

Teacher feedback literacy and its interplay with student feedback literacy

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Abstract

Feedback processes are difficult to manage, and the accumulated frustrations of teachers and students inhibit the learning potential of feedback. In this conceptual paper, challenges to the development of effective feedback processes are reviewed and a new framework for teacher feedback literacy is proposed. The framework comprises three dimensions: a design dimension focuses on designing feedback processes for student uptake and enabling student evaluative judgment; a relational dimension represents the interpersonal side of feedback exchanges; and a pragmatic dimension addresses how teachers manage the compromises inherent in disciplinary and institutional feedback practices. Implications discuss the need for partnership approaches to feedback predicated on shared responsibilities between teachers and students, and the interplay between teacher and student feedback literacy. Key recommendations for practice are suggested within the design, relational and pragmatic dimensions. Avenues for further research are proposed, including how teacher and student feedback literacy might be developed in tandem.

Keywords: Feedback; Feedback literacy; Teacher feedback literacy; Student feedback literacy

Introduction

Across international contexts and disciplines, feedback in higher education has long been acknowledged as a challenging issue. Students often report that feedback is insufficient; it frequently comes at the wrong time; it is hard to understand and use; and they sometimes find it discouraging (Evans 2013; Winstone, Nash, Rowntree, and Parker 2017). Teachers often find large classes and the workload associated with assessment and feedback to be burdensome (Tuck 2012; Winstone and Carless 2019), and report frustration when students appear to demonstrate limited engagement with the feedback information that is provided (Price, Handley and Millar 2011). There is growing recognition that for feedback processes to be effective, shared responsibilities between students and teachers are necessary (Nash and Winstone 2017). These shared responsibilities require student and teacher feedback literacy: understandings and capacities to enact complementary roles in maximizing the impact of feedback processes.

In recognizing the importance of responsibility-sharing in feedback processes, we focus attention on the inter-related aspects of student and teacher feedback literacy. Student feedback literacy principally involves seeking, generating and using feedback, and the development of capacities in making academic judgments (Carless and Boud 2018; Molloy, Boud and Henderson 2020). The emergent concept of teacher feedback literacy mainly involves the design and management of assessment environments that enable students to develop feedback literacy capabilities.

Student feedback literacy is a topic of significant current research attention. Recent studies have provided empirical identification of its characteristics (Molloy et al. 2020); examined its enactment through two case studies in a Chinese context (Han and Xu 2019); researched students' perceptions of its development (Winstone, Mathlin and Nash 2019); investigated its implications for the workplace through interviews with healthcare students on placements (Noble et al. 2020); and suggested how its development can be embedded within the curriculum (Malecka, Boud and Carless 2020). On the basis of a re-interpretation of key literature, Carless and Boud (2018) propose that student feedback literacy comprises four inter-related features: appreciating the value of feedback; making judgements in increasingly sophisticated ways; managing affective factors productively; and taking action in response to feedback. Subsequent empirical work in two Australian universities used a large-scale survey, focus group interviews with students and seven case studies of good practice to build a comprehensive student feedback literacy framework of seven core features: commits to feedback as improvement; appreciates feedback as an active process; elicits information to improve learning; processes

feedback information; acknowledges and works with emotions; recognizes feedback as a reciprocal process; and enacts outcomes of feedback (Molloy et al. 2020).

Whilst the focus on students' feedback literacy is commendable in highlighting their important role in exploiting feedback opportunities, the complementary contribution of teacher feedback literacy has so far been under-explored. Teacher feedback literacy facilitates the development of student feedback literacy when teachers deploy their skills and capacities to set up the conditions for students to appreciate and use feedback. It is recognized that students' capacities to reap benefit from feedback processes depend in part on how teachers create environments that facilitate these outcomes (see, for example, Boud and Molloy 2013a; Carless and Boud 2018; Winstone and Carless 2019), yet the nature of teachers' roles has not hitherto been consolidated into a framework. We address this gap by developing a framework for teacher feedback literacy that complements existing understandings of student feedback literacy. What elements of knowledge and understanding about feedback processes, and practical capacities for implementation might constitute teacher feedback literacy?

In this conceptual paper, we draw upon relevant research literature to propose a framework of teacher feedback literacy comprising design, relational and pragmatic dimensions, and chart the interplay between teacher and student feedback literacy. We surface challenges to implementing the dimensions of teacher feedback literacy, and discuss how they might be tackled. We also advance conceptions of staff-student partnerships in the context of feedback by building the case for partnership approaches which seed the mutual development of feedback literacy. A central argument is that the interplay between teacher and student feedback literacy lies at the heart of attempts at enhancing feedback processes.

Positioning feedback processes as involving shared responsibilities

Many teachers and students seem to conceive of feedback in cognitivist terms, as information about strengths and weaknesses of student work and how it can be improved (Hattie and Timperley 2007; McLean, Bond, and Nicholson 2015). Feedback approaches that emphasise teacher transmission of information are, however, limited as communication because it is difficult for students to appreciate statements fully, so key messages remain invisible (Sadler 2010). For the purposes of this paper, we adopt a process-oriented social constructivist view of feedback focused on the student role in making sense of comments and using them for enhancement purposes (Boud and Molloy 2013a; Carless 2015; Carless and Boud 2018). Accordingly, we view feedback processes as involving students using information about their

work for the purposes of improvement. This emphasis on the student role in feedback processes highlights the need for students to seek, make sense of, and use feedback comments, and for teachers to support them to do so through designing feedback processes effectively.

Emphasizing student agency in feedback processes aligns with social constructivist and sociocultural approaches, where students are active generators of their own understandings in using feedback from teachers and peers to guide their development (Thurlings et al. 2013). Social constructivist feedback research and practice takes the perspective that shared and individual interpretations are developed through dialogue, sense-making and co-construction (Price et al. 2011; O'Donovan, Rust and Price 2016). Sociocultural approaches place emphasis on the dynamic interdependencies between participants in socially constituted activities within cultural contexts (Esterhazy, Nerland and Damşa 2019). Social constructivist and sociocultural approaches reaffirm the importance of the mutual interaction of students and teachers in the purposeful development of feedback opportunities.

These kinds of shared teacher and student responsibilities are addressed by Nash and Winstone (2017) who propose that teachers and students have primary responsibilities for different elements of feedback processes. They argue that teachers are responsible for equipping students with strategies for taking productive action on feedback information, whereas students carry responsibilities to engage with and use feedback. As with any partnership, effective responsibility-sharing requires shared perspectives and purposes. Teachers and students, however, hold different conceptions and mythologies of feedback in that teachers believe more strongly than students that feedback is a central mechanism for improvement (Adcroft 2011), and teachers perceive that their feedback is more useful than their students do (Carless 2006). Activities and processes which narrow these differing perceptions carry potential for the mutual development of feedback literacy.

Carless and Boud (2018) identify an important teacher role in creating environments where students have opportunities to use feedback, and in providing coaching and modelling to support students' actions in response to feedback. Teachers act as facilitators of the feedback environment and the affordances provided for the development of student feedback literacy. Having identified the teacher role in setting the stage for the development of student feedback literacy, we now turn to a discussion of the kinds of teacher capacities and mindsets that would create such environments.

A framework for teacher feedback literacy

Teacher feedback literacy is defined as the knowledge, expertise and dispositions to design feedback processes in ways which enable student uptake of feedback and seed the development of student feedback literacy. Knowledge includes understandings of feedback principles and practice. Expertise encompasses the pedagogic skills and capacities to design and implement feedback processes in principled research-informed ways. Dispositions include the attitudes and will-power to overcome challenges and strive to develop productive feedback processes for students. The teacher knowledge, expertise and dispositions are enacted within disciplinary learning activities which require appreciation of how effective feedback processes are managed within specific disciplines.

Teachers with well-developed feedback literacy design assessment environments in ways that facilitate effective feedback processes (design dimension); attend sensitively to the communicational and relational aspects of feedback with students (relational dimension); and manage pragmatic compromises in how feedback practicalities are handled (pragmatic dimension). The three dimensions are inter-related and there are some overlaps between them. Use of technology is a feature of all three dimensions because technology-enabled feedback is a key element of contemporary feedback practices, but it is not considered as a dimension in its own right as pedagogy rather than technology needs to drive feedback practices.

The design, relational and pragmatic dimensions of teacher feedback literacy are elaborated below. For each of these dimensions, we review relevant literature to highlight common challenges and discuss the role of teacher feedback literacy in enacting productive feedback processes. It is not our contention that most or all features would be relevant to a specific teaching situation; some of them would be more or less pertinent in line with disciplinary or institutional practices.

Design dimension

One of the most important teacher contributions to effective feedback processes is to design curricula and assessment in ways that enable students to understand the purpose of feedback, to make judgements about quality, and to implement feedback in the context of future tasks (Boud and Molloy 2013a). When assessment tasks are designed to build on earlier ones, and the links in a sequence are made explicit, students are more likely to use feedback (Zimbardi et al. 2017). In practice, however, assessment designs often do not facilitate effective feedback processes: one-off end of module assessments, such as essays or examinations, are prevalent in many disciplines (Norton, Norton, and Shannon 2013). Even when there are multiple tasks

in a module, unless they are well-aligned students find it difficult to apply feedback from an earlier assignment to a later one.

There is accordingly a need to involve students more actively in feedback processes in line with social constructivist and sociocultural principles. Activities which use feedback processes to promote student self-regulation and in which students make evaluative judgments (Tai et al. 2018) are congruent with these learning theories and support the development of student feedback literacy. Exemplars carry potential to enable students to understand how academic judgments are made, discern different levels of quality and decode feedback messages (Carless and Chan 2017). Composing and receiving peer feedback is also helpful in enabling students to apply criteria, see how other students have approached a task, and compare their own work with that of others (Nicol, Thomson and Breslin 2014). Students need to become accustomed to both generating and receiving feedback as part of their developing feedback literacy (Molloy et al. 2020; Noble et al. 2020).

The timing of feedback is an important design issue in enabling students to use feedback in subsequent assessed tasks. Students express strong preferences for guidance and feedback before a final grade is awarded rather than at a module's conclusion (Carless 2020). Guidance supports students in understanding expectations and can also fruitfully incorporate intrinsic feedback generated within the context of learning activities and woven incidentally into day-to-day teaching and learning episodes (Hounsell 2007). Not knowing what is expected of them is both a source of student frustration as well as being a hindrance to effective feedback processes (Balloo et al. 2018).

Technology has potential to facilitate the timely and convenient provision of feedback information in order to encourage student engagement with feedback. One of the affordances of technology is to enable the storage, synthesis and future use of feedback (Winstone 2019). Learning analytics can capture students' digital footprints based on how they interact with resources on the learning management system. The information based on these digital traces can be used to provide timely feedback at scale and facilitate student uptake of feedback (Pardo et al. 2017). It is worth reiterating that technology use needs to be designed with student agency in mind because if technology merely reproduces one-way transmission of information, then student involvement is restricted (Mahoney, Macfarlane and Ajjawi 2019).

To summarize the design dimension, feedback literate teachers:

- Design curriculum and assessment sequences to encourage student generation and uptake of feedback;
- Support students in making judgments about their own work and that of others, through activities such as peer feedback and evaluating exemplars;
- Use timely guidance and intrinsic feedback to make expectations clear and avoid the problem of post-task feedback coming too late for student uptake;
- Deploy technology, as appropriate, to facilitate feedback engagement and uptake.

Relational dimension

Feedback processes often invoke strong emotions or threats to self-esteem, so handling them sensitively enhances the potential uptake of key messages. Students may experience discomfort in receiving critical feedback from teachers, especially in the first year at university when anxiety and challenges to self-esteem are often heightened (Shields 2015). Feedback needs to be delivered in a supportive, constructive way but also needs to represent an honest appraisal (Xu and Carless 2017). The modelling and sharing of teachers' own experiences of feedback from peer review or student course evaluations are a useful means of surfacing affective issues in responding to feedback (Carless and Boud 2018; Gravett et al. 2019).

Feedback processes are likely to be enhanced when teachers provide relational support through emotional sensitivity, empathy and trust (Steen-Utheim and Wittek 2017). A supportive teaching and learning atmosphere with teachers who seem approachable sets the scene for positive student responses to feedback. The extent of commitment exhibited by teachers in offering feedback represents a positive relational factor encouraging students to continue discussion or ask for clarification (Price et al. 2011). Partnerships in feedback require reduction in power-differentials with teachers relinquishing some power, and students taking increased responsibilities (Yang and Carless 2013). Encouraging students to take part in dialogic interaction is a significant aspect of this ceding of power.

Technology-enabled feedback has potential to facilitate relational dimensions of feedback processes. Audio feedback provides more nuance than is generally feasible through written feedback and can be less threatening than face-to-face conversations because it can be reviewed privately at a distance (Hennessy and Forrester 2014). Video feedback enables a teacher social presence which can enhance relational aspects (e.g. Thomas, West and Borup 2017). Creating a social presence in online environments is an important factor in reducing student feelings of isolation, and it seems that video feedback is well-suited to promoting interaction and closeness

(Espasa et al. 2019). A recent review concludes that video feedback carries strengths in terms of the richness of its relational cues, imbuing it with a conversational feel (Mahoney et al. 2019).

To summarize the relational dimension, feedback literate teachers:

- Show supportiveness, approachability and sensitivity in how feedback is shared;
- Envisage feedback processes as partnerships between teachers and students;
- Deploy technology to strengthen the relational aspects of feedback communication.

Pragmatic dimension

There are a number of compromises inherent in feedback practice so how teachers manage its processes necessitates various pragmatic choices. Feedback does double duty in terms of its multiple functions and the related tensions between providing useful formative comments, justifying grades and catering for institutional quality assurance processes (Carless 2015). External accountability and student satisfaction in a market-driven sector influence how feedback practice is managed (Rand 2017). When discourses of students as consumers are rife, teachers may feel under pressure to deliver feedback to students rather than adopting a more dialogic approach (Tuck 2018). The notion of students as partners can represent a counter-narrative to the consumer model by providing a shared and collaborative space for students and staff to work together within a framework of shared responsibilities (Matthews et al. 2018).

Teacher identity is likely to play a role in relation to feedback literacy. Many university teachers identify themselves primarily within their disciplinary affiliation (Becher and Trowler 2001), so the norms and practices of the discipline shape how assessment and feedback are organized. The relational dynamics of different disciplinary learning activities provide various affordances and constraints for the emergence of productive feedback exchanges (Esterhazy 2018). For example, critical reviews in Architecture provide potential for dialogue about work in progress and disciplinary-specific feedback modes, such as visual feedback (Smith 2020).

Technology-enabled feedback processes carry the promise of timeliness, convenience and portability which has potential to streamline staff workloads. Learning how to use a particular technology takes time but once teachers are accustomed to using it, there are prospects for efficiency. Given that one can speak faster than one can write, audio feedback has promising potential to save time (Woodcock 2017). Technology can also be a means of handling feedback processes with large classes, for example, through automated online quizzes (Förster, Weiser,

and Maur 2018) or through students taking increased responsibilities to provide peer feedback (Meek, Blakemore, and Marks 2017).

The pragmatic dimension is salient in contemporary mass higher education because resources are finite, and teachers inevitably compromise between what might be ideal, what seems defensible, and what they think students want. Feedback interventions which necessitate increases in staff workload are problematic given common resource constraints (Nicol et al. 2014). It is impossible to justify the time spent crafting feedback messages if it does not have a positive impact on what students can do, so making feedback satisfying for teachers is as important as making it worthwhile for students (Boud and Molloy 2013b).

To summarize the pragmatic dimension, feedback literate teachers:

- Navigate tensions between different functions of feedback;
- Manage disciplinary factors in feedback processes;
- Deploy technology for timeliness, efficiency and portability;
- Balance teacher workload devoted to feedback with what is useful to students.

Interweaving teacher and student feedback literacy

In Figure 1, we summarize at the top of the diagram the key dimensions of teacher feedback literacy discussed above. In the centre of the figure, we represent the interplay between teacher and student feedback literacy through arrows that suggest a mutually reinforcing cycle. The student feedback literacy elements at the bottom of Figure 1 are developed by combining features from two key sources (Carless and Boud 2018; Molloy et al. 2020). Feedback literate students appreciate the value of feedback; make and refine evaluative judgments; take action in response to feedback; and work with emotions productively.

Although there are different features of teacher and student feedback literacy, the interplay between the two implies mutual influence. Through the crucial design dimension, teachers provide opportunities for the development of feedback literacy in relation to students' appreciation of feedback, the development and refinement of their evaluative judgment, and their capacity to take action in response to feedback. The relational sensitivities of the teacher contribute to the development of student feedback literacy, by supporting students in working with emotions productively. Managing the practicalities of feedback processes implies that teachers focus their efforts on enabling feedback opportunities that are most likely to support student learning.

Through enactment of the three dimensions, teachers guide the development of their students' feedback literacy. Conversely when students share their views about feedback or evidence difficulties in processing and acting on feedback information, these responses prompt teachers to reconsider and refine their feedback practices. Communication and negotiation of feedback activities and processes carry mutual benefits for teachers and students.

[INSERT FIGURE 1 ABOUT HERE]

Implications for practice

Implications for practice in relation to the three dimensions of our framework are summarized in Table 1. In terms of design, a teacher priority is to integrate the development of student feedback literacy within the curriculum by sequencing assessment tasks and learning activities in ways which encourage students to seek, generate, and use feedback. Students need to be involved in purposeful practice in making judgments about their own work and that of others, and receive support in making appraisals in increasingly sophisticated ways. Technological possibilities are salient in enabling generating, storing, accessing and using feedback from various sources for the purposes of ongoing improvement.

Within the relational dimension, feedback literate teachers demonstrate trustworthiness and approachability to encourage students to initiate and continue dialogue with them. This does not mean that teacher commentary has to be mealy-mouthed but that feedback should be honest, supportive and shared with students' best interests at heart. The emotions are a natural part of feedback processes, and teachers need to model the harnessing of emotions in productive ways.

In relation to the pragmatic dimension, feedback literate teachers develop mindsets to overcome multiple competing functions of feedback, and focus firmly on practices with potential to enhance student learning. Feedback that is authentic to the discipline can provide a focal point for the development of promising disciplinary feedback practices. Resources are finite so teachers and programme teams should reduce comments at times when they cannot reasonably be taken up and devote more attention to feedback designs to support student action.

[INSERT TABLE 1 ABOUT HERE]

The partnership approaches to feedback underpinning these implications for practice resonate with social constructivist and sociocultural approaches to feedback where knowledge and

understanding are co-constructed. The concept of students as partners provides support for reframing feedback processes as a partnership between staff and students (Carless 2020). Students could, for example, have increased opportunities to suggest their preferred types, modes and timing of feedback with the proviso that options do not increase teacher workloads. Students could play a greater role in eliciting feedback through feedback requests on issues which they perceive as valuable (Barton et al. 2016; Winstone and Carless 2019).

There are, of course, various challenges faced by those wishing to implement partnership approaches to feedback processes. Discourses of students as consumers risk reinforcing that feedback principally involves teachers telling students what to do to obtain high grades. Students may hesitate to involve themselves in activities that develop their feedback literacy, especially if they are concerned about threats to self-esteem. They may lack the confidence or competence to commit themselves to peer feedback, or perceive rightly or wrongly that their classmates do not have sufficient expertise (Panadero 2016).

Ways of tackling these challenges include embedding partnership feedback processes more coherently within the curriculum. Students need repeated and cumulative opportunities to experience the value of being active partners in assessment and feedback processes. They benefit from appreciating the rationale behind activities that elicit their engagement, and receiving advice during their implementation. Feedback literate teachers support students in actively engaging in feedback processes through training, coaching and the modelling of productive feedback behaviors (Winstone and Carless 2019). It is valuable for students to be engaged in multiple cumulative experiences of peer feedback over the duration of their programme and appreciate the value of composing as well as receiving feedback comments (Harland, Wald, and Randhawa 2017).

Unless there is leadership from senior managers and sustained professional development opportunities, it is unclear the extent to which academics will be able to attain promising levels of teacher feedback literacy. Staff face many competing priorities, including research, teaching and administrative responsibilities. The components of teacher feedback literacy offer a framework for the design of formal and informal professional development opportunities for teachers in higher education. In the formal domain, postgraduate certificates of education and Advance HE fellowships are increasingly oriented towards developing research-informed ways of tackling the challenges of assessment and feedback. Informal interactions between colleagues also seem to be a significant way of sharing and enhancing pedagogic practices

(Thomson and Trigwell 2018), including those related to feedback (Winstone and Boud 2019). Feedback literate teachers are receptive to pedagogic ideas from various sources, including colleagues and the literature.

Despite the challenges, we contend that the shared development of teacher and student feedback literacy is central in initiatives aimed at enhancing feedback processes. The feedback conundrum can only be tackled by teachers and students working together in designing and implementing purposeful feedback processes. We are not proposing more staff time devoted to providing feedback, but instead a re-focusing of efforts to where they can become more productive. Teaching and student teams most committed to the potential of the mutual development of feedback literacy are probably those who are most likely to benefit.

Conclusion

The principles of partnership and shared responsibilities underpin the interplay between teacher and student feedback literacy because feedback processes require investment from both parties. When teachers and students share purposes, goals, and responsibilities then there is potential for mutually reinforcing impetus for the development of feedback literacy. Teachers can reflect on and refine their own feedback designs by appreciating students' perspectives and struggles with feedback. Students can inform teacher development of feedback literacy by sharing their successes and challenges in eliciting, processing and using feedback information.

There are a number of fruitful avenues for further research. A scale could be developed to measure levels of teacher feedback literacy. How teachers acquire and enhance their feedback literacy also merits further investigation. The nature and directions of interplay between teacher and student feedback literacy would benefit from further inquiry: how do teacher and student feedback literacy influence and stimulate each other in different teaching situations? What is the role of the discipline in enabling or constraining the development of feedback literacy? In view of the need for staff-student partnership in feedback processes, research and development projects focused on developing teacher and student feedback literacy in tandem would be particularly valuable.

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Figure 1. Interplay between teacher and student feedback literacy

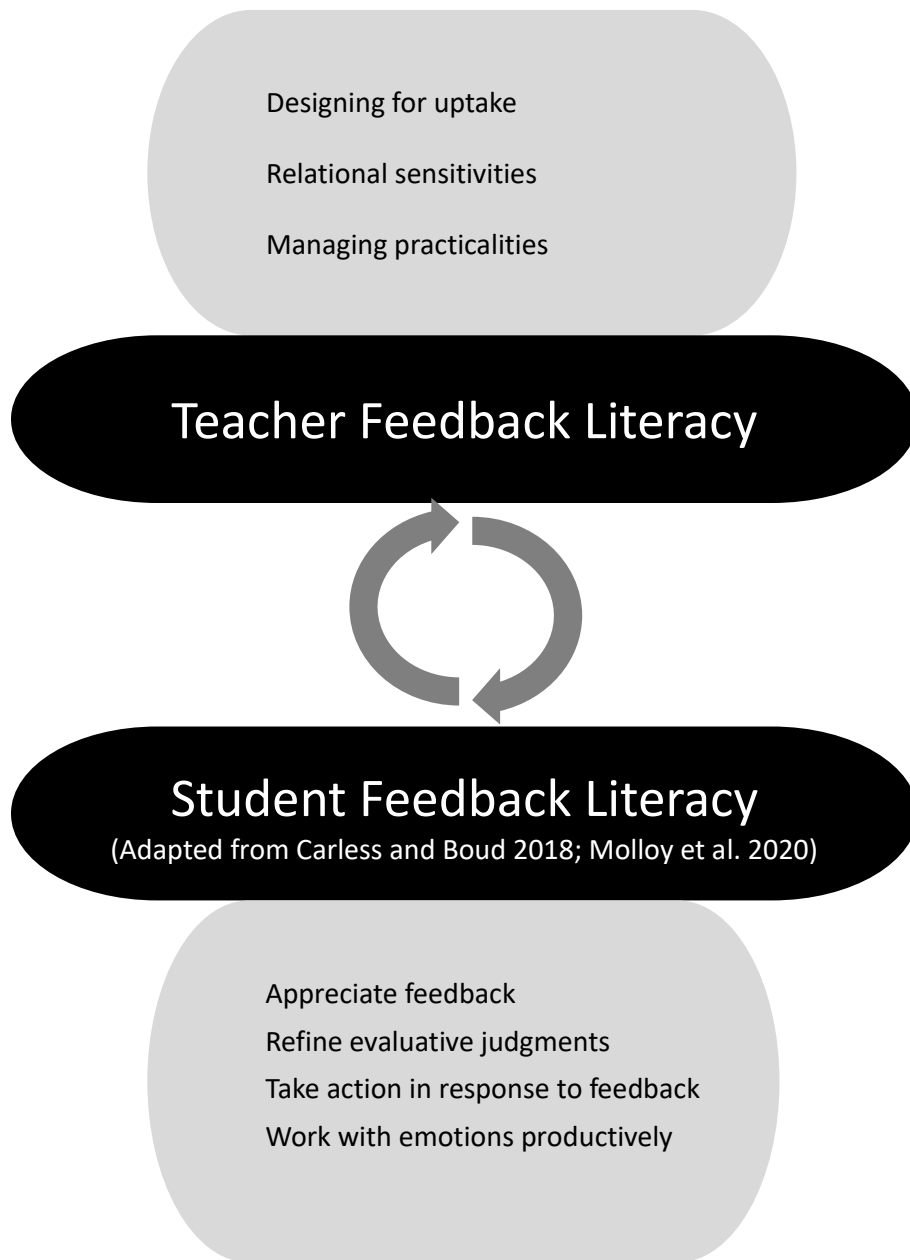


Table 1. Teacher Feedback Literacy Features and Selected Implementation Strategies

Dimension	Feature	Selected Implementation Strategies
Design Dimension	Design assessment and feedback processes to encourage student uptake	Teachers design sequences of linked assessment tasks; opportunities for students to develop skills in using feedback
	Support students in making evaluative judgments	Students discuss and evaluate exemplars of different standards; students are involved in composing and receiving peer feedback
	Use timely guidance and intrinsic feedback to make expectations clear	Teachers provide clear and timely assessment task guidance; teachers incorporate intrinsic feedback within learning activities so students have opportunities to clarify meanings and expectations
	Deploy technology to facilitate feedback uptake	Students are enabled to store, access and use previous feedback; teaching teams use learning analytics for individualized feedback at scale
Relational Dimension	Show supportiveness, approachability and sensitivity to how feedback is shared	Teachers provide honest, critical feedback in supportive ways; teachers share and model their own experiences of receiving and responding to critical feedback
	Envisage feedback processes as partnerships between teachers and students	Teachers and students negotiate shared responsibilities for making feedback processes effective; teachers cede some power and students take increased responsibilities
	Deploy technology to strengthen the relational dimension of feedback	Teachers use audio feedback for nuance and rapport, and video feedback to enhance social presence
Pragmatic Dimension	Navigate tensions between different functions of feedback	Teachers strive to overcome multiple functions of feedback processes by focusing squarely on feedback for student learning
	Manage disciplinary factors in feedback processes	Teaching teams build on and adapt existing feedback practices carried out within disciplines

Deploy technology for timeliness, efficiency and portability

Teaching teams use technology to implement time-saving measures and reduce ineffective marking methods

Balance teacher workload devoted to feedback with what is useful to students

Teachers strive to design feedback processes that are useful for students and satisfying for teachers; teaching teams strategically reduce end of module comments that cannot be taken up
