Feedback in Postgraduate Online Learning: Perspectives and Practices



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1 Introduction

Across higher education, the last two decades have witnessed a remarkable transformation in how feedback in higher education is conceptualised and practised. The wellsprings of this quiet and still unfolding revolution are multiple and closely interwoven: evidence of student discontent globally with the timeliness and quality of feedback on their progress and performance (very probably exacerbated by much larger and more diverse student cohorts); developments in communications and learning technology which have opened up new pathways to communicating, accessing and tracking feedback; and a readiness to think afresh about the nature of feedback and its powerful role in advancing students' learning.

And it is the latter in particular which has been the most pervasive in its influence—first, in underpinning efforts to address students' concerns by reconfiguring what, when and how feedback is to be communicated; and second, in suggesting where in the muddy terrain of feedback the emerging technologies might be put to best use.

One compelling feature of this reconceptualization mirrors a wider attentionshift from the intentions and actions of the teacher, on the one hand, to, on the other, learning and the part which students play in coming-to-know (see for example Biggs and Tang 2011; Entwistle 2018; Henderson et al. 2019b; Winstone and Carless 2020). From this transformed standpoint, feedback is defined as 'a process in which learners make sense of information about their performance and use it to enhance the quality of their work or learning strategies' (Henderson et al. 2018: 2). Other contemporary definitions view feedback more widely as not only about a performance, but also about a student's understanding (Hattie and Timperley 2007)

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or progress at a particular point in time, while Scott et al. (2014), outlining postgraduate students' experiences of feedback, characterise it as 'the means by which a student is able to gauge at each stage of the course how he or she is going in terms of the knowledge, understanding, and skills that will determine his or her result in the course'. And looking more widely at the interconnectedness between academic learning and professional development in clinical education, helpful feedback is depicted as 'a supportive conversation that clarifies the trainee's awareness of their developing competencies, enhances their self-efficacy for making progress, challenges them to set objectives for improvement and facilitates their development of strategies to enable that improvement to occur' (Lefroy et al. 2015: 297). This latter observation is also a valuable reminder that for many online postgraduate students, study and work are contemporaneous rather than very clearly demarcated.

Alongside the foregrounding of student agency and proactive engagement with feedback (Winstone et al. 2017), the rethinking that is underway has also brought acknowledgement that the teacher need not be the sole contributor to the feedback process. It is now increasingly accepted that valuable feedback can arise informally as well as formally, and from a student's peers; from non-university professionals, when students are on placements, internships or attachments; and even—in the case of projects, practicums or fieldwork, for instance—from members of the public in the role of patients, clients, customers or end-users (Sambell et al. 2012; Winstone and Carless 2020). These alternative sources are not teacher surrogates, but rather have a complementary role in enlarging and enriching the pool of feedback on which students can draw, reflect upon and put to good use.

A third notable focus of reappraisal has been the communicability of feedback. What the psycholinguist Rommetveit (1979) termed 'the subtle interplay between what is said and what is taken for granted' has long been underappreciated in the generation of feedback, with the consequence that the gap between a university teacher's understanding of academic conventions and expectations and that of their students may go unbridged (Hounsell 1987, 2007). Thus, when a university teacher makes a comment on a student's assessed work, it springs from an internalised and often tacit set of ground-rules that govern what counts as work of an acceptable quality in the subject or profession at that level of study. In consequence, if students are to engage meaningfully with feedback comments, as Sadler (1989, 2010) has influentially argued, both teacher and learners need to have come to a shared appreciation of quality in that particular context. Put another way, if it is to be adequately grasped and engaged with, even well-crafted feedback comments need to sit within a wider structure of scaffolding that facilitates and supports students on their postgraduate learning journeys.

This chapter explores further how feedback is being rethought against the backcloth of the overall theme of the book. It looks at feedback through the lens of postgraduate-level study before going on to explore three closely interrelated clusters of strategies for optimising feedback in postgraduate online learning. Throughout what follows, the strategies surveyed are linked to documented instances of changing practices in a wide range of postgraduate programmes. Where appropriate, fuller descriptions of particular practices take the form of numbered *Examples*.

2 Postgraduate Habits of Mind and Feedback

Any consideration of feedback design should concern itself with the core focus of feedback in online PG programmes—in other words, how feedback might be directed towards the more challenging elements of study at postgraduate level, the commonest form of which is the Master's degree. Master's degrees have a 'polymorphous character', taking an assortment of guises, performing a variety of functions and addressing a diversity of interests and needs (Davies 2009; Sin 2012). In this respect at least, there has been little change since a U.S. Committee observed over 80 years ago:

The Master's degree is variously described as a research degree, a professional degree, a teacher's degree, and a cultural degree. The work included in the requirements for the degree is regarded as preparation for further graduate work, as preparation for the practice of some profession including teaching, as an extension of the cultural objectives ascribed to the Bachelor's degree, or as a period of advanced study. ... [T]he work for the Master's degree may justly serve any or all of these objectives. (Committee on the Master's Degree 1936)

What has changed in the intervening years, of course, has been the scale of takeup and the advent of online provision, but there have also been national and international efforts to achieve greater consistency and equivalence across universities, subject areas and programme types. These have surfaced some important commonalities. In comparison to undergraduate qualifications, there is a greater emphasis at Master's level not just on greater specialisation and a familiarity with recent advances in the field, but also on nurturing postgraduates' capacity to engage critically and analytically, to synthesise and integrate, to formulate judgements on information that may be less than complete, and to communicate what they know and understand to specialist and lay audiences (Bologna Working Group 2005; Australian Qualifications Framework Council 2013; US Department of Education 2008; Quality Assurance Agency UK 2020). Also typical at postgraduate level is an expectation of considerable autonomy and self-direction, in academic and professional settings. Yet this can be seen as ostensibly contradictory, or 'Janus-faced':

While one of the faces is that students learn to communicate and argue in ways accepted by the discipline, the other face has to do with developing intellectual autonomy, creativity and critical thinking. For feedback to be productive, it must go beyond helping students to learn academic genre conventions, and develop [...] the student's identity as an independent critical thinker and writer in the discipline. (Dysthe et al. 2010: 254)

Given the polymorphism of Master's degrees, how (and to what extent) such higher-order capabilities can be translated into any given postgraduate programme will inescapably vary, but nonetheless they provide a valuable navigational benchmark for our concern here with what might be called postgraduate 'habits of mind'. They also have affinities with what, in research at the upper levels of undergraduate study, has been called 'ways of thinking and practising' in a subject:

These ways of thinking and practising were not confined to knowledge and understanding, but could also take in subject-specific skills and know-how, an evolving familiarity with the

values and conventions governing scholarly communication within the relevant disciplinary and professional community, and even a nascent meta-understanding of how new knowledge within the field was generated. (Hounsell and Anderson 2008: 72)

Like the latter, postgraduate habits of mind are not generic or universal features of study at that level but are rather, ways of thinking and practising characteristic of, and particular to, a given subject and/or professional domain, and encompass programme-specific concerns such as, in medicine, clinical reasoning (Ajjawi and Higgs 2008; Sandhu 2018); the ability to discuss how theory can inform professional practice, in medicine (Aitken et al. 2019) and in education (Turner and Simon 2013); critique as a 'way of knowing' in design (Gray 2019); integrating policy, practice, theory and research in social work (Schneller and Brocato 2011); ethical decision-making (Magalhães-Sant'Ana 2014) in veterinary practice; critical thinking in education (Rattray 2017; Mirador 2018); or context-sensitive communication and messaging of scientific knowledge in coastal management (Treby and Shah 2005).

What is also necessary to note, for our purposes here, is that the evolution of postgraduate habits of mind typically represents, for the students concerned, a metamorphosis—a step-change in learning demands from those encountered in undergraduate studies. The 'challenging negotiations' this transition can call for (Tobbell et al. 2010) have been highlighted in various studies (Heussi 2012; West 2012; Mirador 2018; Bamber et al. 2019; Coneyworth et al. 2020), running counter to the pervasive assumption that the transition to postgraduate study will be unproblematic. Indeed, examining the challenges feedback presents, Scott et al. (2014: 134) observed:

[W]hen students started making transitions into Master's-level assessment and writing, for some, transitional processes stalled because these assessment processes constituted a disruption to their sense of identity. Students [...] discussed coming onto programmes with established schema of how to write and understandings of what constituted good practice and found it hard to go beyond practices that had proved successful for them in the past but needed modifying in the new learning settings.

Within the body of work on postgraduate transitions, a particular focus of concern, across a range of subject and professional areas, has been the educational experiences of international Master's students (Rienties et al. 2014; Kaufhold 2015; Zhao et al. 2017; Gemmell and Harrison 2017; Harmes and Harmes 2018; Macleod et al. 2019), and particularly those studying in Western countries. For international postgraduates, study in an unfamiliar university system may entail getting to grips with a novel set of teaching-learning conventions, which can contrast quite markedly between cultures (see e.g. Welikala and Watkins 2008; Davidson et al. 2011; Harrison et al. 2018). And for some of these students, their prior experiences of feedback at university had been summative and cursory. Feedback was therefore not only a part of a new academic culture to which they were gradually acclimatising, but also 'an important means of communicating its expectations' to them as postgraduates (Tian and Lowe 2013; see also Warner and Miller 2015; Harwood and Petric 2019; Hey-Cunningham et al. 2020; Zhang et al. 2020), as *Example One* illustrates. Similarly, a study by McPherson et al. (2017) concluded that teaching staff may need to move away from working with the assumption that Masters students know what is expected of them, and schedule feedback opportunities much earlier in the first semester.

Example One

International students' experiences in 1-year Master's programmes in business, finance and management were investigated in a small-scale study by Ridley (2004), with a particular focus on the literacy and learning challenges that written assignments pose for these students. In discussing her findings, she highlights the powerful role of feedback and other 'moments for conversation' around written assignments in communicating the underpinning epistemologies of a discipline, and thereby 'enabling access for newcomers to the current conventions in a particular academic discourse community'.

A further consideration about transitional challenges applies to all students, whether home or international. Some postgraduate programmes recruit students who have purposefully chosen to venture into a subject or professional pathway that differs from their first degree; some programmes entail becoming acquainted with interdisciplinary perspectives and modes of inquiry (Noble et al. 2016; Kaufhold 2017); and others attract students moving from a broad and academically oriented subject area into a linked but much more specialised vocational trajectory (McEwen et al. 2009; Nyaribo et al. 2012). In these instances, too, there are new academic or professional discourses to come to terms with, and perhaps also concomitant seachanges in what counts as work of high quality. In other words, neophyte postgraduate learners face the challenge of 're-norming' their understanding of what learning is and what it requires of themselves.

Given these challenges, feedback has an indispensable role to play in nurturing postgraduate habits of mind and supporting students in calibrating learning demands and institutional and professional expectations, as *Example Two* illustrates.

Example Two

An innovative postgraduate pediatric programme at Johns Hopkins All Children's Hospital in Florida has been designed to foreground individualized learning plans and achieve a more equitable balance between clinical commitments and the educational needs of learners (Hernandez et al. 2018; see also Kuzma et al. 2016). 'Learning communities' bring together a group of postgraduate residents and faculty mentors to support residents in pursuing and refining their learning plans, with the aid of peer and faculty feedback. Working over time in small, stable groups, it is argued, with designated mentors, offers a learning environment which supports learners by nurturing reflection and assisting them to integrate the key elements of the curriculum into their learning.

3 Strategies for Optimising Postgraduate Feedback

The section which follows discusses three strategies for optimizing feedback to online postgraduate students: comment-making that generates high-quality learning; a feedback cycle in which, by design, action to put the feedback to constructive use is integral; and expanding feedback across and between student peers through activities that foster dialogue, interaction and collaboration. As will become evident, all three strategies intersect in various ways. Each benefits too from developments in communication and learning technologies in the new millennium that facilitate the management, communication and take-up of feedback (see e.g. Dawson et al. 2018; Munshi and Deneen 2018).

3.1 Generative Feedback

Feedback can be communicated online by various modes, including text, audio or video (see e.g. Orlando 2016; Hawkins et al. 2012). There is some evidence that audio feedback is valued by work-based postgraduates for its clarity and personability (Hayman 2018), and that video is particularly beneficial when the focus of feedback is a performance or set of actions (e.g. Hunukumbure et al. 2017); but ultimately, which mode is chosen will be a function of economy, accessibility and effectiveness (from the perspectives both of teachers and of learners) in any given programme.

No less important in postgraduate online learning is the substance and shaping of feedback—in other words, what goes into making feedback comments that are most likely to generate high-quality of learning?

A prime concern in feedback is the alignment between comments communicated and the criteria used to evaluate and grade the quality of students' learning, whether the latter is demonstrated through written work, an oral or multimedia presentation, or performance on a case or task in an actual or simulated professional setting. Typically, alignment is sought through the use of a rubric or checklist that is tailormade (i.e. appropriate to the subject area, level of study and nature of the assigned task) and sets out the key criteria to be deployed; most or all of the comments made are then explicitly linked to these. The approach has obvious merits: signposting to students the salience of each comment made; providing an aide-memoire to comment-givers of the need to seek a balance between depth and breadth of focus (to ensure most or all of the criteria-bases are covered); and helping to achieve consistency across those making feedback comments.

But it does present challenges. First, not all criteria are of equal weight (in terms of what is valued most in arriving at an overall judgment of quality) nor necessarily present the same degree of difficulty to postgraduate students. Thus, crafting feedback comments about quintessential features of academic and professional discourse such as use of evidence or clarity of reasoning typically calls for fuller attention than those which are concerned with presentation or language (Basturkmen et al. 2014). Such higher-order comments may also call for a greater degree of elucidation if they are to be fully apprehended (Henderson et al. 2019a), so that students can 'unpack the various ways of thinking and practising in their discipline' (Anderson 2014; Esterhazy 2018). In other words, it can be crucial not simply to pinpoint a shortcoming or acknowledge something well-achieved, but to buttress it with an explanation, exemplification, or rationale (Vardi 2009; Nicol 2010).

Second, since modular structures tend to focus attention on immediate assessment requirements rather than more broadly (Reimann et al. 2019), even at postgraduate level (Hughes et al. 2015), it is important to ensure that evaluative criteria reflect learning outcomes programme-wide as well as within a given course unit, and that there is an appropriate degree of continuity and congruence across units. This fundamental whole-parts relationship is echoed in Royce Sadler's contention (2010) that in encounters with feedback, students need a sound understanding not only of each of the salient criteria but also of what constitutes overall quality, i.e. that take account of the degree to which a work comes together as an integrated whole to achieve its intended purpose. Thus the 'telling' function of feedback comments may, by itself, be insufficient to enable students to grasp what counts as excellent work in a given setting. Over and above the provision of feedback comments, complementary efforts are required to nourish students' capacity to make complex evaluative judgments through activities such as engagement with exemplars and peer review (more fully discussed in the section which follows).

A further goal in crafting what Kim (2018) characterises as *graduate feedback* is how to transform comment-generation from communication that is predominantly one-way and instructional in intent into comments that invite reflection, interchange, and debate, and in so doing prompt higher-order learning. A way forward lies in what has been called suggestive or questioning feedback, involving comments that probe more deeply (Hounsell 2015a); seek clarification or canvass alternatives (van der Schaaf 2013); or invite exploration, expansion or improvement of an idea, as in *Example Three*.

Example Three

This initiative explored the impact of feedback on the quality of students' revision processes during a collaborative writing assignment by three successive cohorts of students (most of whom were practising professionals in education and business) following an online Master's course in e-learning at the Universitat Oberta de Catalunya (Alvarez et al. 2012). Both the teacher's feedback comments and the quality of each group's written argumentation were categorised, prior to communication of feedback and following withingroup discussions and revision. It was found that while the students had taken note of feedback comments which were corrective or which expressed the teacher's opinion, commenting which went further by raising questions about what the students had written, prompting further exploration of ideas, or suggesting where or how improvements might be sought, was much more productive—whether of interchange and debate amongst the groups or of improvement in the quality of the arguments presented.

Question-raising and requests for clarification are 'an invitation to dialogue' (Hughes et al. 2015; see also Ellegaard et al. 2018). This more interactive and dialogical perspective on feedback is even more evident in face-to-face verbal commenting on, for instance, clinical skills, where near-peers are advised to begin with a question that invites reflection ('How do you think things went?') and to round off by asking 'As a result of our discussion, tell me one or two things you plan to do differently the next time you see a patient' (Blatt et al. 2008). Similarly, Ladyshewsky and Sanderson (2020) advise peers that when coaching on challenging work situations in placements, putting a premium on asking questions—rather than on making evaluative comments about what is 'good' or 'bad'—is crucial in building trust and in prompting the reframing of existing knowledge.

In principle, all feedback commenting should be personalised, in the sense of tailored to each postgraduate student individually. Yet while this is often seen as constrained by cohort size and resources, there are many documented instances of its feasibility:

- where feedback is 'in-the-moment', as in *Example Four*;
- where it feeds forward on work-in-progress, focusing comments on what would be most beneficial to the student at that point in time (Hounsell 2015b; Dunworth and Sanchez 2016);
- where postgraduates are invited to specify what feedback comments they would find most helpful (as in *Example Six*);
- where integrative seminars provide feedback opportunities for students doing fieldwork through sharing reflections and ideas as well as mutual support (Fortune et al. 2018; see also Binyamin 2018);
- where feedback is linked to individualised learning plans (as in *Example Two*) or tracked against professional dispositions and attributes (Algeo et al. 2018);
- where feedback on professional practice is communicated verbally rather than in written form (Johnson et al. 2016).

An equally interesting option is the use of a protocol that structures the feedback encounter around a set of key phases, as in feedforward interviews (Kluger and van Dijk 2010), or the reflective model in *Example Five*. What's crucial to note in this kind of feedback encounter—often called 'debriefing' (Bearman et al. 2019)—is how the main role of the feedback initiator is less to 'provide information' (which is how the role of the comment-giver has commonly been conceived of) than to pose questions which prompt, through reflection and dialogue, a significant degree of self-direction on the part of the person who is the intended beneficiary.

Example Four

R2C2 is a reflective model developed and extensively field-tested in Canada, the Netherlands and the USA to guide productive feedback interchanges led by postgraduate supervisors in a range of clinical specialisms (Sargeant et al. 2018; Lockyer et al. 2019). It aims to be a facilitative, learner-centred approach, stimulating reflection and underpinning self-assessment. The model comprises four question-led phases:

- 1. *relationship*-building, to engage the resident and build a positive relationship (e.g. opening with the supervisor enquiring 'How are you doing and how are you enjoying it?')
- 2. exploring *reactions* of the trainee to their assessment report (e.g. by asking 'Was there anything in the feedback that surprised you?')
- 3. exploring *content* of the report and identifying gaps or areas to focus on (e.g. by asking 'What are some areas where you see you might improve?')
- 4. *coaching* for performance *change*, to support the development of a learning change plan (e.g. 'What could get in the way of you being able to do it?')

Personalised feedback is also more readily achievable in the supervision of Master's dissertations, where there can be more scope to build a degree of mutual understanding and track progress over time. An adaptive approach can therefore be taken to supervision (de Kleijn et al. 2016), moulding the substance of feedback to fit with a learner's intentions and needs at a given stage in the ongoing process (MacFadyen et al. 2019; Aitken et al. 2020).

3.2 Actionability and Feedforward

A striking feature of 'in-the-moment' feedback represented in the R2C2 model is that there is little or no gap between the instance of professional practice being observed and the feedback encounter, nor between the feedback encounter and plans to take action in response. This close interweaving is also characteristic of other examples of feedback cycles such as 'clicker' use in peer instruction (Mazur 1997) and flipped classrooms (Deslauriers et al. 2011), two-stage tests and exams (Rieger and Heiner 2014), and even—albeit with more elongated time intervals between submission, comment-giving and action—of dissertation and thesis supervision. It is also in marked contrast to past practice in undergraduate and postgraduate coursework assignments where assignments have typically 'bunched' towards the end of semesters, and feedback has been fundamentally after-the-fact, in the sense of a lack of opportunity to remedy any shortcomings or misconceptions it has brought to light. Indeed by the time this end-loaded (and to all intents and purposes summative) feedback process becomes meaningful for the student, the course unit has frequently come to an end (Hounsell et al. 2008; Ajjawi et al. 2013; Winstone et al. 2017), with the consequence that students find it hard to see the feedback comments 'as bridges to future writing assignments', to quote from a Harvard University study (Sommers 2006: 254).

Not surprisingly, then, a major focus of global student discontent with feedback in recent years has been its promptness. Initially, this was (mis)construed in many universities as calling for action to speed up turnaround times (the interval between assignment submission and receipt of feedback comments and a mark or grade), but closer investigations have pinpointed the issue as one of actionability (Henderson et al. 2019c) as well as promptness. In other words, not only is the feedback communicated in a timely manner, but there is an intrinsic expectation of, and a clear opportunity for, action to be taken to put the feedback to direct and constructive use within the course unit concerned. This represents a shift from post-hoc feedback to prospective feedforward (Hounsell 2015b), where the goal is to interconnect performances (Boud and Molloy 2013).

Actionable feedforward of this kind can be achieved through reconfiguring assessable tasks so that constructive feedback comments are primarily given on work-in-progress-in other words, there is an inbuilt opportunity for students to engage with the comments made by using them to amend and develop the emergent work and thus enhance its overall quality (Hounsell 2015b; Vardi 2013)-a process which has of course become much less labour-intensive with the almost universal access to digital technologies. Furthermore, there is nothing remarkable about the shift to a more formative mode of feedback; indeed it already exists in the staged supervision of Master's dissertations and capstone projects as well as doctoral theses, and mirrors the processes of refereeing, redrafting and resubmission that characterise scholarly and scientific publication. Yet while it is not yet as well-established in pre-dissertation postgraduate assignments, an array of well-documented possibilities can be identified for embedding it more widely. Assignments, for instance, can be reconfigured so that they follow a draft/revise/resubmit format, as in *Example* Five, where the main effort of comment-giving is invested in the draft and focuses on confirming strengths while indicating where (and, as appropriate, how) improvements could be made (Schneller and Brocato 2011; Evans 2013; Hill and West 2020).

Example Five

In an online Master's course in assessment for digital learning (O'Shea and Fawns 2014), students work in groups on a wiki assignment. Midway through the process, tutors provide feedforward in the form of a 7- to 10-min audio discussion for each group, along with more generalised written commentary highlighting themes and issues across the wikis submitted. Every student is also encouraged to feed in comments as a critical friend to another wiki group. All the MP3 audio-recordings and wikis for each group are freely accessible to all the course participants. This approach is mirrored in the course as a whole (O'Shea 2018). All work—from initial planning to drafts and feedforward —is done as much as possible in open, accessible ways so that students can both learn from and offer support to one another. Ideas around feedback (self, peer, informal and feedforward) and creating and situating shared concepts of 'good work' and 'good working practices' are part of a meta-commentary between tutors and students as the course progresses.

In similar vein, assignments can be interlinked in a series (Dysthe 2011; Thumser et al. 2020), especially where students are required to indicate how feedback on their last assignment was utilised in the following one, as in *Example Six*.

Example Six

Feedback has been comprehensively reconfigured in an online postgraduate programme in medical education at the University of Dundee. To enhance feedback use, assignments were blueprinted against learning outcomes and reviewed to promote better sequencing. For each assignment, students now complete a cover page evaluating their work qualitatively against the assignment's criteria, requesting specific feedback, and identifying how previous feedback informed the current work. Tutors also provide feedback and respond to students' self-evaluations, thus establishing dialogue. Students then upload their marked assignments into their personal journals and answer questions about their engagement with the feedback. The new approach has been welcomed by tutors and students for the opportunities it affords for clarification and dialogue (Barton et al. 2016).

A much-cited review of the potency of feedback observes that a problem with feedback at the task level 'is that it often does not generalise to other tasks' (Hattie and Timperley 2007). Indeed, even at Master's level, there is evidence that the majority of comments analysed have focused on the immediate task rather than feeding forward into the postgraduate students' wider learning journey (Robson et al. 2013). As Hughes et al. (2015: 1083) have argued, in single-discipline Master's programmes:

A key programme-level aim and outcome is to develop participants' capacity for disciplinary thinking; to 'think like a historian', to 'define problems like an engineer' or 'to apply educational theory to professional practice'. Therefore, feed forward might usefully focus on those practices or approaches which are characteristic to the discipline.

This concern to stretch the horizons of feedforward has been gathering support. Walker (2013) has suggested that a holistic, department-level approach is needed to provide feedforward across a whole programme of study as well as in individual assignments, while Reimann et al. (2019) widen the lens further by distinguishing between three conceptions of feedforward: within a specific module, and building towards a concluding summative assessment; across modules, where the feedforward could be put to use in a subsequent module or year of study; and beyond the programme of study, where the feedforward could offer benefits to day-to-day professional practices when there is significant scope for 'simultaneous immersion' (Brooks and Roberts 2016) in study and work. The latter variant of feedforward was felt by Reimann and colleagues to be relatively scarce, yet there are compelling arguments for giving it a much higher prominence in postgraduate programmes (as in *Example Seven*) aimed at mid-career professionals, where there is much to be

learned from how feedforward is evolving in continuing professional development (see e.g. Kluger and van Dijk 2010 and *Example Four*).

Example Seven

Online postgraduate programmes in technology management at the UK Open University attract mature professionals seeking to build on their practical experience and often with no prior experience of studies in the discipline. Formative assessment incorporates practice-related tasks that enable students to customise their learning to their own professional contexts, and a feedforward design to each module in which an initial, lower-stakes coursework assignment lays the groundwork for an extended mini-project 'requiring students to apply theoretical models, concepts, and techniques to self-chosen real-life organisational situations, typically related to their employed role' (Bettley and Horrocks 2018).

3.3 Feedback Between Peers

In the rethinking that has been underway, feedback is conceptualised as interlocutory—a dialogue geared towards what Björkman (2018) has called 'collaborative sense-making'. From this perspective, feedback has been defined as 'a matter of interaction between teachers and students about their observations, interpretations, evaluations, and expectations about how students can improve' (van der Schaaf et al. 2013). Similarly, for Carless (2013: 90), dialogic feedback is conceived of as 'interactive exchanges in which interpretations are shared, meanings negotiated and expectations clarified'.

As both of these definitions imply, the dialogue does not pivot solely around the understanding of any set of feedback comments, but what sits beneath them in terms of norms and yardsticks for the quality of academic and/or professional discourse. And as we have already seen, strategies for generative feedback and for actionability and feedforward can have a valuable role to play in fostering feedback dialogues of that rich kind. But there is another cluster of strategies, broadly represented by the term peer learning, through which those goals can also be pursued, and their distinguishing feature is the interchange of feedback *between* students.

In fact, peer learning is widely used to generate feedback in online postgraduate education and takes many forms, including peer coaching in business studies and health sciences (Ladyshewsky 2006; Ladyshewsky and Sanderson 2020), multimodal peer critique in design education (Gray 2019), and peer-generated test questions in psychology (McKenzie and Roodenburg 2017). It can also be found, less directly but nonetheless substantively, in collaborative activities such as paired presentations, team projects, and ensemble performances. These serve as a kind of proxy feedback, since students learn from others' perspectives, insights and ways of tackling tasks (Hounsell 2007), as in *Example Eight*.

Example Eight

At Yale University, the Integrated Graduate Program in Physical and Engineering Biology aims to lay the groundwork for cutting-edge research at the interface of the three disciplines that underpin it. It is therefore crucial to prepare the students 'not only to approach scientific problems as experts but also be able to view problems from multiple perspectives and to contribute meaningfully to projects as members of an interdisciplinary team' (Noble et al. 2016). They also need to develop strong communication skills across disciplines and with nonscientists. These aims are pursued through co-teaching by faculty with different specializations; peer learning, to engage students in communicating across disciplines and learning from one another; and teamwork, requiring students to develop strategies to work productively with others. A key component of the programme design comprises 'integrated workshop modules', in which pairs of students work together on hands-on research modules requiring a blend of knowledge, skills and experience. An important wider institutional outcome of the programme is to have created 'a robust and extensive network of researchers that crosses the prior boundaries of departments and schools'.

But the most common form of feedback interchange between students is *peer review* (Nicol 2014), where students give feedback comments on one another's written work, project presentations, contributions to groupwork, or performance in a professional or quasi-professional setting. Examples of postgraduate peer review are found in a wide variety of subject areas including public health (Borton and Anderson 2018); forensic psychology (Dickson et al. 2019); engineering (Han and Xu 2020); economics (Chew et al. 2016); language teaching (Dressler et al. 2019); teacher education (Gikandi and Morrow 2016; Wang et al. 2020); university teaching (Cundell and Sheepy 2018); and climate change, as in *Example Nine*.

Example Nine

In a Master's course in climate change at the University of Western Australia, peer review of group reports was introduced, accompanied by detailed guidance, to enhance higher-order learning outcomes and reflect contemporary workplace practices (Simpson and Clifton 2016). Groups were of 4–5 students, but peer feedback on the drafts of group reports was individually generated and anonymised, with the lecturer screening out inappropriate comments and awarding marks for the quality of students' feedback. Groups could also discuss feedback with the lecturer before embarking on revision. Survey data and textual analyses showed widespread student acknowledgment of the benefits of peer review, improved standards of reports between draft and final submission, and indications of students' critical engagement with the assessment criteria. Using either purpose-built software tools or social network platforms such as Facebook (Dawson et al. 2018: 25–27), peer review is being used not only to deepen postgraduate students' understanding and enhance their capacity to generate and utilise feedback, but also to mirror the collegial interaction typical in many professional work-environments. And there are important outcomes for providers as well as recipients:

In providing peer feedback, students interact with subject content, process, think, compare, take different perspectives, and create new knowledge. When giving an explanation, students monitor, evaluate, and rehearse their own understanding. [...] Adding an explanation to feedback shows a higher level of reflective thinking. The explanation can be justified by adding reference to ones' own knowledge. At an even higher level of reflective thinking, a student provides reference to relevant theoretical concepts to support the explanation. In the final step of the process, students write one or more peer feedback fragments and send these to their peers. The students can use their new insights to improve their own product. (van Popta et al. 2017)

If it is to work well, peer review calls for careful groundwork, including briefing students on its formative purposes, consultation on ground-rules, and the use of a criteria-focused rubric (see e.g. Boud 2013; Nicol 2014). Collaborative discussion of exemplars—i.e. anonymised examples of past coursework by postgraduates representative of different levels of quality (Sadler 2010)—has also proved fruitful in introducing students to evaluative judgment-making (Tai et al. 2018) in the subject or professional domain at that level. Some postgraduates may initially be sceptical about their peers' capacity to make judgements of quality (see Brill 2016; Dressler et al. 2019), especially where their past experiences of assessment have been overwhelmingly summative and individualistic, but one study in postgraduate engineering found more positive reactions when the peer critiquing took place less formally, in online discussion forums (Joiner et al. 2020). Indeed, across the 'landscape of graduate feedback' (Kim 2018), there is undoubtedly scope for greater encouragement to students to seek feedback more informally from their peers and others, as in *Example Ten*.

Example Ten

At Guangdong University of Foreign Studies, self-initiated peer feedback was explored among a small group of postgraduates enrolled in 2- and 3-year Master's programmes in translation studies (Man et al. 2018). The students were felt to be strongly motivated to develop good research writing and this had led them to seek feedback, on their own initiative, from their peers and other sources on work-in-progress such as drafts of reports and research proposals. The findings indicate that peer feedback 'helped these students develop critical thinking, understand research standards, reflect on their own work, enhance audience awareness and make revisions', and therefore develop their academic literacy. Autonomous peer feedback, it was found, can facilitate the formation of new academic communities and help introduce graduate students to the established academic community in an emerging discipline.

Evidence from elsewhere underscores the value to students of informal feedback, and the potential for peer support networks to be more explicitly fostered in programme design (Sambell et al. 2012; Evans et al. 2018; Zhang et al. 2020). Indeed, the role of informal peer critiques as a complement to teacher-led feedback, which is a signal feature of the studio-based learning in art and design subjects (see for example Gray 2013; McClean and Hourigan 2013; Oh et al. 2013), deserves to be more widely emulated, especially at postgraduate level.

4 Concluding Comments

Good feedback is indispensable in postgraduate education, where it functions as 'interactional scaffolding' (Verenikina et al. 2017), facilitating and boosting the quality of students' learning. This is particularly necessary in Master's programmes, where the level of challenge is higher than at undergraduate level and the nature of the terrain can be much-altered, yet the timescale in which to engage with it is much more truncated. Optimising feedback at this level calls too for a deliberative centring of focus on the nurture of postgraduate 'habits of mind'—the archetypal modes of reflection, analysis, application and validation of the particular subject area or professional domain around which a given postgraduate programme is marshalled.

As we have also seen, there has been a thoroughgoing transformation in recent years in how feedback is conceptualised and practised. For postgraduate teachers and their students, this 'paradigm shift' (Winstone and Carless 2020) has opened up an enticing array of opportunities to design feedback-rich learning-teaching environments—in other words, postgraduate programmes characterised by generative, actionable feedback, communicated via multiple modes and sources, and tailored to students' needs and aspirations. And as is evident from the many examples of postgraduate feedback practices presented in the chapter, from a variety of disciplinary and professional groundings and from a range of countries, online programmes are not at a disadvantage compared to their on-campus counterparts. On the contrary, they can capitalise on a fresh wellspring of possibilities afforded by developments in digital technologies.

At the heart of the ongoing transformation has been a premium on students' agency in the interchange of feedback, and while this empowerment of students as active seekers, recipients and users of feedback has found expression in many productive ways, much greater stress on agency seems likely to continue to reshape the contours of postgraduate learning. One feature of the present landscape which has already begun to be remoulded is the initiation of feedback, where as has been noted there is a growing acknowledgement of the value of informal student-led networks as complements to and extensions of more formal teacher-governed sources. Networks of this kind can look beyond students' direct classmates as feedback sources, as Dingyloudi and Strijbos (2018: 109) have observed:

Educators and community facilitators should take into consideration the multiplex nature of peer feedback and acknowledge and foster students' engagement in peer feedback as an inherent element of any social learning situation, within which students can be friends, classmates, locals or foreigners, members of the same presentation group, or simply social interactants in an interpersonal communication situation.

Similarly, in a discussion of the ways in which assessment can make a longerterm impact on students' lives beyond graduation, Boud and Falchikov (2006: 404) have argued for the value of informal experiences in students' learning at university, and warn against the error of attributing all the benefits of higher education 'to those aspects under the direct control of teachers'.

The softening of established boundaries which student-sourced feedback represents will doubtless grow, particularly at postgraduate level, because it enhances opportunities for students to ground feedback within their personal learning trajectories—and thus to optimise its salience. Indeed, at postgraduate level, we perhaps need to remind ourselves, personal learning trajectories merit greater attention in curricular as well as feedback design, because individuals' decisions to pursue postgraduate study characteristically sit within a wider vocational journey that those studies are intended to help fashion and redirect. In terms of the evolution of feedback, this may mean fuller and more direct encouragement to postgraduates to bring their professional and life experiences—and indeed dilemmas of practice—into everyday, within-course learning transactions of the kind that have traditionally been a focus of feedback provision.

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