Developing student feedback literacy through self and peer assessment interventions

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Abstract

Recent growth in research on feedback has focused on the importance of developing student feedback literacy. That is, the capabilities students need to make good use of feedback processes. To date there have been few investigations of how ideas about student feedback literacy can be translated into course design. This paper therefore examines student feedback capabilities in the context of an undergraduate course intervention based on an empirically based feedback literacy framework. 237 student journals written in response to self- and peer feedback information were coded for student feedback literacy features and the effectiveness of pedagogical approaches for building the needed capabilities. Findings highlight the presence, extent and trajectories of feedback capabilities over time within the course. Based on these, pedagogical approaches which incorporate feedback affordances are identified.
Keywords: feedback literacy; self-assessment; peer assessment

Introduction

Feedback has been conceptualised as information provided about aspects of one's performance or understanding. Yet feedback information on its own may not be enough for students to improve (Hattie and Timperley 2007). Learners must be willing and able to make sense of it and use it to enhance the quality of their work or learning strategies (Boud and Molloy 2013; Carless 2015).

In recent years, the notion of feedback as information transmitted from educator to learner as passive recipient has been critiqued. There has been a shift to recognising learners' agency and volition (Boud and Molloy 2013; Carless 2015; Hoo and Hughes 2017). Learners are now understood as active participants in a feedback process, rather than passive recipients of information. This shifts responsibility for feedback efficacy from sole dependence on educators' information to include learners' active provision, comprehension and uptake of information from other sources such as self and peers. This approach repositions educators as designers of a feedback environment (Carless 2020) and learners as key agents in a feedback process that is focused on further learning.

This repositioning therefore presents feedback processes on two stages - front and back. On the front stage, learners actively engage with feedback from multiple sources to

make sense of information about their performance. Such engagement can include negotiating the similarities and differences from multiple-source feedback, drawing learning takeaways from the feedback and then applying their understanding to develop goals for future tasks or behaviours (Henderson et al. 2019; Hoo, Tan, and Deneen 2020). On the back stage, educators design learning spaces and orchestrate the learning processes that promote capacity-building experiences for learners (Bennett et al. 2011). These experiences develop and enhance feedback capabilities so as to improve feedback quality and processes. In this way they build student feedback literacy.

Defining student feedback literacy

Carless and Boud (2018) argue for the need to consider student feedback literacy for teaching and course design. Extending Sutton (2012) concept of feedback literacy as ability to read, interpret and use feedback, they include 'understandings, capacities and dispositions' to process and use feedback (Carless and Boud 2018, 1315). This anchors student feedback literacy in social constructivist learning theories which emphasise collaborative ways of learning in knowledge-exchange and building. The active involvement of students in feedback processes is characterized as a set of inter-related components underpinning student feedback literacy - appreciating feedback, making judgments, managing affect, and taking action (Carless and Boud 2018).

Developing and embedding a new framework of student feedback literacy

Molloy, Boud, and Henderson (2020) expanded empirically on the feedback literacy components of Carless and Boud (2018) to develop a learning-centred framework which identifies the capabilities a feedback literate student needs to operate effectively with feedback processes. Data was collected from a large-scale survey, focus groups and case studies of students' experiences of feedback at two Australian universities. Through a grounded, constant comparative analysis they derived 31 categories which were clustered into seven groups summarising learner feedback literacy capabilities: (1) commits to feedback as improvement; (2) appreciates feedback as an active process; (3) elicits information to improve learning; (4) processes feedback information; (5) acknowledges and works with emotions; (6) acknowledges feedback as a reciprocal process; and (7) enacts outcomes of processing of feedback information.

Malecka, Boud, and Carless (2020) focused on three of these seven groups (3, 4 and 7) to explain how the development of student feedback capabilities can be embedded within the undergraduate curriculum through an emphasis on the mechanisms of eliciting, processing and enacting feedback. They proposed that the construction of a curriculum to embed the development of feedback literacy should be guided by four principles: conscious design for feedback; importance of practice to extend capabilities in feedback processes; cumulative and progressive development of feedback literacy over time and over courses; and traceability of feedback with the use of technology (Malecka, Boud, and Carless 2020). The authors illustrate their argument with four pedagogical examples which show how the curriculum can be operationalised to develop feedback literacy in different contexts.

Empirical studies on student feedback literacy

Interventions to develop student feedback literacy have gained traction recently and empirical studies have begun to be undertaken. Using an individual case study approach, Han and Xu (2019) examined written corrective feedback of two Chinese undergraduate students. They

explored how characteristics of students' feedback literacy impacted their engagement with written corrective feedback. In another study, Han and Xu (2020) used case studies of three master's students to explore the dynamics of student feedback literacy in a higher education diagnostic writing class and its relationship to teacher mediation during peer feedback activities. In both studies, the authors treated student feedback literacy as cognitive and social-affective capabilities, and readiness to provide and use feedback.

In their qualitative interview study on enacting learner feedback literacy in a healthcare setting, Noble et al. (2019) anchored their analysis of learners' engagement in feedback on the key features of feedback literacy by Carless and Boud (2018). They demonstrated that their intervention augmented learners' understanding of and engagement in feedback in the workplace.

Using the Developing Engagement with Feedback Toolkit (DEFT), Winstone, Mathlin, and Nash (2019) tested for changes in students' self-reported feedback literacy before and after attending a feedback workshop. They found that after students attended the workshop, their scores increased significantly on a 14-item measure of student feedback literacy that related to the elements of feedback literacy outlined by Sutton (2012).

Potential contribution to the growth of student feedback literacy

The nascent growth in research on student feedback literacy has opened many possibilities for further exploration. Empirical work on student feedback literacy has drawn from conceptual discussions of feedback literacy by Sutton (2012) and Carless and Boud (2018), but not hitherto from the empirically based framework of Molloy, Boud, and Henderson (2020). While this framework has identified student feedback literacy features, the empirical representation of those features as specifically manifested within a curriculum has not been studied to date.

Malecka, Boud, and Carless (2020) identified two key research directions to provide meaningful insights into how students seek, sense-make and operationalise their understanding of feedback. First, they argued for more empirical research in different disciplines to 'investigate how students elicit, process and enact feedback in situ, over time and within specific communities' (Malecka, Boud, and Carless 2020, 12). Second, they encouraged examination of the impact of curriculum design on students' experiences of developing feedback capabilities over time. This paper builds on these recommendations by utilising all seven groups of student feedback literacy in Molloy, Boud, and Henderson (2020). It examines student feedback capabilities in the context of a course intervention designed using self- and peer assessment to promote feedback literacy development. With self- and peer assessment, students are required to make sense of feedback both as provider and recipient. The development of these capacities strongly aligns with the underlying elements of feedback literacy (Carless and Boud 2018). The two key research objectives addressed are:
(1)   identifying the presence, extent and trajectories of student feedback capabilities over time within a course; and
(2)   trialling pedagogical approaches with feedback affordances for building student feedback capabilities.

Methods

Participants and Procedure

The course chosen was a cross-cultural management course in a Singapore university, which is a university-wide liberal studies course that could be taken by local and overseas exchange students from any degree programme. The course runs on a 14-week semester, inclusive of a one-week mid-semester break. Out of 107 students who enrolled for the course in two semesters between August 2017 and December 2018, 79 gave consent to participate in the study.

Early in the course, a module was introduced which oriented students towards the key course objectives and modes of engagement. Students were scaffolded in defining and operationalising the key concepts of multi-cultural teams, collaborative teamwork and the criteria of teamwork competencies. They were introduced to good feedback practices through discussion of scholarly work on feedback and students' feedback experiences. Students were given clear parameters on what constituted productive versus unproductive feedback, along with exemplars. As part of the intervention, the instructor also engaged in ongoing evaluation of students' feedback and offered adjustive 'meta-feedback' on peer feedback and reflections.

In this course, students were randomly assigned to teams of five to six members. Team activities include (1) an experiential learning activity to kickstart team bonding – teams researched the historical and cultural characteristics of a location in Singapore before they embarked on a team expedition; (2) a collaborative writing assignment on an intercultural conflict situation and resolution; and (3) a team video presentation showcasing an intercultural situation and resolution based on the writing assignment. Table 1 summarizes the three time-points of team activities, feedback and journals.

Table 1. Team Activities/Deliverables, Data Sources and Collection Schedule

Week		1 - 4	5	6	7	8	9	10	11	12	13	14
Team Deliverables			Team experiential learning			Team written assignment				Team presentation		
Data Source	**Use of Technology**											
Self- & Peer Feedback	Online		Time 1			Time 2				Time 3		
Reflective Journals	Submitted online			Time 1		Time 2					Time 3	

Self- and peer feedback on teamwork competencies. In the same week that each team activity was completed, students rated and gave comments to themselves and their teammates on their teamwork competencies. Students were briefed that their self- and peer assessments were to be based on teamwork competencies which are skilled professional behaviours and not on the end-product of their team tasks. Peer assessment of professional skills have shown adequate reliability in the literature (Topping 1998). The focus on team processes, specifically behaviours over time, provided individuals the opportunity to learn from giving and getting formative information to build and develop their teamwork competencies.

The Stevens and Campion (1994) teamwork competency model of 5 categories – conflict management, collaborative problem solving, communication, goal setting and performance management, and planning and task coordination – was used as the mental model of teamwork. This team management model is widely used in human resource and management studies (Chen, Donahue, and Klimoski 2004; LePine et al. 2008; Mathieu et al. 2014; Kozlowski et al. 2015).

After each team activity, students rated themselves and their team members against each category of the teamwork competencies, on a scale of 1 to 5 (1=strongly disagree and 5=strongly agree); and commented on their and their team members' teamwork competencies. These ratings and comments were drawn upon in completing a written reflective journal.

Reflective journals. Within a week of giving feedback information, students received their team members' anonymous ratings and comments. Students used the self- and peer feedback to reflect on their teamwork competencies in a written journal. These journals were structured according to the Kolb's Experiential Learning Cycle (Kolb 1984) and Schon's link between reflection and action (Schön 1983): concrete experiences (reflection-in-action), reflective observation (reflection-on-action), abstract conceptualisation and active experimentation (reflection-for-action). Table 2 details the key components of the reflective journals.

Table 2. Key components of the reflective journals

Key component	What students need to do
Concrete experiences, reflection-in-action	Students report on their self and peer feedback, and recount critical incidents from their team experience. The critical incidents provide an opportunity for students to reflect on both their performance and behaviour in the team (which is self-feedback). These are also cues to which students measure against how they are perceived by their peers in-situ.
Reflective observation, reflection-on-action	Students reflect on these critical incidents, compare and contrast the self- and peer feedback.
Abstract conceptualisation	Students discuss how similarly or differently one would perform now in retrospect.
Active experimentation, reflection-for-action	Students create an action plan to address weaknesses and leverage strengths based on their reconciliation of self- and peer feedback, and discuss the degree of success in undertaking proposed actions in subsequent journals.
Lessons learnt from team activities and feedback engagement	In the third and final journal, additional questions were included: What lessons were learnt from carrying out self-evaluation; peer evaluation and from receiving peer comments; and what were the learning takeaways from using the pedagogic activities (reflection journal using the experiential learning cycle, teamwork competencies framework, self and peer review, etc.).

A centralised technology-enabled rubric system that supports multi-source (instructor, self and peer) assessment and feedback was instrumental to the process. Designed by the first author, this e-rubric feedback system made possible feedback provision, receipt, and retrieval

of the feedback for students' ipsative assessment for self-reference so that a learner can compare existing performance with previous performance (Hughes 2011) .

Data Analysis

For the analysis, all sections of the student reflective journals were coded - concrete experiences, reflective observation, abstract conceptualization, active experimentation, and lessons learnt from the team activities and feedback engagement. The purpose of the analysis was to identify the presence, extent and trajectories of student feedback capabilities over time within a course, and to identify the effectiveness of particular pedagogical approaches for building student feedback capabilities. A multi-stage qualitative and quantitative analytical process was undertaken to accomplish these objectives.

Our analyses consisted of the following stages:

(1) Computer-assisted text analysis (NVivo12 software) was used to perform a priori coding on 237 student journals (79 participants, three journals each) based on the seven key groups of Molloy, Boud, and Henderson (2020) student feedback literacy framework to ascertain the presence and extent of application of the features within the curriculum.

(2) From the coded features, a quantitative database was developed. This database consists of the number of representations of each of the seven key groups of student feedback literacy in the students' reflection journals. We then examined if there was statistical significance in the difference between the number of representations of different feedback literacy groups across journals. Measures of central tendency were obtained at three time points of the reflection journals. In addition, one-way analyses of variance (ANOVAs) repeated measures tests were used to determine if the mean of each group differed statistically between time points of journal 1 and journal 2, journal 2 and journal 3, as well as journal 1 and journal 3.

(3) Through the coding process, students' references to feedback-enabling pedagogical activities were identified and extracted.

Results

Representations of student feedback literacy by category

We found representation of all seven groups of student feedback literacy (Molloy, Boud, and Henderson 2020) in the students' reflective journals. In Table 3, we present the empirical illustration of feedback literacy for each category which demonstrated students' uptake, processing, and enacting of feedback.

Table 3. Representation of the seven groups of student feedback literacy (n = 237 journals in total)

Groups of student feedback literacy	Empirical Illustrations
(1) Commits to feedback as improvement	"In the first journal I planned to focus more on my words especially in a cross-cultural environment; well it seems that I'm not putting much efforts in that since the "bad" comment I received (in the third peer evaluation) about the use of the words are weird and strange. However, I'm sure that through more experience I will manage to not to commit this kind of mistakes again." "In retrospect, I did not exhibit my planning skills. This also coincides with the comment that I could improve on taking the initiative in making decisions in some situations.

Groups of student feedback literacy	Empirical Illustrations
	Planning could have been an area where I could work on."
(2) Appreciates feedback as an active process	"The feedback from my team gave me the opportunity to understand how I and my actions affect others. The feedback can enrich me by accepting the "criticism" and trying to improve those areas. In addition, I got an impression of what qualities others like about me and in which I am particularly good. "I learned that it (self and peer feedback) is an effective way to track your progress over the many weeks of this course or in any other course. It forces you to be critical of yourself and to see what you can improve on."
(3) Elicits information to improve learning	"My peers are absolutely correct about my flaws. I counter-checked with my course mates and some long-time friends. Talking over and dominating others, challenging people, taking centre stage are things that are very normal for people from my culture, especially me. … these are traits that have been frowned upon by teachers, peers, etc. I have spent many years trying to improve it." "I tried my best to actively ask for their opinions and asking them to help in editing my work and how I can improve in them."
(4) Processes feedback information	"For me, I really appreciate more of "negative" feedback than positive ones. I want to know where can I work on to improve for the better of myself. … My team mates suggested that I should be more assertive, to which I felt surprised. I've always been known to be "strong", "demanding" and "assertive" to my peers. But I guess this was a sign that I'm actually growing and learning. I learn how to "give and take", to listen to others and be more agreeable as I was compared to the past. My course mates actually pointed out to me that I became more "open" and accepting of ideas, which I didn't even realise I was changing until people actually pointed it out to me." "I'm reading my evaluation and of course I'm impressed by all the compliments my teammates had made me. Nevertheless, the words that make me reflect more in this moment are about my too opinionated and loud way to express. I'm trying in my mind to connect this behaviour to all incidents could have been occurred …"
(5) Acknowledges and works with emotions	"…there was a comment saying that I could seem bored/not enjoying myself. Because we don't know each other well, I think this was a little harsh because that's just what my face looks like when I'm not talking/smiling. I was enjoying myself and was active in the conversation almost the entire time. But understandably from the outside, that could be interpreted (differently)." "I learnt how to accept my weaknesses with a more positive mind, and I understand the importance and necessity of receiving peer feedback. I learnt that how others see me can be vastly different from how I thought I portrayed myself to them. This is because sometimes I am unaware of my own verbal and non-verbal cues and it is my peers who pick them up as they form their own perceptions of me."
(6) Acknowledges feedback as a reciprocal process	"The most valuable thing I learned was actually the practice of giving people feedback. This is something that almost everyone is required to do throughout their lives, both in regards to our personal and professional lives." "In assessing my peers, it provided me with the opportunity to think objectively as assess(ing) them in terms of their strengths and weaknesses based on our interactions. In doing so, I was able to reflect on their cultural values, and also learn how to interact with them better. Knowing their strengths and weaknesses also allows me to delegate the task more effectively. I realised that assessing my peers and giving them feedback also allows me to reflect my own strengths and weaknesses by reflecting back on the various situations and what I would have done differently."

Groups of student feedback literacy	Empirical Illustrations
(7) Enacts outcomes of processing of feedback information	"As someone has mentioned in the peer evaluation, I can seem really opinionated so I truly believe that I need to pay more attention before speaking. It would be useful even when I will be back in my beloved (country)." *(The name of country is removed to maintain anonymity)* "I got generally very nice comments for the Communication component, which encourages me to keep up my proactivity in communicating with my peers. However, one comment to reflect on would be: "I encourage her to speak more about herself, she seems like someone very interesting and who has lived many experiences.". I do agree that sometimes I listen more than I talk/contribute, and something to note would be that I could speak up more about myself for my groupmates to learn about me and my culture. By communicating, there is also a greater generation of ideas in the aspect of group work– each individual's perspective adds to the totality of the content."

Table 4. Descriptive Statistics and Mean Differences

Groups of student feedback literacy	Number of representations of each group of student feedback literacy in each journal						Mean Differences		
	Journal 1		Journal 2		Journal 3		1 vs. 2	1 vs. 3	2 vs. 3
	M	SD	M	SD	M	SD			
Group 1: Commits to feedback as improvement	4.06	2.62	5.28	3.34	6.91	4.02	1.22*	2.85*	1.63*
Group 2: Appreciates feedback as an active process	3.09	3.05	3.54	3.78	5.90	4.45	0.46	2.81*	2.35*
Group 3: Elicits information to improve learning	0.61	1.10	0.68	1.23	1.05	1.74	0.08	0.44*	0.37*
Group 4: Processes feedback information	4.00	2.79	4.41	3.44	5.87	4.20	0.41	1.87*	1.47*
Group 5: Acknowledges and works with emotions	1.85	1.40	2.34	1.62	3.24	2.48	0.49*	1.39*	0.90*
Group 6: Acknowledges feedback as a reciprocal process	0.37	0.79	0.52	0.89	1.82	1.50	0.15	1.46*	1.30*
Group 7: Enacts outcomes of processing of feedback information	3.51	2.32	4.76	3.09	5.19	4.06	1.25*	1.68*	0.43

(p<.05)

Pedagogical activities and feedback affordances

It is notable that students' reflections emphasized both the way pedagogical activities and feedback affordances enhanced their awareness of self and others, and perceived benefits of feedback and reflection in the context of teamwork competencies. In their reflection journals, students made explicit references to pedagogical activities that were useful for their learning:

(1)   Self-feedback

"I have gotten a deeper understanding of *what* I do, *when* I do it, *how* I do it, and *why* I do it. In other words, I have gotten a deeper understanding for *who* I am. I already knew that feedback would help to increase my open area, but by carrying out self-assessment, I have realized that self-disclosure is just as important."

(2)   Receiving peer feedback

"I learnt to be more open and receptive whenever I receive peer feedback. I understand that feedbacks are given so that I could improve myself as a person. Receiving feedbacks also helps me to understand my flaws that are hidden to me and what I could do to improve myself."

(3)   Giving peer feedback

"I realised that assessing my peers and giving them feedback also allows me to reflect my own strengths and weaknesses by reflecting back on the various situations and what I would have done differently."

(4)   Writing reflection journals

"This second reflection exercise helps me to understand the concepts and theories in class better, because this helps me to remember how I applied the theories to my actual and personal life. Furthermore, this reflection also helps me to put my plan into real actions and keep monitoring and maintaining it from time to time. Through the feedback from friends and my self-reflection, I can see my areas of improvement clearer, which will help me to increase my competencies in cross- cultural interaction."

(5)   Ipsative assessment and feedback

"Constantly referring to previous reflections make me accountable for my own progress, but at the same time allow me to have a comfortable space to experiment with different ways of improving myself."

(6)   Cyclical and iterative process of feedback and reflection

"While it was harder for me to take a critical look at me and my behaviour in my first journal as well as taking the provided feedback of my teammates, it was much easier to do the reflection exercise the second time. In addition, I believe that I have defined my plan for future interactions more precisely this time and can therefore make it easier to implement it."

"This is the best way to understand your mistakes and try to improve. First time I submitted my peer evaluation I wrote very poor comments because I didn't know what to write and I was too lazy to stop to reflect. Then, when I received my evaluation, I realised how important the aspect of the comments is, so I tried to reflect carefully before writing comments in the next two evaluations."

These references are validations of the pedagogical activities and feedback affordances which set out to achieve the goals of the course -- to imbue teamwork competencies in students via feedback channels. The feedback channels provided for the acquisition of feedback literacy through the assemblage of pedagogical activities and practices.

Discussion

We examined pedagogical activities and feedback affordances within a cross-cultural management course to address potential contributions to research on student feedback literacy. Findings of our study, which was based on field data from multiple informants (students and their teammates) at multiple times (over three time points within a course), contribute to the existing knowledge in three ways.

First, we found evidence for each of the seven categories of student feedback literacy capabilities within a cross-cultural management course from the framework of student feedback literacy of Molloy, Boud, and Henderson (2020). Through coding students' reflection on the self- and peer evaluation of their teamwork competencies, we validated the mechanisms used for embedding feedback with students' uptake, processing, and enacting of feedback (Malecka, Boud & Carless, 2020); specifically, group 3 (elicits information to improve learning), group 4 (processes feedback information) and group 7 (enacts outcomes of processing of feedback information).

We extended empirical illustrations to the other four groups – group 1 (commits to feedback as improvement), group 2 (appreciates feedback as an active process), group 5 (acknowledges and works with emotions), and group 6 (acknowledges feedback as a reciprocal process) to show that the intervention contributed across all seven categories. Put together, these characterise seven distinct mechanisms for developing student feedback literacy. We have demonstrated that within a given curriculum, students are capable of manifesting feedback capabilities across all groups of Molloy, Boud, and Henderson (2020) framework of student feedback literacy.

Second, our analyses identified the trajectories of student feedback literacy over three time points within a course. These demonstrated the maturation process of student feedback literacy across all groups as they progressed through pedagogical activities, giving and receiving feedback. This is consistent with the second principle for curriculum construction proposed by Malecka, Boud, and Carless (2020) – the principle of the need for practice. We demonstrated that with multiple occasions of practice of self- and peer feedback and reflection, these students did respond to feedback information and applied the outcomes of feedback processes to new situations and interactions. The multiple occasions of practice enabled formative and ipsative assessment for referential learning so that existing performance can be compared with previous performance (Hughes 2011).

Results also demonstrate three other principles for construction of curriculum to develop feedback literacy – conscious design of feedback, cumulative and progressive development, and traceability (Malecka, Boud, and Carless 2020). The course in this study contains an orchestrated set of pedagogical activities with feedback procedures designed to involve students as active givers and recipients of feedback. Feedback information took the form of quantitative ratings and qualitative comments provided by self and peer via a centralized peer evaluation system. A web-based application for multi-source evaluation allowed learners to trace feedback and its trajectories within the course over time, and there is potential for them to access feedback on other competencies in different courses across time. This aligns with the third principle of course design which is cumulative and progressive development over time, and over courses. At the same time, technology affordance with the digitalization of feedback provides for traceability and accessibility – the fourth principle of embedding feedback literacy in the curriculum. Such technology-enabled feedback is a promising direction that offers prospects for flexible assessment and feedback provision (Yang and Carless 2013).

Based on the course design and empirical findings which include students' development of feedback literacy over time and their explicit references to the pedagogic

activities that were useful for their learning, we propose three phases of learning as a potential sequence for designing pedagogic approaches to promote student feedback literacy.

Phase One: *Self-awareness via self-assessment & feedback*. This initiates commitment to feedback as improvement (group 1 of student feedback literacy) where learners develop capability to make evaluative judgments, first of self then others (Tai et al. 2017). Simultaneously, other-awareness via peer-assessment and feedback can prompt comparison with self as one evaluates others (Nicol, Thomson, and Breslin 2014). This elicitation and reciprocal process (group 6) of information-giving can improve learning (group 3 and 4) and help learners appreciate feedback as an active process of learning (group 2). Students are seen as 'active constructors of feedback information' (Nicol 2010, 503) for both self and peer; and are volitional agents in the assessment feedback process (Molloy and Boud 2013). Beyond self and other assessment and feedback, students need to adopt multiple perspectives, which leads to the next phase.

Phase Two: *Inquiry and negotiation of multi-source feedback* (in this case, from self and peer) via structured reflections with the intention to grasp knowledge gained and transform knowledge to action plans using the experiential learning model (Kolb 1984, 2014). In this phase, learners process feedback information (group 4) and work with their emotional responses to receiving feedback (group 5). Beyond the intellectual aspects of the feedback content, feedback can have a significant affective impact. The reflective journaling process provided students with an opportunity to surface and examine their affective responses to peer feedback and ratings. As previously discussed, the entire process was carefully scaffolded by the instructor so that students were prompted to stay within the limits of productive and appropriate modes of feedback and were offered meta-feedback on how they were providing inputs to their peers. This guided inquiry into and negotiation of the multi-source perspectives provided learners with the opportunity to be candid with their thoughts and feelings while avoiding affective hazards and still building affective and intellectual capacity to receive, uptake and provide feedback. This allowed students to productively move on to the key phase of planning and acting.

Phase Three: *Putting plans into action and monitoring progress in relation to original plans*. In this phase, students enact the outcomes of processing feedback information (group 7) – planning and acting. Planning goes beyond drawing a list of goals. To insure the feasibility of achieving goals, students were asked to identify the actions they would take that aligned with the goals. Recommendations were also given on timing and context of undertaking goal-oriented actions. In this way, students were able to make the connection between goals and actions and monitor their progress relative to goals. Learners develop self-accountability by monitoring the degree of fulfilment of plans so as to close the loop of learning from feedback.

This three-phase approach which promotes self- and other awareness through feedback giving and receiving; negotiation of multi-source feedback; and planning and acting on processed feedback information should be primed and practised consistently. To habituate capabilities requires practice, so whilst students can enhance their feedback capabilities within one orchestrated course which embeds feedback literacy mechanisms, they should also take the meta-learning to other courses and to the workplace. Even though learners may not negotiate multi-source feedback explicitly via reflection journals, they can do so tacitly before planning and acting on their negotiated outcomes of multi-source feedback.

Limitations

Notwithstanding our promising results of trajectories of student feedback literacy within one course, we are aware that cumulative and progressive development of feedback literacy,

though well developed in this course, needs to extend to other courses and eventually to the workplace to help students manage feedback in different contexts. To ascertain the generalizability of the outcomes and results of the phasal approach to develop student feedback literacy via self- and peer feedback and reflection, future research should attempt to replicate our design across different communities and contexts.

Conclusion

Within this cross-cultural management course, student from across the university engaged in an intervention designed to develop the essential competencies of teamwork, giving and receiving peer feedback, and reflective self-evaluation. Students' self- and peer evaluation, as well as their subsequent responses to guiding questions in reflective journal entries demonstrate presence, extent and development of feedback literacy dimensions. Using conscious design, orchestration of pedagogic approaches and repeated, ipsative affordances, student feedback literacy was significantly developed over the course of a semester. We recommend that future research continue to examine the mechanisms and principles for the construction of different curricula that can help students develop feedback capabilities and improve the quality of feedback processes.

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