in evaluative judgement. Students were required to evaluate their peers' work in an unstructured manner on social media, and communicate their judgements publicly. A more structured use of peer feedback is a further option worth considering. While there was no formal engagement with explicit authentic criteria and standards, students did engage with social media professionals and members of the public, and in doing so may have been afforded opportunities to engage with tacit criteria and standards.

Overall, this case represents a reasonably authentic representation of the feedback practices of social media professionals in terms of a 24/7, digitally-mediated, social, and dialogic experience of sometimes conflicting messages, within a social contract that feedback should be engaged with and acted upon.

Case 2: Bedside rounds in Medicine

The context for the second case is a bedside teaching round in Paediatric Medicine focused on medical diagnostic skills and how students interact with a patient. Student participants are seven final year undergraduate students each examining a patient in the hospital ward. Data sources comprised two interviews with the educator; an observation of the bedside round lasting two and a quarter hours; and individual semi-structured interviews with three of the students that were observed. The case was selected because it had been the subject of a presentation at an internal symposium on authentic assessment.

In terms of realism, feedback is located within the authentic physical and social context of a hospital. A student participant observed that the authenticity lies in the patients which makes the experience more memorable. The students took the patient history on admission and are assuming the role of a doctor in following the patient over time. Interaction follows the social norms of paediatric treatment in terms of engaging with child patients and their guardians. Feedback information is based on direct observation and largely involves questioning and comments in relation to the diagnosis and treatment of patients in that context.

The examination of patients is performed in a clinical environment with a real patient but it is not fully authentic because the students are not yet in a genuine doctor-patient relationship, and the educator is present to intervene or advise where necessary. This enables the educator to model solutions to real-life challenges, for example, by demonstrating alternative ways of examining a patient more effectively. As the educator remarked, the most meaningful form of feedback would come from the patient but for social reasons patients tend to hesitate to provide feedback to medical professionals. Eliciting feedback from patients or guardians might be a way of enhancing feedback authenticity in this case.

The feedback interaction was marked by intensive use of interrogatives. This carries some authenticity in that a medical professional might easily ask another for advice on a suggested treatment but it involved more frequent questioning than would be natural or likely in a real-life setting. The educator posed questions like:

> What is your main goal? … What is your treatment strategy? … What is the most likely diagnosis? … What is your interpretation? … How can you find out more?

When the educator raised a question like ‘Anything else?’ it provided a hint that the examination might not be complete. This strategy was useful in promoting feedback enactment because it enabled students to realise that there were further issues to consider in terms of their diagnosis and decision-making. Interrogative feedback enables students to engage in problem-solving in ways which approximate the kinds of thinking processes that they may undergo when examining patients. For example, one problem was how to examine a baby effectively without making it cry, which involved a compromise solution between the comfort of the baby and the rigour of the examination. Feedback enactment was also evident in this situation because the student adjusted her approach in light of the interaction with the educator.

The interactions between the educator and students in the hospital ward were rich in cognitive and affective challenge. Student informants noted how the interrogative form of

interaction triggered their own reflections and stimulated higher-order thinking in that they were adapting previous textbook knowledge to real-life situations. Treating a patient in real time was seen as a cognitively rich learning experience. There was a certain amount of affective challenge due to the pressure of being on-the-spot in a public setting in front of classmates. This challenge carries authenticity in representing some of the real-life pressures of doctors holding responsibility for the health of their patients.

The development of evaluative judgment is also stimulated by encouraging students to reflect on their performance. Through observing each other, there is potential for implicit peer learning. The educator observed, however, that her students are generally not effective at picking up on feedback given to their peers, and expressed the view that they need some support in learning from observing their peers, and reflecting on teacher feedback provided to others. For reasons of time peer feedback was not explicitly carried out but the educator reflected that this was something that she would like to experiment with in future.

Authentic criteria and standards seemed to be present in the case in that a key aim was to develop the students' ability to be entrusted to carry out the professional task of examining a patient effectively. In her concluding comments to the session, the educator made two points related to authentic medical practice: students should provide concise summaries of patient health because doctors are busy; and she reiterated the importance of age-appropriate examination of young patients.

Overall, this case represents a reasonably authentic representation of the feedback practices of medical professionals in terms of interacting about the diagnosis of patients, and making evaluative decisions in a real-life hospital setting.

Analysis of the cases in relation to the framework

Each case strongly features some elements of authentic feedback, however for justifiable educational reasons neither case is comprehensively authentic. Both cases are situated within the physical and social context of feedback in the discipline: Twitter and blogs in the digital media case, and a hospital in the paediatrics case. There are some aspects in which each case is less authentic. There is relatively limited cognitive challenge accruing from some of the social media interactions in the digital media case. There is limited explicit peer feedback in the paediatrics case and feedback enactment through a future task is not an immediate design priority. It is important to note that a lack of authenticity in these dimensions does not imply that the feedback processes are ineffective, instead they represent the compromises between authentic professional practice and the teaching purposes of university disciplines. Table 1 below summarises each case in terms of how it maps to our framework of authentic feedback.

Table 1. Dimensions of authentic feedback in the cases

Dimension	Digital media case	Paediatric medicine case
Realism: to what extent do learners engage in the tasks and the social and physical contexts of feedback in the discipline or profession	Feedback takes place in the authentic social and physical context of social media. Feedback information is often real-time and ephemeral. Some feedback forms are authentic, e.g. likes, replies, retweets, blog comments. Sources of feedback include educators, peers and other social media users.	Feedback takes place in the authentic physical context of a hospital ward with oral face-to-face dialogues in real-time. Interaction is carried out publically in front of other students, patients, guardians. Sources of feedback include the educator, patients, guardians and peers.
Cognitive challenge: to what extent does feedback engage learners in higher-order thinking	Learners are required to make sense of multiple sources and modalities of feedback, which requires judgement. While some modalities were potentially unchallenging (e.g. likes on social media), these were supported by other more challenging modalities (e.g. substantive audio feedback).	Learners are engaged in higher order thinking in making diagnostic decisions and responding to questions. Learners are involved in problem solving through making operational decisions whilst examining patients. They also needed to interpret evidence, make and justify diagnoses.
Affective challenge: to what extent do learners regulate and make productive use of their emotions	Learners faced additional challenges inherent to social media. This included the fatiguing effects of a continual stream of feedback information from Twitter.	Examining patients in public in front of peers is quite challenging and the need to respond on-the-spot involves some pressure and anxiety.
Evaluative judgement: to what extent do learners make judgements about the quality of their own work and the work of others	Learners made judgements about the quality of their peers' work and provided comments. Learners also engaged with practitioners who commented about the quality of their work.	Learners showed some evidence of self-reflection on their performance. There was no explicit design for peer evaluation.
Feedback enactment: to what extent do learners respond to feedback as a professional would in the discipline or profession	Learners made sense of formative comments via social media on drafts of their work, which they used prior to submission.	Learners interpreted and responded to educator questions and comments through on-the-spot actions.

Discussion

Our framework for authentic feedback contains the five elements of realism, cognitive challenge, affective challenge, evaluative judgment and enactment. The framework can be deployed to identify the extent of authenticity, and facilitate the development of ways that feedback processes could be made more authentic. We have illustrated the potential of the framework in interrogating the authenticity of two examples of feedback in disciplinary settings. Recent key contributions to the literature have established the importance of feedback designs (Boud and Molloy 2013; Winstone and Carless 2019), and our analysis suggests that authenticity is a further significant feature of feedback designs. The relational dynamics and contexts for disciplinary feedback designs merits further research (Esterhazy 2018).

The two cases illustrate different aspects of authentic feedback. The digital media case was highly authentic in terms of realism, but made relatively limited use of cognitive challenge, and evaluative judgement. Paediatrics was authentic in terms of physical and social context, and was rich in cognitive and affective challenge. The enactment and use of feedback was probably more evident in the social media case where students improved their work through iterative cycles, whereas in the medical case there was no immediate repeated opportunity for students to build on insights that were developed. Enabling opportunities for students to act on feedback is an important aspect of feedback designs (Boud and Molloy 2013).

A significant element of the two cases was that students were generally positive about the value and usefulness of the feedback processes that they experienced. This can be tentatively contrasted with more general findings in the literature that feedback processes are often weakly implemented and poorly appreciated by students (e.g. Forsythe and Johnson 2017; Dawson et al. 2019). Enhancing the authenticity of feedback could be a useful means of making it more engaging for students and more impactful. Authentic feedback also carries potential to contribute to the development of student feedback literacy. Learners need to develop feedback literacy strategies that are useable in relation to university feedback practices, transferrable to the workplace and valuable for lifelong learning. Just as authentic assessment is predicated on the idea that transfer may be facilitated by similarity between assessment and the practices of the discipline (Gulikers et al. 2004), so too may the transferability of feedback literacy be supported by authentic feedback processes.

There are some limitations to our work on authentic feedback as presented in this paper. Firstly, our contribution is mainly conceptual in terms of developing a pedagogical framework for authentic feedback. The two cases are used to explore and illustrate some of the potentials of authentic feedback. While we can claim we have found two cases that showed some elements of authentic feedback, we cannot claim that these are best practice, or that they are either representative or unusual. Secondly, we have not demonstrated that authentic feedback will necessarily lead to improvements in learning or feedback literacy. There is a need for more detailed empirical work to investigate the impact of authentic feedback practices on student learning.

Authenticity is one of the potential features of good feedback practice but it needs to be considered holistically. It is not necessarily the case that the more authentic the feedback

design, the better it is. Full authenticity may sometimes be unattainable or even undesirable, especially if it distracts from core learning outcomes or if it is not psychologically safe for students. There are sometimes good reasons to emphasise other educational factors over authenticity if they facilitate the student learning experience. As with authentic assessment, it is a matter of professional judgement according to contextual and disciplinary factors.

Conclusion

Through building on the concept of authentic assessment, we have introduced a novel notion of authentic feedback to represent feedback processes that resemble those of the discipline or the workplace. We have proposed a framework for authentic feedback involving realism, cognitive and affective challenge, the development of evaluative judgment, and the enactment of feedback. Through two examples of authentic feedback practice, we have illustrated the potential of the framework as a lens to investigate feedback processes. The framework can be applied to feedback designs as a way of identifying their authenticity and enabling their adjustment in a more authentic direction. This may be easier in disciplines with clearly-defined professional feedback practices, and more challenging in some other disciplines.

We conclude with the traditional call for further research. We have argued in this paper that for students to be feedback literate in their chosen field, they need authentic feedback experiences that represent how their discipline carries out feedback and prepare them for lifelong learning in an uncertain future. Given that the design of authentic feedback requires an understanding of workplace feedback practices, future research could take a practice theory approach (Boud et al. 2018) in studying feedback in professional and disciplinary work contexts. An ongoing issue for educators and researchers is to investigate the potential of authentic feedback to promote the development and transferability of student feedback literacy. A key challenge is to identify ways in which authentic disciplinary feedback practices can be integrated with or adapted to university feedback processes.

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