# Northumbria Research Link

Jun 25th, 9:00 AM

# Embedding authentic feedback literacy in design students: A new model for peer assessment

Michael Edward Parker
*Newcastle University, United Kingdom*

David Parkinson
*Northumbria University, United Kingdom*

# Embedding authentic feedback literacy in design students: A new model for peer assessment

Michael Edward Parker[a], David Anthony Parkinson[b,*]

[a]Newcastle University, UK
[b]Northumbria University, UK

*corresponding e-mail: david.a.parkinson@northumbria.ac.uk

**Abstract:** Design-based subjects consistently perform poorly in relation to assessment and feedback in measures such as the National Student Survey (UK), which prompts educators to consider more effective ways of engaging design students in the assessment and feedback process. There is a growing field of research supporting the view that exercises can be designed to deliver authentic experiences and enhance student assessment and feedback literacy. Through a literature review of this emerging field, this study establishes a framework for designing a peer-assessment and feedback exercise aimed specifically at developing authentic feedback literacy in design students, through emulating real-world experiences of the design industry. A single explanatory case study is then used to test the effectiveness of this exercise on 30 design students. The conclusion develops an understanding of using peer-assessment and feedback to embed authentic feedback literacy, and a set of recommendations for evolving the exercise design.

**Keywords**: feedback literacy ; peer assessment ; authentic feedback ; creative subjects

1. Introduction

This study develops an understanding of the question: 'how effective are peer assessment and feedback exercises in embedding authentic feedback literacies for students studying design-based courses at University?'. To explore this question a single explanatory, mixed methods case study, involving 30 final year undergraduate Industrial Design students from a large UK University, was undertaken.

A framework for relating authentic feedback literacy to the practicalities of designing a peer-assessment and feedback exercise was developed from the literature. The framework was used to design a peer-assessment and feedback exercise that was delivered to the students. Various forms of data were generated and analysed to establish how effective the exercise was in developing authentic feedback literacies, including: a recording of the assessment and feedback session, a questionnaire disseminated to students, and semi-structured stu-

dent interviews. The findings and discussion conclude with an understanding of the effectiveness of using peer-assessment and feedback exercises in developing authentic feedback literacy, and recommendations for improvements.

Interest in this subject arose from personal experiences of the authors when working with design-based courses in universities to address poor performance in the National Student Survey, specifically in relation to the quality of assessment and feedback. Assessment and feedback have consistently scored lower in the National Student Survey, making it an important focus for curriculum enhancement (Rodgers *et al.*, 2011). This is particularly the case in creative subjects where subjectivity is central to the creative process; being able to make judgements about the intent, ambitions, and objectives of an assessor is regarded as critical to becoming a successful designer (Baynes, 2010). Therefore, design-based disciplines manifest unique challenges in developing effective strategies for assessment and feedback (Seery *et al.*, 2012 and Winstone and Boud, 2020).

## 2. Literature review

### 2.1 Assessment literacy and the development of feedback literacy

Feedback literacy was first explored and defined by Sutton (2012, p. 31) as "the ability to read, interpret and use written feedback" and is increasingly becoming a critical area of investigation within assessment and feedback. This evolved from earlier work on assessment literacy which Smith et al. (2013, p. 45) define as "students' understanding of the rules surrounding assessment in their course context, their use of assessment tasks to monitor or further their learning, and their ability to work with the guidelines on standards in their context to produce work of a predictable standard". There is a trend in trying to understand the extent to which students comprehend the function and methods of assessment and feedback before they are used as instruments in their learning. Investigations into assessment literacy focus on ways to improve student understanding of how and why they are being assessed to improve their engagement in the process (Smith et al., 2013). Extending this concept to feedback practice, Carless and Boud (2018) propose that feedback literacy also includes students appreciating the value and importance of feedback and the active role they play in the feedback process. This is categorised as four elements in their framework: 'Appreciating Feedback' involves understanding and appreciating the role of feedback in improving work and recognising that feedback comes in different forms; 'Making Judgements' involves the development of the ability to make sound judgements about their own and peers' work; 'Managing Affect' involves managing the affective challenges of feedback; 'Taking Action' involves acting on the information provided. Understanding feedback literacy can largely be explored in the context of teacher feedback literacy and methods to enhance teaching practice (Carless and Winstone, 2020), and student feedback literacy and activities to support learning development (Malecka et al., 2020).
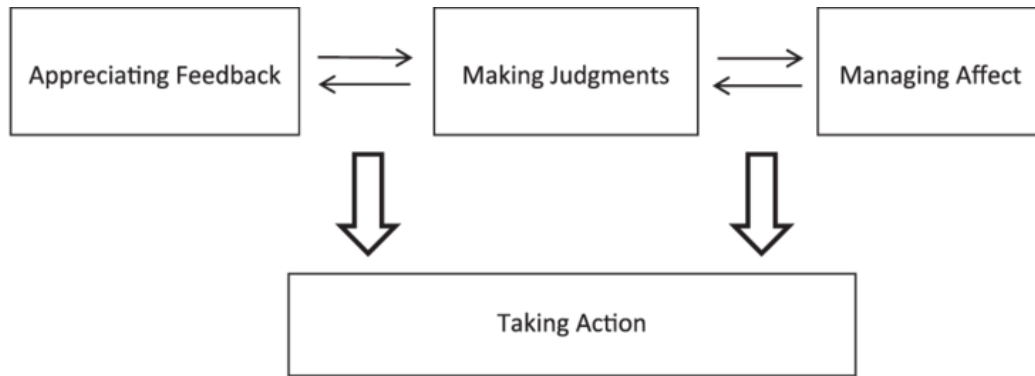
*Figure 1. Features of student feedback literacy (Carless and Boud, 2018, p. 1319)*

Carless and Boud's framework has been empirically supported by the work of Molloy et al. (2020) stressing the value of feedback literacy in making better use of existing feedback mechanisms and assessment practices within curricula, the development of evaluative judgement, and its benefit to broader employability skills. The studies do however focus on generic application of feedback literacies across the curriculum without focusing on discipline specific contexts. This is the first framework used within the methodology of this study for creating a conceptual framework.

## 2.2 Authenticity in assessment and feedback

The context in which assessment and feedback takes place is critical and covers two broad issues in relation to authenticity: firstly, is the type of teaching and learning taking place within the subject and the recognition of the types of practice that may be unique or more relevant to that subject; secondly is the professional or work context of the discipline and the relationship between assessment and feedback processes and the extent to which they emulate the professional environment. Authentic feedback can be seen as an evolution of feedback literacy to consider the relationship between feedback practices used in university and the types of feedback used in the broader profession (Dawson et al., 2020). It draws on the research into authentic assessment that looks to create assessment modes that emulate scenarios likely to be faced in the profession (Ashford-Rowe et al., 2014). The underpinning principle for both authentic assessment and feedback is that it creates a measurable connection between the academic context of the subject and the practical application of the subject in a professional context, ostensibly improving lifelong learning skills of students. Understanding the inter-relationship between authentic assessment and authentic feedback is a critical development in the literature and one that is central to the methodology of this study.

Dawson et al. (2020) developed an influential framework for authentic feedback that can be used to embed authenticity into processes and practices involving feedback. The framework has 5 criteria:

1. Realism: that the feedback is authentic to, and represents, the reality of the life graduates of the discipline will face and prepares the students accordingly.
2. Cognitive Challenge: that the feedback supports engagement with high-order thinking, problem-solving, and decision-making.
3. Affective Challenge: that the feedback promotes engagement with challenging and potentially critical responses to work, recognising the occurrence of such practices in the workplace.
4. Evaluative Judgement: that the feedback supports the development of capabilities to make decisions about the quality of your own, or other peoples', work.
5. Enactment of feedback: that the feedback is engaged with constructively to support development or either the object of feedback, future approaches to work, or both.

There are significant overlaps with this framework and the one proposed by Carless and Boud (2018), with particularly close correlation between dimensions 2 to 5. Dimension 1: Realism however, is a particular feature of authenticity which is absent from Carless and Boud's (2018) framework, and this will be considered within the methodology of this study. This is the second framework used within this study for creating a conceptual framework.

## 3. Methodology

### 3.1 Creation of the conceptual framework

Using the literature and the combined frameworks of Dawson et al. (2020) and Carless and Boud (2018), a new framework was designed to establish the key themes of authentic feedback literacy (Theme), detail the associated behaviors a student would need to demonstrate effective engagement with these literacies (Proposition), and propose design principles for peer-assessment and feedback exercises that facilitate the development (Design Principles). The framework is as follows:

*Table 1.  Embedding Authentic Feedback Literacies in Peer-Assessment and Feedback*

| Theme | Proposition | Design Principles |
|---|---|---|
| 1. Appreciating Feedback | 1a. Students are able to understand and appreciate the role of feedback in improving work and the active learner role in these processes. | Introduction of the peer-assessment and feedback exercise by the teacher, with clear reference to criteria and overview of the relevance of the formative exercise to improving work. |

| | | Engage in peer discussion to reach a consensus on grading and feedback points. |
|---|---|---|
| | 1b. Students recognise that feedback information comes in different forms and from different sources. | Students undertake independent evaluations. Students then engage in peer discussion to reach a consensus on grading and feedback points. Teacher then discusses similarities and differences across groups with the class in the context of actual feedback given by the teacher. |
| 2. Making Judgments | 2a. Students can develop capacities to make sound academic judgements about their own work and the work of others. | Individual grading of 3 exemplar projects, before mediating through peer discussion and agreement. Relating individual and group feedback to actual teacher feedback to improve understanding. |
| | 2b. Students participate productively in peer feedback processes. | Individual grading of 3 exemplar projects, before mediating through peer discussion and agreement. Requires all students to engage in the process. Students prompted in the questionnaire to identify areas for improvement in their own work to encourage students to relate judgements to action. |
| | 2c. Students refine self-evaluative capacities over time in order to make more robust judgements. | Individual grading of 3 exemplar projects, before mediating through peer discussion and agreement. Relating individual and group feedback to actual teacher feedback to improve understanding. |

| 3. Managing Affect | 3a. Students maintain emotional equilibrium and avoid defensiveness when receiving critical feedback. | Students assess anonymised, exemplar projects to mitigate against emotional reactions to the assessment and feedback process. |
| --- | --- | --- |
| | | Individual grading of 3 exemplar projects, before mediating through peer discussion and agreement. |
| | 3b. Students are proactive in eliciting suggestions from peers or teachers and continuing dialogue | Individual grading of 3 exemplar projects, before mediating through peer discussion and agreement. |
| | | Teacher shares feedback at the end of the exercise and discusses similarities and differences. Teacher reinforces value of the seeking feedback. |
| | 3c. Students develop habits of striving for continuous improvement on the basis of internal and external feedback. | Students prompted to consider actions for applying learning to their own development as part of the questionnaire. |
| 4. Taking Action | 4a. Students are aware of the imperative to take action in response to feedback information. | Students prompted to highlight one area of learning to take from the exercise to apply to own projects. |
| | 4b. Students can draw inferences from a range of feedback experiences for the purpose of continual improvement. | Individual grading of 3 exemplar projects, before mediating through peer discussion and agreement. |
| | | Teacher shares feedback at the end of the exercise and discusses similarities and differences |
| | | Students prompted to highlight one area of learning to take from the exercise to apply to own projects. |

| | 4c. Students develop a repertoire of strategies for acting on feedback. | Students prompted to highlight one area of learning to take from the exercise to apply to own projects. |
| --- | --- | --- |
| 5. Realism | 5a. Students engage in the tasks and social and physical context of feedback in the discipline or profession | Introduction of the peer-assessment and feedback exercise by the teacher, with clear reference to criteria and overview of the relevance of the exercise to improving work.<br><br>Introduction includes clear reference to the specific context of design as a profession and the importance of peer-review and feedback. Reference is made to the exercise supporting specific projects, but also having value in developing feedback skills critical to the profession.<br><br>Individual grading of 3 exemplar projects, before mediating through peer discussion and agreement to simulate design briefing sessions with colleagues and clients. |

## 3.2 Data collection and analysis methods

Student self-perception and efficacy data was gathered using a questionnaire, which was constructed using the 'Propositions' column in Table 1. The use of questionnaires is a well-established method for collecting data on social characteristics, reasons and beliefs for action in relation to a given task, and past and present behaviours (Bulmer, 2004). Quantitative data was obtained using closed questions determined by a Likert scale of 1-5, in which students were asked to reflect on their experience through 'to what extent' style questions. Qualitative feedback was gathered through the questionnaire using free text options for comments. The questionnaire is an appropriate method as it allows for the capture of student perception in a consistent way across the group, allowing for the analysis of subjective opinions against the same criteria. Limitations in the use of the questionnaires include: dishonest or unanswered questions, issues with understanding and interpretation, and respondent bias (Remenyi, 2012).

Participant observation was employed for the peer-assessment exercise as a means of capturing the process by which the group discussed, shared, and gave feedback on, and responded to the task. This provided qualitative data related to the nature of the feedback used by the students within the exercise. As the exercise was recorded and transcribed, the conceptual framework detailed in Table 1 was used as a deductive analysis tool to test the quantitative findings from the questionnaire and establish the extent to which students engaged in the spectrum of feedback literacies. The use of deductive analysis of transcripts is an appropriate analysis tool in case study methodology, where a conceptual framework has been adopted and a series of propositions are detailed for testing (Gerring, 2006; Rashid et al., 2019). The use of observation more broadly as a method is appropriate to researching live interactions and decision-making processes made in a group setting as it allows for this process to happen naturally and the use of filming and transcription ensures an authentic representation of events (Baker, 2006). The limitations of participant observation centre on potential biased influence on the exercise by the researcher and lack of objectivity in the experiment (Levine et al., 1980). The researcher has attempted to limit this bias by not being directly involved in the exercise. Steps were also taken in the participant information and introduction to the exercise to mitigate against this risk by stressing that there was no specified outcome for the students in terms of the task.

The mixed-methods approach mitigated against over-reliance on one type of data set, and is evidence of more robust use of case study methodology (Rashid et al., 2019). Descriptive statistics have been used for the quantitative data analysis recognising the limitations on conducting complex statistical modelling posed by the limited sample (Humble, 2020). These have been used to provide an initial indication of data trends against the propositions provided in the framework. Aggregated statistics from the propositions were also generated to create overall theme data. The results from the quantitative analysis were then supported or challenged by a deductive analysis of the qualitative data provided by the participant observation and interview transcripts. The quantitative data provides insight into the student self-perception, with the qualitative data providing information on how and why the students hold those perceptions. Combined, the data sets should improve our understanding of the effectiveness of the exercise in encouraging the development of the associated skills and attributes from the framework.

## 4. Findings and discussion

### 4.1 Appreciating feedback

To test the first proposition of this theme (Table 1, 1a.), participants were asked the extent to which they felt the exercise helped them to understand and appreciate the role of feedback in improving work. The mean score (m) across all respondents was 4.75 on the Likert scale, with a standard deviation (SD) of 0.452. This indicated that students strongly agreed with the statement with a low degree of variability across the sample, providing strong support for the initial proposition. To further explore this proposition, various questions were

asked during the participant interviews, including did the exercise help you to appreciate the importance of feedback in improving your work? In their responses to this question, students were able to identify differences in subject contexts and place greater emphasis on feedback as a skill required in design. This evidence begins to connect the theme of 'Appreciating Feedback' to the broader research question of authentic feedback literacies and suggests that in the context of design, peer-assessment and feedback can be particularly effective in improving understanding of criteria and quality of work.

Proposition 1b assumes that if the exercise is effective, students should be able to recognise that feedback information comes in different forms and from different sources. This proposition was tested by asking students the extent to which they felt the exercise helped them to understand the feedback of others and how this relates to their work. The results indicate a similarly strong agreement with the statement across the sample and a consistent low degree of variability (m = 4.67, SD = 0.492), providing strong support for the initial proposition. This proposition was also tested against the transcript analysis of the participant observation. There were 24 coded references related to this proposition from the exercise, indicating that students were recognising that feedback information can come in different forms and from different sources. The participant interviews were also used to explore this proposition, by asking: do you think it is important to receive feedback from various sources, for example, other students, your teachers, and potential clients or consumers? This was intended to prompt reflection on the specific sources of feedback the student experienced during the exercise and their value in appreciating feedback. The student provided a rich response that reflected their views on each of the feedback sources, their value, and how they relate to one another.

## 4.2 Making judgements

The first proposition of this theme (Table 1, 2a) assumes that if the exercise is effective, students should be able to recognise the development of capacities to make sound academic judgements about their own work and the work of others. The questionnaire asked students the extent to which the exercise helped them to form opinions about their own work and the work of others. The results place the group response halfway between slightly agree and strongly agree indicating reasonably strong support for the proposition with a low degree of variability across the responses (m = 4.5, SD = 0.674). The analysis of the participant observation shows 30 coded references providing evidence that students make comments supporting sound academic judgement. This was the most coded proposition. The participant interview further explored this proposition by asking: following the exercise did you feel more confident making judgements about the quality of work, either your own or others? The students discussed how going through the exercise helped to triangulate and refine their views, making them more confident in their assessments.

The second proposition (2b) within this theme proposes that if the exercise is effective, students will participate productively in peer feedback processes. This proposition was tested

within the survey instrument by asking the students the extent to which the exercise encouraged them to interact with fellow students in order to make judgements about work. The results mirror the responses to the first proposition in this theme and indicates that the group had strong support for the statement with low variability (m = 4.58, SD = 0.793), upholding proposition 2b. This proposition was also tested through the participant observation coding, which coded 22 references supporting the proposition. This was the fourth most referenced proposition coded.

The final proposition (2c) for this theme suggests that if the exercise is effective students should recognise their ability to refine self-evaluative capacities over time in order to make more robust judgements. The questionnaire tested this proposition by asking students the extent to which the exercise will inform how they will give feedback in the future. The results show the average to be closer to slightly agree with a similar low degree of variability, still indicating support for the initial proposition (m = 4.33, SD = 0.778). The slightly weaker results here may be indicative of the future-facing nature of the question, requiring students to project how their learning may change in the future. Whilst still relatively strong results in support of the proposition, a more robust measure would be to re-test the same group later and ask students to reflect on their learning journey between the two.

## 4.3 Managing affect

The first proposition of this theme (Table 1, 3a) proposes that students recognise the need to maintain emotional equilibrium and avoid defensiveness when receiving critical feedback. The questionnaire asked the extent to which students felt comfortable during the exercise giving or listening to critical feedback. The results following a trend of responses sitting between slightly agree and strongly agree with a low degree of variability (m = 4.58, SD = 0.669). The results support the proposition. Coding related to this proposition identified examples of critical, but objective feedback; this decision was taken between the author and the teacher through coding validation having found no evidence of emotional reaction to the process. This proposition was also tested in the interviews by asking the question: how did you find the process of reviewing and providing feedback on other students' work? The students highlighted one of the key design considerations for the experiment, which was the use of anonymised exemplars, and noted that "because the examples were from last year, it was quite easy for me to be critical and to look at it and say what I honestly thought." This is supported by Robinson et al. (Robinson et al., 2013) and Carless and Boud (Carless and Boud, 2018a) who reference this technique as a direct means of mitigating emotional responses to critical feedback, whilst providing productive opportunity to engage in the effective process of assessing and providing feedback.

Proposition 3b assumes that as a result of the exercise students should be proactive in eliciting suggestions from peers or teachers and continuing dialogue. The questionnaire tested this proposition by asking the extent to which, following the exercise, the students were

comfortable asking for suggestions from fellow students about their work. The results indicate that there was slight agreement across the sample for this proposition with a low degree of variability (m = 4.17, SD = 0.835). There were 16 coded references to this proposition from the participant observation, providing examples of how the exercise encouraged feedback responses from students and the teacher.

Proposition 3c suggests that following the exercise students should develop habits of striving for continuous improvement on the basis of internal and external feedback. The questionnaire asked students the extent to which after this exercise they will seek ways to improve approaches to feedback. The results show a clear response of slightly agree with a low degree of variability, suggesting there is consistent support for the proposition, though not strong agreement (m = 4.0, SD = 0.853). This prompts students to think about the future effect of the exercise and so only measures intent as opposed to reflection on an actual course of action. It was possible to use the Participant Interview to provide a qualitative response to this proposition by asking: did the exercise encourage you to strive to improve your work based on the feedback provided by you and your peers? Can you give an example? The student response did not link the exercise to their desire for improvement, but stated that, *"I think I strive to do well anyway, and I think rather than making me want to strive more, it just encouraged me and made me feel like I understood what I was doing better"*. This suggests that this particular student consciously strove for improvements to their work irrespective of this exercise, however their reference to doing it better connects the theme of 'Managing Affect' with 'Appreciating Feedback', and specifically the ability to make more sound academic judgements.

### 4.4 Taking action

The first proposition of this theme (Table 1, 4a) proposes that if the exercise is effective, students will be aware of the imperative to take action in response to feedback information. The questionnaire asks the students the extent to which they will use feedback from the exercise to inform their work. We can see support for this proposition with a slightly stronger than slightly agree response and low degree of variability (m = 4.33, SD = 0.888). This proposition was also explored in the Participant Interview by asking, what do you consider to be the most important use of feedback to be? The student response focused on the direct link of feedback with the ability to act and improve work, with comments such as *"feedback is a way to understand how to do better next time"*. This supports the critical importance of formative feedback as a process of improving work towards summative assessments or longer-term outcomes (Vaz et al., 1996; Yorke, 2003; Crossouard and Pryor, 2012).

The results for proposition 4b, which assumes students will be able to draw inferences from a range of feedback experiences for the purpose of continual improvement, are the same as 4a. The questionnaire asked the extent to which the exercise helped the students to consider the role of feedback in the professional world of design. The results show the same

support for the proposition and low degree of variability (m = 4.33, SD = 0.888). This proposition was further explored during the Participant Interview by asking: what types of feedback did you experience during the exercise? The question attempted to split the ability to recognise different sources of feedback, to then attributing value to different sources for the purposes of taking action. The student repeated similar comments made in relation to the types of feedback within the 'Appreciating Feedback' section of the interview and was able to distinguish between peer and teacher feedback in their respective qualities.

The last proposition (4c) suggests that an effective exercise should encourage students to develop a repertoire of strategies for acting on feedback. This proposition was tested by asking the students the extent to which the exercise helped them to understand how to act on feedback. The results follow a predominant trend of partially stronger than slight agreement with the proposition and low degree of variability (m = 4.17, SD = 0.835). The interviews were also used to test this proposition with the question: did the exercise help you to think about ways of acting on feedback to improve your work? The student response focused on how a specific concept from one of the exemplars discussed in their group, which related to how they had gone about validation, prompted them to take action for their own work.

### 4.5 Realism

This theme was predominantly explored in the qualitative methods of this study. Coding of the participant observation for the proposition within this theme focused on references to the specific context of design as a subject and/or profession, of which there were 29 individual references. This was the second most frequently referenced proposition, and second most referenced theme, indicating a high prevalence of authenticity across the exercise.

This theme was also explored in the Participant Interview through asking questions such as: did the exercise help you to relate the role of peer-review and feedback to the real world of design? Students spoke confidently about the connection between peer-feedback and its relation to the world of design, partially based on their experience of being on industrial placement. They regarded peer-feedback as a *"way to actually be a designer".* When considered in light of the survey responses and participant observation, it is possible to see evidence of two dimensions of 'Realism': the first is the authenticity in the assessment exercise in the classroom as a simulation; the second is the concept of giving and receiving feedback as an intrinsic quality for a good designer. The former relates to creating a real or authentic environment, the second relates to being authentic which connects to the sociocultural perspective of this study and the importance of how individual identity is formed (Gipps, 2002; Mercer and Howe, 2012).

## 5. Conclusion

This study provides a rich contribution to understanding the role peer-assessment and feedback exercises can play in supporting the development of authentic feedback literacies in design students. It also provides a practical tool for designing peer-assessment and feedback

exercises that seek to encourage the development of these literacies in students studying design-based subjects.

When considering the quantitative data generated from this study, across all thematic areas and propositions, results were consistently between 4 and 5 on the Likert scale (slightly agree to strongly agree) on all questions, with very little variation across the participants. These results can be regarded as relatively emphatic and indicate that student self-perception of the development of these literacies was significant. When combined with qualitative data analysis from the participant observation and interviews, there is significant corroboration between the data sets against the propositions. The qualitative data also provides insights into how and why students arrived at their self-perceptions, contributing to a deeper understanding of how effective the exercise was.

The study has shown that when a considered design is taken to conducting peer-assessment and feedback exercises that factor the discipline and professional context of the programme of study, students can develop skills and attributes broadly accepted as being inherent to authentic feedback literacy, and, can be critically conscious of their own development.

The study also contributes to the general shift in focus from *students understanding of how and why they are being assessed*, to *being conscious of the importance of assessment to the development of values and attributes that are lifelong*. This is important to the debate on the value of creative subjects that can teach skills, values and attributes which are essential to life beyond study.

The set of practical recommendations that emerged from the analysis, for evolving the peer-assessment and feedback exercise proposed in the initial framework (Table 1) can be articulated as follows:

- Educators should consider creating multiple opportunities for the same students to engage in peer-assessment and feedback exercises over time to reinforce skills and attributes, particularly those related to Making Judgement and Taking Action.

- An iterative approach to peer-assessment and feedback exercises can effectively simulate the iterative process of design, encouraging the development of Appreciating Feedback over time and reinforcing Realism.

- Educators should progress from using anonymised exemplars to using students own work over time to develop behaviours of emotional equilibrium associated with Managing Affect.

- Educators should actively prompt, and check, how students Take Action following the exercise.

Please note that the interpretation of these recommendations is limited to the scope of this study. These recommendations are proposed as a tool for guidance rather than a set of generalisable rules. Further cases, that increase sample size and include participants studying on

other creative courses globally, will evolve this understanding of using peer-assessment and feedback exercises to embed authentic feedback literacies over time.

## 6. References

Ashford-Rowe, K., Herrington, J. and Brown, C. (2014) 'Establishing the critical elements that determine authentic assessment', Assessment & Evaluation in Higher Education, 39(2), pp. 205-222.

Baker, L. (2006) 'Observation: A Complex Research Method', Library Trends, 55(1), pp. 171-189.

Baynes, K. (2010) 'Models of Change: The future of design education', Design and Technology Education: An International Journal, 15(3).

Bulmer, M. (2004) Questionnaires. London: Sage.

Carless, D. and Boud, D. (2018) 'The development of student feedback literacy: enabling uptake of feedback', Assessment and evaluation in higher education, 43(8), pp. 1315-1325.

Carless, D. and Winstone, N. (2020) 'Teacher feedback literacy and its interplay with student feedback literacy', Teaching in Higher Education, pp. 1-14.

Crossouard, B. and Pryor, J. (2012) 'How Theory Matters: Formative Assessment

Theory and Practices and Their Different Relations to Education', Studies in Philosophy and Education, 31(3), pp. 251-263.

Dawson, P., Carless, D. and Lee, P.P.W. (2020) 'Authentic feedback: supporting learners to engage in disciplinary feedback practices', Assessment & Evaluation in Higher Education, pp. 1-11.

Gerring, J. (2006) Case study research: Principles and practices. Cambridge: Cambridge University Press.

Humble, S. (2020) Quantitative analysis of questionnaires: techniques to explore structures and relationships. Abingdon: Routledge.

Levine, H.G., Gallimore, R., Weisner, T.S. and Turner, J.L. (1980) 'Teaching Participant-Observation Research Methods: A Skills-Building Approach', Anthropology & Education Quarterly, 11(1), pp. 38-54.

Malecka, B., Boud, D. and Carless, D. (2020) 'Eliciting, processing and enacting feedback: mechanisms for embedding student feedback literacy within the curriculum', Teaching in Higher Education, pp. 1-15.

Molloy, E., Boud, D. and Henderson, M. (2020) 'Developing a learning-centred framework for feedback literacy', Assessment & Evaluation in Higher Education, 45(4), pp. 527-540.

Rashid, Y., Rashid, A., Warraich, M.A., Sabir, S.S. and Waseem, A. (2019) 'Case Study Method: A Step-by-Step Guide for Business Researchers', International Journal of Qualitative Methods, 18, p. 1609406919862424.

Remenyi, D. (2012) Field methods for academic research Interviews, focus groups and questionnaires. Reading: Academic Conferences Publishing International.

Rodgers, T., Freeman, R., Williams, J. and Kane, D. (2011) 'Students and the Governance of Higher Education: A UK perspective', Tertiary Education and Management, 17(3), pp. 247-260.

Seery, N., Canty, D. and Phelan, P. (2012) 'The validity and value of peer assessment using adaptive comparative judgement in design driven practical education', International Journal of Technology and Design Education, 22(2), pp. 205-226.

Smith, C.D., Worsfold, K., Davies, L., Fisher, R. and McPhail, R. (2013) 'Assessment literacy and student learning: the case for explicitly developing students 'assessment literacy'', Assessment & Evaluation in Higher Education, 38(1), pp. 44-60.

Sutton, P. (2012) 'Conceptualizing feedback literacy: knowing, being, and acting', Innovations in Education and Teaching International, 49(1), pp. 31-40.

Vaz, M., Avadhany, S. and Rao, B. (1996) 'Student perspectives on the role of formative assessment in physiology', Medical Teacher, 18(4), pp. 324-326.

Winstone, N.E. and Boud, D. (2020) 'The need to disentangle assessment and feedback in higher education', Studies in Higher Education, pp. 1-12.

Yorke, M. (2003) 'Formative assessment in higher education: Moves towards theory and the enhancement of pedagogic practice', Higher Education, 45(4), pp. 477-501.

About the Authors:

**Michael Edward Parker**'s research at Newcastle University is centered on understanding assessment and feedback literacy in creative subjects. He is also an associate director for Advance HE; a British charity and professional membership scheme promoting excellence in higher education.

**David Anthony Parkinson**'s research at Northumbria University is centered on storytelling and its philosophical relationship to Industrial Design.