

Chapter 13

Enhancing Feedback Literacy in the Workplace: A Learner-Centred Approach



Christy Noble, Christine Sly, Leigh Collier, Lyn Armit, Joanne Hilder,
and Elizabeth Molloy

13.1 Introduction

This chapter discusses the development, implementation and evaluation of a learning intervention designed to enhance students' feedback literacy in the workplace. Healthcare students want more feedback during their placements. Students' roles in feedback processes tend to be overlooked with most learning interventions focusing on professional development of educators, that is, how to 'deliver' feedback better (Carless et al., 2011). Addressing the student's role in feedback, as seeker, processor and user of performance information, offers an opportunity to improve feedback experiences in placements and beyond. The learning intervention aimed to augment students' feedback literacy and their engagement during and after their clinical placements at a teaching hospital.

Informed by the learner-centred feedback model, Feedback Mark 2 (Boud and Molloy, 2013a, 2013b), the multifaceted intervention, included an online primer, workshop and reflective activities, aimed to (1) support students' self-evaluation of their performance during their placement, (2) encourage students to seek and receive feedback from their clinical supervisors and peers in order to make comparisons between internally and externally derived feedback and (3) use these comparisons to generate a plan for improved placement work. The intervention, performed 3

C. Noble (✉)

Gold Coast Health, Southport, Australia

Griffith University, Mount Gravatt, Australia

University of Queensland, Brisbane, Australia

C. Sly · L. Collier · L. Armit · J. Hilder

Gold Coast Health, Southport, Australia

E. Molloy

University of Melbourne, Melbourne, Australia

© Springer Nature Switzerland AG 2019

S. Billett et al. (eds.), *Augmenting Health and Social Care Students' Clinical Learning Experiences*, Professional and Practice-based Learning 25,
https://doi.org/10.1007/978-3-030-05560-8_13

283

times with 105 students, was evaluated using 2 surveys and one-off interviews ($n = 28$).

Students were highly satisfied with their intervention experiences and reported an enhanced understanding of the features of, and their role in, feedback processes. Moreover, students reported being more actively engaged in feedback processes during their placement. They attributed these changes in their approach to feedback to feeling more confident and empowered to ask for feedback to improve their performance. These findings suggest that enhancing learning on the job through student engagement in feedback needs to begin before placement, be enacted during placement and be consolidated following placement. This vertical reinforcement may occur through activities that support feedback as a learning mechanism. Central to effective feedback engagement is planning for subsequent learning; thus, placement experiences and active feedback engagement will support students post-placement to plan and integrate further university-based learnings, that is, feed forward, to augment their performance.

13.2 Background

Effective feedback is central to student learning (Hattie & Timperley, 2007). Students want and value feedback during their workplace experiences, e.g. placements, and, particularly, value feedback from practitioners (Billett, Cain, & Le, 2016). Despite intentions and efforts to improve feedback processes in clinical practice, for example, through supporting development of supervisory skills including feedback provision (Steinert et al., 2006), students remain dissatisfied with feedback processes, and this dissatisfaction seems to be regardless of their learning context, e.g. university, placement (Winstone, Nash, Parker, & Rowntree, 2017).

An often overlooked consideration when addressing this conundrum is that strategies adopted tend to focus on developing clinical supervisors' and/or educators' capacities to provide feedback, e.g. through improved theoretical understandings, and the development of procedural and dispositional abilities. In these ways, the student role is often portrayed and/or enacted as one with limited opportunities to engage in the feedback processes, that is, a passive role whereby feedback is given to them (Molloy, 2009). Feedback in this instance becomes a *telling*, that is, a system of inputs and outputs (Boud & Molloy, 2013a).

Emerging evidence and contemporary feedback theories argue that effective feedback is a complex process requiring active engagement of learners and supervisors (Boud & Molloy, 2013a). Learners need to self-evaluate their performance during placement, seek and receive feedback from clinical supervisors, make comparisons between internally and externally derived feedback and use these comparisons to generate a plan for improved placement work (Boud & Molloy, 2013a). This approach to feedback promotes active learner engagement and encourages learners to draw on a range of alternative sources to inform their learning. Moreover, through engagement in feedback, learners' self-evaluation is likely to be enhanced

(Boud & Molloy, 2013a). Thus, effective feedback processes require *both* learner and supervisor engagement.

These perspectives present new opportunities for augmenting effective feedback processes in the workplace. Research from higher education sector suggests that learner-centred feedback is an emerging field with few studies conducted to support student engagement in feedback processes, that is, strategies to support students' agentic engagement with feedback processes (Winstone et al., 2017). Moreover, to our knowledge, no studies aiming to augment students' feedback engagement during placements through enhancing feedback literacy have been conducted.

It is challenging for students to engage in feedback. A UK interview study has identified some barriers to student feedback engagement in higher education (Winstone, Nash, Rowntree, & Parker, 2016). Firstly, students often lack awareness of the purpose and meaning of feedback they received. Secondly, students lack cognisance of strategies for implementing feedback. Thirdly, students believe they lack agency to implement strategies. Finally, students often lack volition to use the feedback they received. The authors argue that to improve feedback processes, these barriers should be removed by addressing the psychological processes underlying these barriers. Although these recommendations are important, they are limited to developing student engagement in discreet feedback episodes rather than promoting an overall understanding of feedback processes, that is, developing students' feedback literacy (Parker & Winstone, 2016; Winstone et al., 2017; Winstone et al., 2016).

Feedback literacy, based on the definition of assessment literacy (Smith, Worsfold, Davies, Fisher & McPhail, 2013), might be defined as students' ability to understand the purpose and processes of feedback, to accurately self-evaluate their own work and, through collaboration with others, generate and enact a plan for improvement. Similar approaches augmenting assessment literacy have been successfully used; for example, developing students' understanding of assessment criteria and processes contributes to significant improvement in learning (Rust, Price & O'Donovan, 2003). Rust et al. (2003) found that these improvements were sustained over time with potential to transfer to other contexts.

In this section, the concept of feedback literacy and strategies for enhancing student engagement in contemporary higher education have been discussed. Given that students are increasingly expected to engage in work-based learning activities, i.e. placements, it is also important to understand how learner engagement in workplace feedback can be fostered.

13.2.1 Feedback in the Workplace

Students' experiences of engaging in feedback in the workplace, that is, whilst on placements, are likely to be more challenging than in higher education. Firstly, they are working and learning in unfamiliar settings whilst being expected to meet the course and assessment requirements. Indeed, students report that feedback occurs

infrequently, and when it does occur, they find it difficult to respond to it (Jackson, 2015; Smith, Ferns & Russell, 2014).

How students are invited to engage in feedback in clinical settings, secondly, can hamper their contributions to the process. For example, clinical supervisors often adopt a one-way, diagnostician approach to feedback provisions. This approach, whilst understandable in a busy clinical setting, makes it challenging for students to engage in feedback dialogue (Molloy, 2009). Indeed, feedback observation studies indicate that students' contribution to feedback conversations is limited to approximately 5% of the time, with the remainder being used by the supervisor (Molloy, 2009).

Thirdly, effective feedback is enabled when a trusting relationship has been established between student and placement supervisor (Telio, Ajjawi & Regehr, 2015). Students are repeatedly entering new practice settings and as 'outsiders' are having to establish relationships with patients, staff and supervisors. Moreover, the diverse range of feedback providers including patients, peers, supervisors and co-workers means that students need to make decisions about the credibility of the information being provided (Watling, Driessen, van der Vleuten & Lingard, 2012). This decision-making regarding credibility around feedback provision can be aided when a strong education alliance between student and supervisor has been established (Telio, Regehr & Ajjawi, 2016). However, the advantages can only be realised if workplaces afford opportunities for the establishment and maintenance of these relationships (Billett, 2001). For without opportunities to establish these relationships, combined with its benefits of expert guidance, unintended learning outcomes, such as shortcuts and inappropriate behaviours, may result (Billett, 2001).

Effective feedback is enabled when students are aware of the required work standards. However, these standards, or work requirements (Billett, 2006), during placements are less obvious to novice students when compared to university-based assessment criteria. These challenges can be attributed to differing standards of work being enacted by individual practitioners, thus presenting a non-uniform picture of work requirements (Billett, 2006). Whilst strategies, such as elaborating on the requirements and goals of effective practice, can support learners to understand the required work standards, they are usually localised and change from setting to setting (Billett, 2006).

Finally, students' understandings of feedback purposes and processes tend to be limited to their previous experiences and maturation level (Murdoch-Eaton & Sargeant, 2012). Thus, feedback is mainly understood as a one-way process, that is, feedback is given to them. Furthermore, concerns about the power hierarchy mean students believe they have limited agency to improve their feedback experiences (Molloy, 2009).

In summary, there are several factors influencing the ways students are likely to engage with placement feedback including lack of familiarity with the setting, the invitational nature of the feedback, establishment of a trusting supervisory relationship (or not) and students' past feedback experience and maturation. These factors emphasise that feedback is dependent on two-way engagement between learner and other (educator, peer or patient) and their level of feedback literacy. The theoretical perspectives underpinning a dialogic feedback process are described in the next section.

13.2.2 Learner-Centred Feedback: Theoretical Perspectives

The workplace-based feedback literature tends to focus on the quality of individual encounters of information exchange, or the ‘micro’. Examples of micro aspects include what is said and in what manner to a learner during a feedback episode (Molloy, 2009). Ende (1983) summarised the microcomponents needed for effective feedback exchanges in the workplace including elements such as information should be based on observation, limited to changeable behaviours and phrased in descriptive rather than judgemental language. Less researched is the role of overarching feedback design within a curriculum (the macro), although this notion of a macro-approach to feedback design is receiving some attention in higher education (Jackel, Pearce, Radloff & EdWards, 2017). A ‘macro-view’ sees ‘feedback as a complex system that needs to permeate the curriculum, rather than an activity that appears within it from time to time’ (Molloy & Boud, p. 25 2013). In their description of Feedback Mark 2, Boud and Molloy (2013b) aimed to illuminate the macro-features to consider in feedback design including orientating learners to the purposes of feedback, learners participating in activities promoting self-regulation, providing opportunities for the production of work and incremental challenge in tasks occurring over time.

13.2.3 Interventions Supporting Feedback Literacy

Despite the feedback being understood as a two-way process, feedback interventions tend to focus on developing those ‘providing’ feedback, e.g. clinical supervisors. This is understandable especially given that it is the most requested skill for development by supervisors (Bearman et al., 2017). Excellent opportunities exist for supervisors to understand models of and evidence supporting effective feedback processes (Tai et al., 2016). These are important contributions to improving feedback; however, the paucity of support and development to augment students’ feedback literacy is telling, in that, learners are not being supported to recognise and engage with feedback processes.

To address this literature gap, student engagement in feedback processes is being encouraged, and evidence suggests enhancing student agency, i.e. learner’s agentic engagement with feedback processes, and improving ability to self-evaluate (Molloy, 2009; Price, Handley, & Millar, 2011b). Most interventions, however, are based on higher education (Winstone et al., 2017) and developed to support student engagement in feedback related to assessment. Strategies include (1) workshops to help students understand how to engage with and use feedback (Winstone et al., 2017) and (2) provision of feedback resources, e.g. guides, feedback sheets and exemplar assignments (Winstone et al., 2017).

Although there is an increasing body of literature exploring factors influencing student engagement in feedback processes and strategies that are being described to

address these, e.g. O'Donovan, Rust and Price (2016), what remains absent are the strategies to augment student understanding of theoretical concepts and outcome evaluations of enhanced learner engagement in feedback processes. Thus, this project aimed to develop, implement and evaluate a learning intervention designed to enhance students' feedback literacy in the workplace. In the next section, the feedback literacy intervention developed for this study is described.

13.3 Description of the Intervention

We aimed to create a program to enhance students' feedback literacy before commencing their placement and to augment student engagement in feedback processes whilst on placement in a teaching hospital. To achieve this goal, a multifaceted intervention, including both workshops and resources, designed by workplace clinical educators and educational researchers, introduced the key principles of learner-centred feedback (Boud & Molloy, 2013a) and supported student understanding of their role in feedback processes. This approach was informed by emerging evidence suggesting that workshops and resources can enable student engagement in feedback (O'Donovan et al., 2016; Parker & Winstone, 2016; Winstone et al., 2017; Winstone et al., 2016). However, to the best of our knowledge, no interventions exist to support students' feedback literacy.

The need for this intervention was identified through the broader project survey (Billett et al., 2016), that is, students would like more personalised feedback on their placement performance from experienced practitioners. Moreover, local interventions to support students' feedback literacy were not currently provided. Thus, the workplace intervention was unlikely to be duplicating teachings from the university.

Overall, learning opportunities were sequenced to ensure that students applied their learnings as they progressed through the intervention, that is, develop students' feedback readiness (Billett, 2015). This goal was achieved through conceptual knowledge development related to feedback processes and learning opportunities for procedural and dispositional knowledge development through workshop activities and experiences during and post-placement (Billett, 2015). Table 13.1 provides an overview of the intervention, intended learning outcomes and learning strategies employed. Each component will be described in more detail below along with the pedagogical strategies used.

E-Learning Module The e-learning module aimed to introduce students to conceptual knowledge informing effective learner-centred feedback processes and to relate this knowledge to their experiences of feedback. A secondary goal was to advertise the study. The module was advertised and available to all healthcare students in one university. The module, taking about 45 min, began with a video clip entitled 'Feedback in the Workplace' which provided an overview of module activities and introduced key concepts to related to students' role in feedback, who can

Table 13.1 Overview of learning intervention

Intervention	Time commitment	Intended learning outcomes	Learning strategies
E-learning module	30–45 min	Introduce key concepts and principles of effective feedback	Engaging with information about feedback principles and concepts (PowerPoint and quiz)
		Explore student role in feedback	Personal readings
		Reflect on feedback experiences	Video clip sharing of students' feedback experiences on placements
Workshop	Up to 3 h	Support students' knowledge development of key concepts and principles of effective feedback	Sharing of conceptual knowledge about feedback (aided by PowerPoint presentation)
		Support active student engagement in feedback processes whilst on placements, and integrate this feedback into their practices	Small- and large-group discussions to share feedback experiences
		Reflection on own and others' experiences of feedback	Role play for students to engage in both providing and receiving feedback (and observing the process as a third party – 'giving feedback on the feedback' including goal setting or reflection)
		Promote understanding of learner and supervisor roles in feedback processes	
Reflective activities	30 min	Reinforce key features of effective feedback	Reflective log for student to complete following feedback episodes
		Reflect on feedback experiences on placement	Two online surveys delivered 1 week and 4 weeks post workshop

provide feedback and how to improve performance based on feedback. Secondly, an online true/false quiz was presented to promote student understanding of feedback practices and some of its challenges. Thirdly, a summary presentation provided an overview of feedback challenges and the key features of effective feedback processes and suggested strategies to engage in feedback. Two readings (Archer, 2010; Molloy & Boud, 2013) provided an overview of important, yet accessible, conceptual knowledge related to feedback.

Resources illustrating students' experiences of feedback engagement whilst on clinical placements did not exist. Thus, we interviewed and video recorded four students from medicine ($n = 1$), nursing ($n = 2$) and physiotherapy ($n = 1$) who described their experiences of receiving feedback and strategies used to maximise their placement feedback. The recordings were edited to emphasise the key principles of effective feedback including the importance of seeking feedback; asking for specifics; self-evaluation, reflecting on experience; building trusting relationships

Box 13.1 Questions to support student reflection on feedback experience

- Outline why you think the feedback was good or poor.
- Consider the reflections above, and consider the following questions.
- Who did most of the talking?
- Did the supervisor use inclusive and encouraging language?
- How did the supervisor respond to your questions and comments?
- Was the content provided balanced, i.e. guidance on how to improve and strengths?
- Was a clear plan for improving practice developed?

with supervisor; preparation for feedback episodes; identifying ways to improve; and actively engaging in feedback process. Importantly, students described the emotions associated with feedback engagement along with strategies to normalise these experiences. Finally, students were invited to reflect on their own experiences of feedback by completing a set of open questions (see Box 13.1). Aside from promoting reflection, the questions aimed to reinforce the key features of effective feedback including the need for collaboration and development of a plan for improving practice (Boud & Molloy, 2013a).

Workshop To augment learnings from the e-learning module, one-off face-to-face workshops were conducted with healthcare students. The workshop was initially designed as a 3-hour interprofessional workshop and based on an interactive supervisor workshop designed and delivered by one of the authors. In response to student feedback and engagement and educators' reflections, subsequent workshops were revised and presented as a 1.5-h workshop for an interprofessional student cohort. Due to timetable restrictions, a pared-back, bare essentials 30-minute session was presented to the medical students.

The workshops aimed to further develop student understandings of effective feedback principles and processes and to support active engagement in feedback processes whilst on placement and to integrate this feedback into their practices. The session learning objectives included the following:

- Define effective feedback.
- Discuss the purpose of feedback in your context of workplace learning.
- Reflect on methods of seeking and providing feedback.
- Discuss the role of feedback in promoting reflection and judgement capacity.
- Apply a structured method of feedback.

Broadly, the workshops adopted a student-centred approach to facilitating learning. The structure of the first workshop is presented below, and changes based on experience and the educator reflections are presented in the Findings section. Firstly, students shared their goals for attending the session, and the planned learning objectives

were then presented. To promote student engagement, educators explored the importance of feedback through discussion, and students shared their feedback experiences. To normalise the emotions experienced from feedback episodes, findings from key studies were presented. It was important that students understood and could define 'feedback'; therefore, a range of feedback definitions were presented, and students critiqued these, based on their experience and ideals.

In preparation for feedback on placement, students engaged in scenario-based simulations where they enacted a teaching episode. In this instance, the 'learner' could not ask questions to the teacher, and one student observed and provided feedback on the quality of the teaching. Following this simulation, the evidence, theory, principles and models, including Feedback Mark 2, related to effective feedback processes were presented to the students. The influence of emotions on feedback engagement was also described. After this overview, students applied their understandings of effective feedback models in a revised version of the simulation. In this instance, the 'learner' could ask questions, and the simulation mirrored a structured model of feedback. Finally, key tips for effective learner engagement in feedback including strategies for self-evaluation were presented.

Reflective Work-Based Activities Following the workshop, students were invited to participate in reflective work-based activities which had two aims: (1) to evaluate the effectiveness of the learning intervention and (2) to reinforce, through reflection on experience, key principles and processes of effective feedback. To achieve these aims, three work-based activities, also data collection tools (see Data Collection section), were developed. Firstly, a work-based feedback reflective log, based on e-learning reflective questions (see Box 13.1), was designed to promote reflection on key elements of Feedback Mark 2 and aimed to support student reflection on feedback experiences during their clinical placement.

Secondly, two surveys were distributed electronically, via Survey Monkey®, 1 and 4 weeks after the workshop. The week 1 survey aimed to evaluate students' feedback experiences, that is, micro-perspectives (Boud & Molloy, 2013a), 1 week into their clinical placement and mirrored those in the activity log with additional questions including:

- Have you engaged in the feedback process any differently from previous placements? If so, in what ways?
- What aspects of the feedback approach were helpful for your learning?
- What aspects of the feedback approach were NOT helpful for your learning?

The purpose was to reinforce the key features of feedback whilst students were on placement. The second survey evaluated learners' perceptions of all feedback activities, that is, macro-perspectives (Boud & Molloy, 2013a), across the placement period. Thus, this multifaceted learning program, using three components, was developed to augment feedback literacy. The following section outlines the research methods used to implement the program and evaluate its influence on students' feedback literacy.

13.4 Research Method

A design-based research (DBR) approach was used to study learning in context through systematic design and study of instructional strategies and tools (The Design-Based Research, 2003). DBR methodology aims to solve real-world problems that are critical to learning (e.g. students want more feedback from clinical placements) whilst making contributions to theory construction and explanation. Accordingly, both practical and empirical contribution to workplace learning and higher education can be made.

The key study phases are presented in Fig. 13.1 (based on Cotton et al. (2009)) and described below. Firstly, in Stage 1, as described above, the learning need to support students' feedback literacy was prompted by the survey findings from Billett et al. (2016) along with the absence of literature addressing learner engagement in feedback. These findings were used to inform Stage 2. This stage involved the development of a learning intervention designed to augment learners' feedback literacy. The learning intervention development was informed by the theoretical framework of learner-centred feedback (LCF) (Boud & Molloy, 2013a). During Stage 3 including 3.1. and 3.2, the intervention implementation was evaluated, reflected on and further refined. The reflections and evaluation findings are presented in the Data Collection section, and the evaluation process and outcomes are described in the Findings section – (1) student impressions, (2) educators' perceptions and (3) students' perceptions of their learnings. These impressions and perceptions informed Stages 4.1 and 5.1 where the intervention was refined and then enacted (Stages 4.2 and 5.2) with the next student cohort, and, in Stage 6, the intervention was refined and finalised.

Data Collection In Stage 3.1 (see Fig. 13.1), all healthcare professional students from one university were invited, via email, to participate in the learning intervention. The intervention evaluation aimed to (1) determine students' reaction to the learning intervention, that is, Level 1 evaluation (participants' reactions) (Guskey, 2014); (2) identify students' learnings, that is, Level 2 evaluation (participants' learning) (Guskey, 2014); and (3) explore students' implementation of their learnings into their practice, again, Level 2 evaluation (Guskey, 2014). To achieve these goals, the following data were collected in three phases described below.

In Phase 1 – post e-learning module and workshop questionnaire – a questionnaire, including qualitative and quantitative data, asked students to describe their key learnings from these experiences, plans for integrating new learnings about feedback into practice and impressions of these learning experiences. This paper-based questionnaire, provided at the end of the workshop, was also designed to reinforce workshop learnings, e.g. asking students to forward plan how they will engage in feedback processes. To triangulate the data collection, the educators completed a reflective summary, based on Miles and Huberman's (1994) content summary sheet, which considered the main concepts, themes, issues and questions that were emerging from the workshop (Stage 3.2).

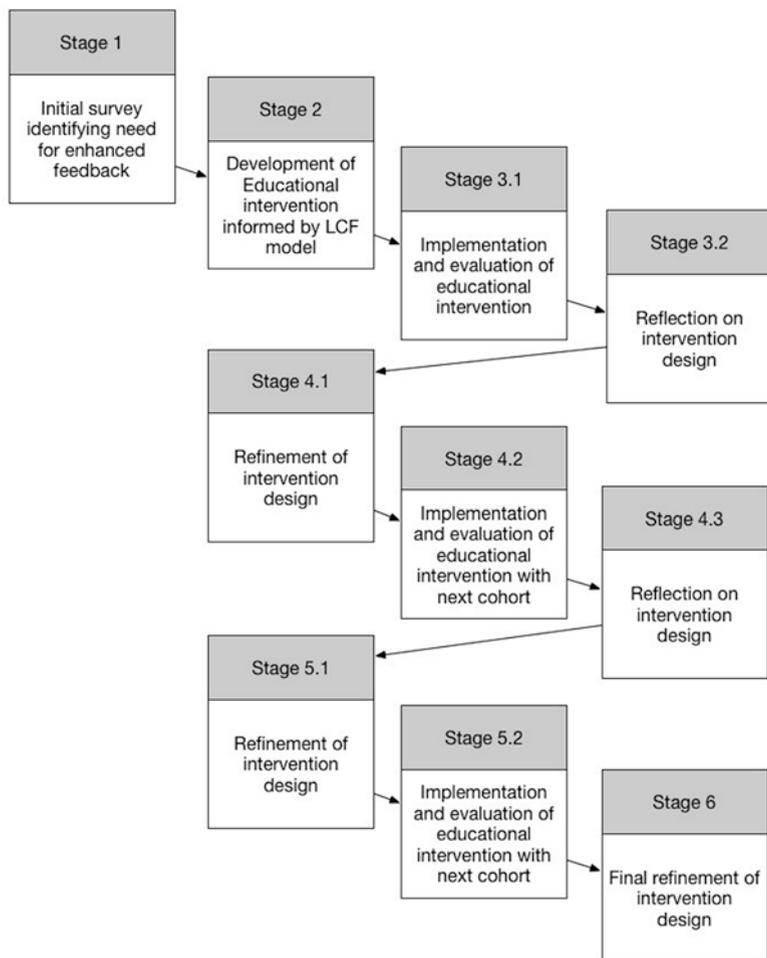
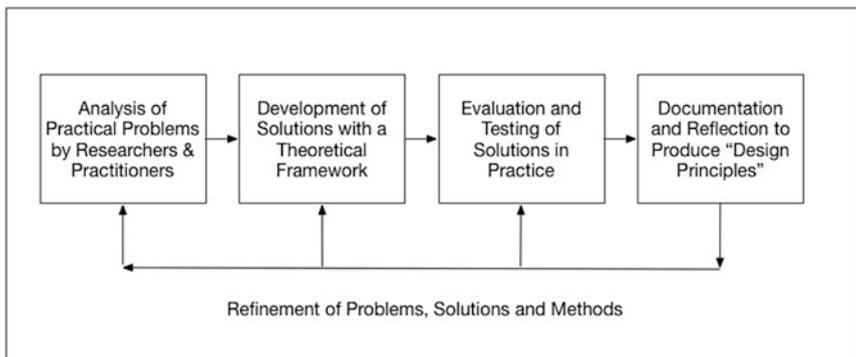


Fig. 13.1 Overview of study design (based on Cotton, Lockyer and Brickell (2009))

In Phase 2 – reflective surveys and feedback log – reflective surveys were delivered online, via Survey Monkey®, in two parts and included both qualitative and quantitative data to all students who participated in the workshop and had agreed to be part of the study. For survey 1, students, whilst on placement and 1 week after the workshop, were asked to evaluate an episode of feedback. For survey 2, 4 weeks after the workshop, students were invited to evaluate their feedback experiences whilst on placement including the patterns of feedback experienced and how they engaged in feedback processes (e.g. opportunistic or planned) and to compare their feedback experiences with those from previous placements.

In Phase 3, qualitative in-depth interviews were conducted with student volunteers who attended the workshop. The purpose of the interviews was to capture student placement experiences of feedback and to describe their role in placement feedback encounters.

As illustrated in Fig. 13.1, the intervention was conducted three times, and after each cycle of implementation and evaluation, the educators reflected on the students' responses and their experiences of the education session. These reflections were diarised and informed subsequent design of the learning intervention.

Data Analysis The Phase 1 and 2 questionnaires were analysed using descriptive statistics for the quantitative data, that is, frequency and thematic analysis of qualitative data. Phase 3 data analysis of the in-depth interviews used the framework method approach and was based on the following steps: (1) familiarisation, (2) identifying a thematic framework, (3) indexing, (4) charting and mapping and (5) interpretation of key themes (Ritchie & Spencer, 1994). Firstly, the researcher familiarised themselves with data by reading through the transcripts. Secondly, a thematic framework was identified through coding of a sample of interviews, and this framework was informed by based on Feedback Mark 2 (Boud & Molloy, 2013a) and key feedback literature. This framework was agreed by the team. Thirdly, all data were indexed, i.e. coded by one researcher, JH, and to ensure research credibility, the transcripts were divided amongst the team who indexed them independently (Lincoln & Guba, 1985). Fourthly, coded data were mapped and charted in Excel®, and patterns and associations were identified. Finally, findings from each analysis phase were compared, contrasted and synthesised to determine key themes relating to the students' evaluation of the learning intervention. The next section will present the key findings from this data analysis process.

13.5 Findings

One-hundred and five healthcare students participated in the learning intervention including nursing, social work, pharmacy, physiotherapy and medical students. The response rate for each data collection tool was:

- Workshop evaluations n = 29 (interprofessional workshops) and n = 70 (medical students)

- Reflection survey completion n = 8
- Interviews conducted n = 28 (including 12 nursing students, 12 medical students and 4 social work students)

Notably, none of the feedback logs were returned to the researchers. However, this might be due to the lack of integration of the intervention with university processes especially given that it was an extracurricular activity and not linked to assessment.

In terms of students' experiences of augmenting feedback literacy, broadly, participants valued the program as they had not had any other learning experiences focused on developing their feedback literacy. This meant that students often considered feedback to be something which is 'done to them' (feedback as telling) rather than a process which they can lead. The following sections present the three key themes to emerge from the data analysis, and these include (1) students' previous experience of feedback; (2) learning about feedback – evaluation of the intervention (learner impressions, educator perceptions and students' perceptions of their learning) – and (3) engaging with feedback whilst on placement.

13.5.1 Students' Previous Experiences of Feedback

In terms of feedback literacy, the student participants had limited understandings of effective feedback processes. Overall, feedback was understood to be a process where you are provided information about performance with limited agency to influence their learning. These perspectives were shaped by their previous feedback experiences, both at university and workplace/placement settings. Moreover, almost all students indicated they lacked preparedness for engaging with feedback on placement. This was attributed, by some students, to not having been prepared at university to engage in workplace feedback processes. The following quote illustrates this experience:

... we've finished all the parts at uni [university] before we go on placement and not once has anything been mentioned during our lectures or tutorials sessions about feedback from your supervisor or from anybody. (Nursing-3)

The main ways in which students described understanding feedback included feedback as telling, lacking specificity and lacking a plan. Firstly, most student interviewees described their previous feedback experiences as ones where supervisors told them about their performance, that is, a one-way dialogue. This meant that students lacked feedback readiness, especially based on their conceptual understandings, and this was limiting the ways they might engage with feedback. Moreover, in terms of procedural and dispositional knowledge, they did not appreciate that they could have agency in workplace feedback processes and, thus, had limited insight into how to engage in feedback. The following interview quote illustrates this perspective:

I just sort of expected it [feedback] to be handed out to me. (Nursing-1)

I can't remember specifics but like I said I didn't really have to seek out or ask for feedback, it literally was just given to me. (Medical-9)

Because of these understandings, several students indicated that they found it challenging to engage with feedback on placement. The following quote emphasises these challenges:

It's quite daunting trying to engage in it because you sit down with the facilitator and they will talk at you, not with you. It's hard to try and put your point across without trying to offend them or something like that. (Nursing-6)

Secondly, as well as not being actively engaged in feedback processes, most students noted that the feedback lacked specificity, for example, vague statements such as 'that was good' and 'you are doing really well'. Thirdly, most interviewees noted that they often did not receive or were unclear about how to improve their performance based on the feedback received. The examples provided by the students included receiving a numerical value without guidance on how to improve or praise without a plan. The students suggested that because of these experiences, feedback seemed to lack relevance to their learning and therefore might even be dismissed:

If it's irrelevant, it's like, thanks for that, and you just dismiss it. But if it's relevant you'll take it on-board and you will change and you'll implement the things that people have suggested. (Nursing-1)

In summary, students' understandings of feedback processes were constrained by past experiences without learning experiences designed to support their understanding of and engagement in workplace feedback. Consequently, most students were entering workplaces expecting feedback to be a one-way process where they had limited agency to influence. These previous experiences begin to explain the ways in which students engaged with and evaluated the intervention as described in the next section.

13.5.2 Learning About Feedback: Evaluation of the Intervention

Almost all interviewees reinforced that the learning intervention was their first in-depth experience explaining feedback processes. This alone is important because despite the literature indicating that students want more feedback, neither curriculum nor pedagogic approaches within higher education seem to be supporting students' understanding of their role in feedback processes. Given that Feedback Mark 2 (Boud & Molloy, 2013a, 2013b) emphasises that feedback is a two-way process of engagement, it is logical that students' development should be supported in an iterative fashion throughout their programs. The learning intervention evaluation is presented as follows: (1) student impressions (Level 1, participants' reactions), (2) educators' perceptions and (3) students' perceptions of their learnings (Level 2, participants' learnings). Each of these levels of evaluation is presented below.

13.5.2.1 Student Impressions

Firstly, in terms of student impressions, their responses to the intervention were very positive with the average rating being 8.8 on 0–10 scale (10 = most helpful). This finding was reflected in all interviews. Broadly, students indicated feeling more confident to engage in placement feedback. The following workshop evaluation quote illustrates this perspective:

I really feel I can get feedback now with the strategies. Understanding that it is okay to ask for feedback. (Nurse-6)

Despite these positive findings, opportunities to improve the intervention were also provided. Firstly, several students noted that they had difficulty accessing the e-learning module; however, those who could access it indicated they valued the learning experience.

Secondly, in terms of the type of intervention, several students commented that feedback should be integrated into their university coursework, rather than a one-off work-based initiative. Some noted that learning about feedback should be mandatory. It was also noted that interventions like this should be provided at the beginning of each placement. For example:

I do think that possibly laying it into uni [university] could be helpful, not in the early years I don't think. But possibly when we do a preparation for practice block right at the end of second year. (Medical-1)

Finally, based on previous experiences with supervisors, some students indicated that supervisors would benefit from enhanced feedback literacy:

It would be good if the seniors could understand the importance of feedback as well, of giving feedback. (Medical-3)

These perceptions suggest that this intervention was valued by the students; however, further opportunities exist for improving the design of the program. In the next section, the educators' perspectives are examined and related to the students' impressions.

13.5.2.2 Educators' Perceptions

The educators, including nurse educator, allied health educator and medical educator, composed reflections (n = 3) following the first workshop and noted the high degree of student enthusiasm and engagement which was demonstrated through willingness to share previous feedback experiences and stories. Interestingly, all educators noted that students lacked an understanding of effective feedback processes. The following quote illustrates this concept:

Students did not really have a sense of why, what or how to actively seek out feedback to enhance learning during clinical placement. (Educator-1)

Educators reported that students were aware, because of past experiences, of the complexities of engaging in feedback in the clinical setting and had experienced

challenges when attempting to engage further. Because of these experiences, students' objectives for the session included:

- How to get a positive comment from a critical facilitator
- How to work with a facilitator not noticing what you are doing but observing everything else on the work, i.e. distracted or focused on clinical work
- How to get feedback you can use

Moreover, the educators indicated that within the workshops, students were describing strategies for asking for feedback, securing further details and engaging in the development and implementation of action plans for improvement.

These reflections also informed the refinement of the intervention design (Stages 4.1 and 5.1 – see Fig. 13.1). Based on the reflections, the following refinements were made. Firstly, after the first workshop the following refinements were made: provision of less information about theoretical perspectives, an increased focus on practical tools, sharing language and phrases for students to elicit feedback. One approach adopted was sharing a TEDx talk (TEDx, 2015) describing key questions to ask to elicit feedback. Also, the educators' role played the enactment of these phrases and tools, thereby role modelling the approaches students could use during placement. Secondly, because of the challenges of integrating a nonuniversity-based course into students' busy work schedules, the subsequent workshop durations were reduced from 3 h to between 0.5 and 1.5 h. Overall, it was unanimously agreed that future workshops should have an increased focus on sharing and engaging students in practical feedback engagement strategies. These perceptions were confirmed by students' perceptions of their learning which is presented in the next section.

13.5.3 Student Perceptions of Their Learning

Students were also invited in workshop evaluation questionnaires and interviews to describe their learnings. Almost all students indicated that the intervention contributes to their understanding of the key features of effective feedback processes. However, there were three stages for evaluating the student learning outcomes. Firstly, after the workshop, students were invited to outline their key learnings. Most students described feedback as a process in which they had a role to play, and this was surprising for them. A typical response is outlined below:

Greater understanding of what feedback is and how it needs to be constructive and allow the student to have input into the feedback to enable them to do better next time. (Nursing-7)

Other key understandings included the importance of being engaged in the process by preparing for feedback sessions through self-evaluation, e.g. using reflective journals, seeking feedback including early in the placement, asking for opportunities for improvement and building relationships with supervisors. Also, some students noted that feedback can be obtained from a range of people, and by expressing

their desire for feedback, they are more likely to be engaged in the process. The following quote illustrates that students valued this learning opportunity to learn about feedback processes:

[The workshop] changed [my] perspective-feedback requires diagnostic strategies that are positive respectful. Engage in 2-way processes [sic]. (Nursing-2)

These findings suggest that student feedback literacy had improved. Moreover, they were formulating plans to enhance their engagement with feedback processes whilst on placement. In summary, both students and educators indicated that the learning intervention was well received, and importantly, students' resultant learning suggested enhanced feedback literacy through improving readiness, in terms of conceptual and procedural knowledge (Billett, 2015).

13.5.4 Engaging with Feedback Whilst on Placement

A key outcome from this intervention was students' descriptions of effective feedback, that is, a process in which they had a role to play. For example, almost all students interviewed described feedback as a two-way collaboration between learner and supervisor. They stated that the goal of this collaboration was to develop strategies for improvement. For example:

...rather than just as a student taking it in and accepting it, having the chance to debate it even, whether that be – not saying that that would-be criticism, debate [sic], but discussing it further. (Social Work-4)

Based on these understandings, students were engaging with placement feedback processes in different ways. Firstly, most students indicated the importance of establishing collegiate relationships with supervisors and peers as a platform for effective feedback processes (Telio et al., 2015). The establishment of these relationships began at the start of term. The following quote illustrates this perspective:

I think it's just once that relationship builds with the registrar and they know who you are and they know where you're at, that you feel a little bit at ease asking them something straightforward. (Medical-1)

In these ways, their enhanced feedback readiness (Billett, 2015) was informing their engagement with feedback in the workplace.

Despite this understanding, it can be challenging for students who are novices and outsiders in the practice community, especially when they are frequently working with different people, to establish relationships (Billett, 2001, 2006). The challenges experienced, related to workplace affordances, are outlined below:

I think for me it was hard because I wasn't really with the same people most days. So, it was difficult to ask for feedback if you don't really get an opportunity to do many things because you're not with the same teachers. (Medical-12)

However, several examples were provided by students illustrating how they overcame these challenges. For example, one nursing student at the start of each shift described presenting herself as being keen to learn and receive feedback:

...I think what helped with that is I initially said I'm willing to work to change anything that I'm doing that you feel is not correct or safe and also any feedback good or bad I'd really appreciate it. (Nursing-9)

In these ways, students were also contributing to the establishment of trusting relationships with supervisor (Telio et al., 2015). Secondly, most students indicated that they were now inviting supervisors and/or work colleagues to provide them with feedback, either, broadly, by articulating that they want to learn and would relish any feedback or, specifically, by asking for feedback on a task, e.g. cannulation. In these ways, students were identifying opportunities for feedback and demonstrating agency in the feedback process:

Yeah, well as I say I was proactive. I was hunting for it [feedback]. I was looking for it because I thought right, been to the workshop, I know how to ask for feedback, get on and do it. (Nursing-2)

This is an interesting finding because supervisors are encouraged to provide opportunities for learners to solicit feedback (Boud & Molloy, 2013a), and yet, with enhanced feedback literacy, students recognised that they have a role to play. Moreover, several students noted receiving more feedback than before and/or were engaged in the feedback process earlier than expected:

For me I don't know if I would have been so forthcoming with asking about feedback or taking the initiative to even do something had I not been told that that was okay. I think I would have been a little bit intimidated and I guess I was the first day a little bit. But I think it would have taken me more time perhaps and I probably wouldn't have gotten the same amount of feedback that I did. (Medical-1)

In these ways, by normalising feedback as a two-way process through the workshops, the students felt legitimised in adopting a feedback-seeker role.

Thirdly, as well as seeking feedback, students reported they were also critically engaging in feedback processes. If essential features were not being enacted, then they would engage with the feedback provider to elicit these and/or find alternative ways to secure their learnings. For example, if during the feedback interaction the supervisor had not developed a plan with them, then the students would ask for one and/or develop their own learning plan:

There was...a wound washout that I had to do and I was told the way that I was doing it, I wasn't using enough pressure in it...So I had to wait for my next opportunity and the next moment I heard that there was a wound I put my hand up and said can I do the washout. (Nursing-4)

Finally, a few students acknowledged that not only it is challenging for them to engage in feedback, but it is likely to be challenging for supervisors to provide feedback. Supervisors may not fully understand effective feedback processes, and without student engagement, it may be challenging for them to have a full understanding of the students' learning needs and feedback requirements. For example:

Or being able to get proper feedback, because obviously, the facilitators that you might have might actually have no idea how to give feedback either, so if one of us knows what we're doing then hopefully it'll work out. (Nursing-3)

The students' reports post-placement indicated that their enhanced feedback literacy changed their contributions to learning encounters on placement through enhanced feedback readiness (Billett, 2015). Students reported they were more likely to seek opportunities for feedback and more likely to look for tasks in the workplace that might enable transference of new strategies into practice, and they gained an appreciation for the complexity of feedback, including that it can be a confronting process for educators also.

13.6 Conclusion and Recommendations

This intervention, designed to improve students' feedback literacy, was positively received. The evaluation findings suggest that the intervention improved learners' conceptual understanding of feedback and improved students' readiness to engage in feedback processes (Billett, 2015). Students reported enhanced engagement in feedback processes during placements. To explain the evaluation findings, they have been aligned to the key features of Feedback Mark 2 (see Table 13.2). For each feature, evidence from the evaluation findings is presented, along with further opportunities for enhancing enactment of the features including researching the enactment of these features. Further opportunities for enhancing learner outcomes along with strengthening the evidence to support our claims will be discussed below.

Based on Table 13.2, two key considerations for sustaining and augmenting learner-centred feedback processes both during and post-placement were identified. These include (1) increasing learner engagement in feedback and (2) intervention design recommendations. These two considerations are expanded upon below with reference to the literature.

13.6.1 *Increasing Learner Engagement in Feedback*

The students' positive response to and engagement with the intervention were encouraging and suggest that learning on clinical placement might be improved through augmenting students' feedback literacy. This high level of student engagement was not anticipated by the research team because this skill, that is, engagement in feedback, may be considered by learners as 'soft skill' or 'non-clinical skill'. Engaging students in these types of skills has long perplexed and challenged clinical educators (Molloy & Delany, 2009; Molloy & Keating, 2011). However, it might be argued and potentially represents the students' viewpoint that effective feedback engagement is a 'meta-clinical skill', in that, without feedback, students' clinical

Table 13.2 Aligning student responses to the intervention to Feedback Mark 2 features

Features of Feedback Mark 2 (Boud & Molloy, 2013a)	Student responses	Further opportunities for educational design and research
Learners orientated to the purposes of feedback	Students described effective feedback processes and recognised that the intention of feedback is improvement	Support educators' feedback literacy to contribute to shared understandings of feedback purpose and processes
Learners participate in activities promoting self-regulation	Students recognised the importance of being prepared for feedback sessions and engaging in the dialogue	Creation of documents to help cue students' reflection on performance in preparation for feedback conversations
Learner disposition for seeking feedback is developed	Students reported actively seeking feedback whilst on placement	Observational/ethnographic study design needed to capture these seeking behaviours
Opportunities provided for production of work	Students asked for clinical practice opportunities and/or sought opportunities	Formal verbal feedback exchanges may require students to record a summary, including goals and opportunities to produce work
Calibration mechanisms	Students reported actively seeking external feedback from supervisors to determine how they are performing	A feedback log may stipulate feedback source – self, peer, patient and supervisor – to reinforce multiple sources to aid calibration of judgement
Incremental challenge of tasks	Students described engaging in increasingly challenging tasks	Collaboration between learner and supervisor to augment this sequencing of learning, especially for opportunities students are unaware of in the workplace (e.g. more complex procedures)
Nested tasks to allow for 'feed forward'	Students identified subsequent learning opportunities during placement to augment learning based on feedback	Longitudinal study design enabling task selection to be captured, particularly between rotations (e.g. surgical to general practice rotation for medical students)
Learner as 'seeker and provider'	Students enacted feedback-seeking behaviours, but there were few instances where they acted as provider of feedback	Structured peer learning activities may support students to provide feedback. Supervisors may also ask for feedback on their own role, as a routine part of any feedback conversation, reinforcing the bidirectional responsibilities in feedback

capabilities are unlikely to improve. These results throw up challenges to educators, as to whether we may in fact underestimate students' ability to integrate conceptual ideas about learning and teaching. If students understand the importance of the skill to their development and have direct experience of its benefits, this would likely serve to further their engagement.

13.6.2 Intervention Design Recommendations

For the intervention, there are opportunities to further improve its design and enactment. Firstly, as described throughout this chapter, feedback is a two-way process requiring engagement of both learner and supervisor. Given that this intervention engaged only one party (learners), further interventions should engage supervisors. This recommendation aligns with assessment literacy research which suggests that educators and students need development to ensure that improved processes/approaches are implemented (Price, Carroll, O'Donovan, & Rust, 2011a). However, further work is required to determine whether these should be the separate or combined interventions (e.g. learners and supervisors in one room). Another key design consideration is when is the best time to enact this intervention, e.g. before, during or after placements? Would it be important to introduce learners to feedback literacy day 1, year 1 in a program, or would the relevance be lost at this point? Does an initial orientation to feedback purpose and process need to occur early and then be reinforced vertically throughout a program, with a 'booster' such as the intervention we describe, at the clinical placement interface?

Whilst the alignment of the intervention to placement transition seemed appropriate for enabling application of learning, this intervention represented a one-off program, and there is likely to be further value in sequencing feedback learning throughout the pre-vocational curriculum. This approach may improve students' engagement in feedback processes related to assessments as well. The broader consideration for educators and educational researchers is whether there is value in promoting student metacognition about learning through sequenced activities with increasing complexity throughout the curriculum. Moreover, finding ways to build and integrate a feedback curriculum program across contexts will be an important goal especially post-placement.

When students return to university from placements, of central importance is scaffolding their feedback experiences and learnings with their university-based learnings. Our findings suggest that students, through enhanced literacy and readiness, were more actively engaged in feedback processes whilst on placement; however, as noted in Table 13.2, feeding forward using nested tasks builds subsequent learning curriculum and contributes to enhanced performance (see Table 13.2). In these ways, learners' ongoing engagement with feedback needs to be sustained from setting to setting. A key strategy for higher education would be to support academics and educators to develop a shared understanding of learner-centred conceptualisations, thereby fostering two-way engagement with feedback.

Finally, although evaluation findings are very positive, more evidence is required to further understand the influence of the learning intervention on learners' approaches to feedback. This could be achieved through observational study designs or engaging supervisors to determine whether students' approaches to learning have improved. Moreover, we need to be mindful that feedback processes sit within a complex and interdependent network of systems, including supervisor relationships, workplace cultures and hierarchies, which influence feedback outcomes

(Ajjawi, Molloy, Bearman & Rees 2017). Observational studies would enable us to capture these contextual and relational considerations that may influence learners' engagement in feedback in the workplace. Through the intervention, we have begun to address some aspects such as individual feedback literacy and student awareness of interpersonal and social factors in learning. Further investigations into how to build learner and educator literacy in feedback, including navigating contextual and cultural factors, are warranted. Overall, priming, doing and reflection are valued activities as part of any feedback process, and in this spirit, we recommend that an integrated feedback literacy program, with formal learning about how to use feedback before, during and after placements, is key to successful uptake of these skills in practice.

References

- Ajjawi, R., Molloy, E., Bearman, M., & Rees, C. E. (2017). Contextual influences on feedback practices: An ecological perspective. In D. Carless, S. M. Bridges, C. K. Y. Chan, & R. Glofcheski (Eds.), *Scaling up assessment for learning in higher education* (pp. 129–143). Singapore, Singapore: Springer Singapore.
- Archer, J. C. (2010). State of the science in health professional education: Effective feedback. *Medical Education*, *44*(1), 101–108. <https://doi.org/10.1111/j.1365-2923.2009.03546.x>
- Bearman, M., Tai, J., Kent, F., Edouard, V., Nestel, D., & Molloy, E. (2017). What should we teach the teachers? Identifying the learning priorities of clinical supervisors. *Advances in Health Sciences Education*, 1–13. <https://doi.org/10.1007/s10459-017-9772-3>
- Billett, S. (2001). Learning through work: Workplace affordances and individual engagement. *Journal of Workplace Learning*, *13*(5/6), 209–214.
- Billett, S. (2006). Constituting the workplace curriculum. *Journal of Curriculum Studies*, *38*(1), 31–48.
- Billett, S. (2015). Readiness and learning in health care education. *Clinical Teacher*, *12*, 1–6. <https://doi.org/10.1111/tct.12477>
- Billett, S., Cain, M., & Le, A. H. (2016). Augmenting higher education students' work experiences: Preferred purposes and processes. *Studies in Higher Education*, 1–16. <https://doi.org/10.1080/03075079.2016.1250073>
- Boud, D., & Molloy, E. (2013a). *Feedback in higher and professional education: Understanding it and doing it well*. New York: Routledge.
- Boud, D., & Molloy, E. (2013b). Rethinking models of feedback for learning: The challenge of design. *Assessment & Evaluation in Higher Education*, *38*(6), 698–712. <https://doi.org/10.1080/02602938.2012.691462>
- Carless, D., Salter, D., Yang, M., & Lam, J. (2011). Developing sustainable feedback practices. *Studies in Higher Education*, *36*(4), 395–407. <https://doi.org/10.1080/03075071003642449>
- Cotton, W., Lockyer, L., & Brickell, G. (2009). *A journey through a design-based research project*. Paper presented at the World Conference on Educational Multimedia, Hypermedia and Telecommunications, Chesapeake, USA.
- Ende, J. (1983). Feedback in clinical medical education. *JAMA*, *250*(6), 777–781. <https://doi.org/10.1001/jama.1983.03340060055026>
- Guskey, T. R. (2014). Evaluating professional learning. In S. Billett, C. Harteis, & H. Gruber (Eds.), *International handbook of research in professional and practice-based learning* (pp. 1215–1235). Dordrecht, The Netherlands: Springer Netherlands.

- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81–112.
- Jackel, B., Pearce, J., Radloff, A., & Edwards, D. (2017). In H. E. Academy (Ed.), *Assessment and feedback in higher education: A review of literature*. York, UK: Australian Council for Education Research Higher Education Academy.
- Jackson, D. (2015). Employability skill development in work-integrated learning: Barriers and best practice. *Studies in Higher Education*, 40(2), 350–367. <https://doi.org/10.1080/03075079.2013.842221>
- Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage Publications.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). London: SAGE Publications.
- Molloy, E. (2009). Time to pause: Giving and receiving feedback in clinical education. In C. Delaney & E. Molloy (Eds.), *Clinical education in the health professions: An educator's guide*. Chatswood, Australia: Elsevier Australia.
- Molloy, E., & Boud, D. (2013). Seeking a different angle on feedback in clinical education: The learner as seeker, judge and user of performance information. *Medical Education*, 47(3), 227–229. <https://doi.org/10.1111/medu.12116>
- Molloy, E., & Delany, C. (2009). *Clinical education in the health professions: An educator's guide*. Sydney, Australia: Churchill Livingstone Australia.
- Molloy, E., & Keating, J. (2011). Targeted preparation for clinical practice. In S. Billett & A. Henderson (Eds.), *Developing learning professionals: Integrating experiences in university and practice settings* (pp. 59–82). Dordrecht, The Netherlands: Springer Netherlands.
- Murdoch-Eaton, D., & Sargeant, J. (2012). Maturational differences in undergraduate medical students' perceptions about feedback. *Medical Education*, 46(7), 711–721. <https://doi.org/10.1111/j.1365-2923.2012.04291.x>
- O'Donovan, B., Rust, C., & Price, M. (2016). A scholarly approach to solving the feedback dilemma in practice. *Assessment & Evaluation in Higher Education*, 41(6), 938–949. <https://doi.org/10.1080/02602938.2015.1052774>
- Parker, M., & Winstone, N. (2016). Students' perceptions of interventions for supporting their engagement with feedback. *Practitioner Research in Higher Education*, 10(1), 53–64.
- Price, M., Carroll, J., O'Donovan, B., & Rust, C. (2011a). If I was going there I wouldn't start from here: A critical commentary on current assessment practice. *Assessment & Evaluation in Higher Education*, 36(4), 479–492. <https://doi.org/10.1080/02602930903512883>
- Price, M., Handley, K., & Millar, J. (2011b). Feedback: Focusing attention on engagement. *Studies in Higher Education*, 36(8), 879–896. <https://doi.org/10.1080/03075079.2010.483513>
- Ritchie, J., & Spencer, L. (1994). Qualitative data analysis for applied policy research. In A. Bryman & R. Burgess (Eds.), *Analyzing qualitative data*. London: RoutledgeFalmer.
- Rust, C., Price, M., & O'Donovan, B. (2003). Improving students' learning by developing their understanding of assessment criteria and processes. *Assessment & Evaluation in Higher Education*, 28(2), 147–164. <https://doi.org/10.1080/02602930301671>
- Smith, C., Ferns, S., & Russell, L. (2014). *The impact of work integrated learning on student work-readiness. Final Report 2014*. Retrieved from Sydney:
- Smith, C., Worsfold, K., Davies, L., Fisher, R., & McPhail, R. (2013). Assessment literacy and student learning: the case for explicitly developing students' assessment literacy. *Assessment & Evaluation in Higher Education*, 38(1), 44–60. <https://doi.org/10.1080/02602938.2011.598636>
- Steinert, Y., Mann, K., Centeno, A., Dolmans, D., Spencer, J., Gelula, M., et al. (2006). A systematic review of faculty development initiatives designed to improve teaching effectiveness in medical education: BEME Guide No. 8. *Medical Teacher*, 28(6), 497–526. <https://doi.org/10.1080/01421590600902976>
- Tai, J., Bearman, M., Edouard, V., Kent, F., Nestel, D., & Molloy, E. (2016). Clinical supervision training across contexts. *Clinical Teacher*, 13(4), 262–266. <https://doi.org/10.1111/tct.12432>

- TEDx. (2015). *Heen, Shelia: How to use others' feedback to learn and grow*. Retrieved from https://www.youtube.com/watch?v=FQNbaKkYk_Q
- Telio, S., Ajjawi, R., & Regehr, G. (2015). The “Educational Alliance” as a framework for reconceptualizing feedback in medical education. *Academic Medicine, 90*(5), 609–614.
- Telio, S., Regehr, G., & Ajjawi, R. (2016). Feedback and the educational alliance: Examining credibility judgements and their consequences. *Medical Education, 50*(9), 933–942. <https://doi.org/10.1111/medu.13063>
- The Design-Based Research, C. (2003). Design-based research: An emerging paradigm for educational inquiry. *Educational Researcher, 32*(1), 5–8.
- Watling, C., Driessen, E., van der Vleuten, C. P. M., & Lingard, L. (2012). Learning from clinical work: The roles of learning cues and credibility judgements. *Medical Education, 46*(2), 192–200. <https://doi.org/10.1111/j.1365-2923.2011.04126.x>
- Winstone, N. E., Nash, R. A., Parker, M., & Rowntree, J. (2017). Supporting learners' agentic engagement with feedback: A systematic review and a taxonomy of recipience processes. *Educational Psychologist, 52*(1), 17–37. <https://doi.org/10.1080/00461520.2016.1207538>
- Winstone, N. E., Nash, R. A., Rowntree, J., & Parker, M. (2016). ‘It’d be useful, but I wouldn’t use it’: Barriers to university students’ feedback seeking and recipience. *Studies in Higher Education, 1*–16. <https://doi.org/10.1080/03075079.2015.1130032>