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An evaluation of the use of peer review as a formative feedback process in reflective writing within physiotherapy education

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Short Title: Evaluation of peer review in formative reflective writing

Abstract

Reflection is integral to developing Health and Social Care students to become autonomous practitioners. Formative assessment and peer review can increase student engagement and improve attitude to learning. Module assessment indicated that first year physiotherapy students were poor at reflective writing. Evidence of the efficacy of peer review as a formative feedback process for reflective writing is lacking. Two cohorts of first year physiotherapy students evaluated the formative feedback process by anonymous questionnaires using Likert scales and free text. In Phase 1; students were introduced to the concepts of formative and peer assessment, and then critiqued each other's work. Phase 2: as Phase 1 plus previous summative submissions for students to critique using the assessment marking criteria and identification of action points to develop their own reflections. Evaluations were compared. After Phase 1 students felt more confident in developing their own reflections, but tutors noted that most students lacked sufficient knowledge of critical reflection to give constructive feedback. Phase 2 evaluation showed that adding exemplars and a formalised action plan, the student's ability to identify good reflective writing improved. This evaluation suggests that peer review can be effective in providing formative feedback in reflective writing, but strategies need to be in place to ensure that the learning process is successful.

Key words:
Peer review, reflective writing, formative feedback

Context and objectives

In Health and Social Care programmes reflection has been recognised for decades as being integral to the development of the student in becoming an autonomous practitioner (Cross, 1993, Heath, 1998) and the development of the post registration professional (HCPC 2012). In the professional practice component of the Keele University BSc (Hons) physiotherapy programme the Gibbs (1988) reflective cycle was used as a basis for students to begin this journey, with a reflection on a communication experience being the assessment for the module.

Formative feedback can be described as a form of writing support, providing critical feedback to enable students to enhance future written work (Wingate 2010). Formative assessment aims to "guide and accelerate students' learning by providing them with information about the gap between their current and the desired" assessment performance (Wingate 2010). This process enables them to act to reduce this gap, improving their performance and facilitating self-regulated learning and development (Nicol and Macfarlane-Dick 2006). Formative feedback on assessments may be provided by tutors, the writer themselves or via peer review.

Peer review has been demonstrated to increase student engagement (Willey & Gardner, 2010), increase students' recognition of the benefits of learning from each other (Patton 2012) and improve their attitude to continuing professional development (Welsh, 2012). There is also some evidence of improved performance in summative assessment following formative peer review (Eldridge et al, 2013). However there are limitations in using peer assessment with novice students as they require significant tutor involvement (Rourke, 2012)

Formative feedback processes are embedded within all assessments on the BSc (Hons) Physiotherapy programme. As reflective practice is an integral part of autonomous practice within physiotherapy, and that peer review enables students to learn from their peers via the process of applying assessment criteria to each other's work and placing their own work in more context (Race 2005b) the decision was made to utilise formative peer review feedback for the Year 1 professional practice reflective assignment.

Based on the need to ensure effective development of student learning in relation to reflective practice, this evaluation aimed to explore the efficacy of peer review as a formative feedback process for reflective writing. This paper will describe, evaluate and discuss the ongoing development of peer review as a formative feedback process within the year 1 professional practice module as part of the BSc (Hons) Physiotherapy programme at Keele University.

Method

Two cohorts of first year physiotherapy students took part in the evaluation. In Phase 1 students were introduced to formative and peer assessment, the peer review session took the form of a 1 hour seminar with groups of 22 students working in pairs. Students were reminded of information given in previous lectures on what constitutes reflective writing and constructive criticism. They were introduced to the concepts of formative and peer assessment. Students then worked in pairs to critique each other's work.

Students evaluated the formative feedback process by anonymous questionnaires using Likert scales and free text.

Based on evaluation of Phase 1, for Phase 2 the peer review session was increased to a 1.5 hour workshop with smaller groups of 12 students. In addition to the activities in Phase 1 students were given copies of previous (anonymised) summative submissions for the module - one had achieved a high mark and the other a fail mark. Students worked in pairs to critique these reflective pieces and to allocate a provisional mark to each reflection by application of the assessment marking criteria. A plenary was used to identify and discuss the strengths and weaknesses in each example, the provisional marks awarded, and any questions/queries with regards to interpreting the marking criteria. The students then worked together in pairs to critique each other's work, before identifying explicit action points to develop and enhance their own reflections.

The evaluation was repeated and compared with Phase 1, and both years summative assessment results were compared with previous cohorts

Results

Phase 1

From 'free text' comments (x 35 responses) students liked the clarity in structure, format and content of the session and had a greater understanding of the difference between reportive and reflective writing. They felt they had more understanding of how to improve their reflections and highlighted the value of the tutor support within the session. However the tutors noted that most students had insufficient knowledge of critical reflection to give constructive feedback to their peers, meaning that tutors were actively involved in providing feedback rather than taking a more facilitatory role in the session.

Likert Scale responses (Phase 1 N=68) indicated that students considered the session useful or very useful in clarifying the requirements of the assignment (81%), identifying how to improve their work (75%) and the process of reflection (59%) (See Tables 1-3). The summative assignment results showed that this positive feedback was reflected in an increase in number of students passing (from 84% to 90%) and an increase in cohort mean mark.

Based upon the session feedback, an action plan was formulated. Nicol & MacFarlane-Dick (2006) argue that peer review needs defined criteria and standards, and students need to identify their own action points at the end of the session so as to better understand how to move on from their current performance level. The plan was to introduce the use of exemplars of previous student performance to provide more guidance to students regarding what constitutes effective critical reflection to help mediate lack of students' knowledge and understanding (Nicol & MacFarlane-Dick, 2006). Tutor contact time would be

increased (longer session and smaller groups), students would formulate individual action plans at the end of the session.

Phase 2

Students reported in 'free text' comments (x 42 responses) that they liked the clarity provided in understanding the expectations of the assignment and how to improve on their current level of performance. They valued the process of reading, critiquing and marking previous submissions and felt that they had gained a better understanding of what was required to achieve a successful submission. Reading these previous submissions was also identified as beneficial by making the students focus more on the differences between reportive and reflective writing, with several students reporting that they now felt more able to identify changes required to achieve a more reflective submission. However students still expressed concerns about peer review being sufficient to identify problems with their work due to student inexperience in reviewing assessments, and some students requested tutor feedback on their work as well 'to make sure peer review is correct'. Some students also suggested than an additional mid-range summative example might help in differentiating the quality of a successful submission, and that being able to review the summative examples prior to the session might be beneficial.

The Likert scale responses showed improvement in all areas as students found the session useful or very useful in clarifying the remit of the assignment (89%), identifying how to improve their reflections (85%) and facilitating more thought about the process of reflection (84%) (See Tables 1-3). A review of the summative assignment results showed that this positive feedback was reflected in a further increase in pass rate (91.5%) and cohort mean mark.

Discussion

There appear to be significant barriers to these physiotherapy students being able to effectively reflect; there is a dearth of literature on the barriers to reflective writing in first year undergraduate health students demonstrating a need for further research in this area. A previous study (Wong-Wylie, 2007) suggests that discussing reflections may be enhanced by discussion with peers but may also be inhibited by non-reflective students in the group. Anecdotally all the participating lecturers supported the notion that students in their first year struggle with the concept of reflection as a higher order critical skill, suggesting that having recently been in further education where fact based learning predominates may be a factor in this gap. The authors, while accepting these limitations, are keen for reflection to remain in the curriculum in year one of the programme and suggest using a reflective template or reflective journal guide to aid reflection as they have been demonstrated to promote the reflective learning process (Kennison 2012, Constantinou and Kuys 2013). Indeed if we are to promote using reflective practice for lifelong professional development

(CSP 2015, HCPC 2012), we need to promote reflection from the beginning of the course; using writing reflective accounts to promote deeper learning (Shepherd 2010) in class, and on placement to nurture student's confidence to clinically reason (Roche and Coote 2008).

Race (2005b) identifies that feedback is a key factor underpinning successful learning and should both help the learner make sense of their work and enable them to believe they can achieve the intended learning outcomes of their assignment. He argues that the added benefit of peer review is the chance to review and apply assessment criteria to examples of work other than their own (some better, some not as good) enabling the learner to place their own work in context. By providing feedback by involving students in each other's work also acts to generate deeper thinking than simply receiving feedback (Race 2005b). However evaluation from Phase 1 suggested that most students had lacked sufficient knowledge of critical reflection to be able to provide constructive feedback to their peers without significant tutor support. Boud (1986, cited in Nicol and Macfarlane-Dick 2006) emphasises that self and peer assessment skills require students to not only be able to apply standards/criteria to work but also be able to make judgements about how work relates to these standards. Orsmond et al (2002) argue that the use of 'exemplars' of performance is a powerful means of clarifying what is required within assignments as they provide a defined standard against which students can compare their own work. The Phase 2 evaluation clearly identified that the addition of the exemplars had not only provided students with more knowledge and understanding about critical as opposed to reportive writing but had also facilitated more understanding of what was required to successfully pass the assignment. The process of reading, critiquing, marking and discussing these exemplars may have facilitated a more guided and objective understanding of expectations, which could then be applied to their own and their peers work. This also enabled a change of tutor role from 'expert marker' in Phase 1 to 'facilitator' in Phase 2 - able to help the students develop their understanding/correct misunderstandings, but no longer the only source of information and guidance.

Some students in Phase 2 suggested the addition of mid-range summative exemplars. Whilst it could be argued that a this would benefit strategic learners i.e. those wanting to do the minimum to achieve a pass, it could be argued that a mid-range exemplar would enable students to more effectively perceive the gaps between poor, average and strong academic performance within the assignment.

Rushton (2005) and Nicol and Macfarlane-Dick (2006) both emphasise that feedback is only effective if it helps students close the gap between actual and desired performance. Whilst the use of exemplars is one strategy, this is likely to be insufficient without students understanding what further actions are required on enhance the quality and relevance of their work. One way to facilitate this gap closure is to encourage students to identify actions and strategies to improve their work (Hounsell 2004, cited in Nicol and Macfarlane-Dick 2006). The addition in

Phase 2 of developing explicit action points in the session meant that students had specific actions to address which were the end result of a logical process of review and critique and so would hopefully be more meaningful for each individual.

However, despite peer review having a high efficiency and learning payoff (Race 2005b) the ongoing desire by some students for tutor feedback for 'reassurance' was interesting. Race (2005a) expanding on work by Miller and Parlett (1974), suggest that some students may be cue-seekers who work hard to determine exactly what is required for assessments; that others may be cue-conscious and pay attention to 'tips' about assessments; and others cue-deaf and taking no notice of any 'cues' given. Whilst Phase 2 would still not benefit cue-deaf students, it may be that it satisfied the needs of cue-conscious students, whilst some cue-seekers still felt they needed tutor input to align their work most effectively to the assignment remit. Cue-seekers are likely to be the most demanding of highly critical constructive feedback (Race 2005a), and it may be that the emphasis on peer or 'non-expert' feedback will never provide enough assurance for some.

Finally, the process of peer review formative assessment for reflective writing has to be evaluated when the literature largely supports the process in fact based assignments (Willey and Gardner 2010, Eldridge et al, 2013). In the 'soft' skills of reflection where there are no right and wrong answers the evidence is less supportive. Although peer assessment has been demonstrated in this article to promote ownership of the learning process, Patton (2012) found that students were less convinced of its pedagogical worth perceiving it to be a way of reducing tutors workload. However, for year one work we argue that tutor support is integral to prevent misconceptions being promoted by peers and carried forward to the summative assessment (Rourke, 2012)

Conclusions

This paper has described and explored the use and ongoing development of peer review as a formative feedback process for reflective writing within the BSc (Hons) physiotherapy programme at Keele University. This research suggests that peer review can be a successful approach to providing formative feedback within reflective writing, but that a number of pedagogic strategies need to be in place to ensure that the learning process is meaningful to students and achieves the aim of enabling students to recognise the strengths/weaknesses in their reflective writing and understand how to develop their work.

The process may be developed by providing a mid-range exemplar given that students were able to identify poor and very good writing but felt less able to identify mid-range (satisfactory pass) requirements. Consideration will also be given to providing these exemplars in advance of the session so that students can gain initial impressions which can then be discussed in the session. Clarification about use of

peer review at the outset may enable students to understand more explicitly why peer review and not tutor review is being used as the formative assessment process. Finally, given the need for students to be able to close the gap between actual and desired performance, the intention is to revisit the actions identified and check students' ability to follow through on these actions and amend their work appropriately to meet the needs of the assessment.

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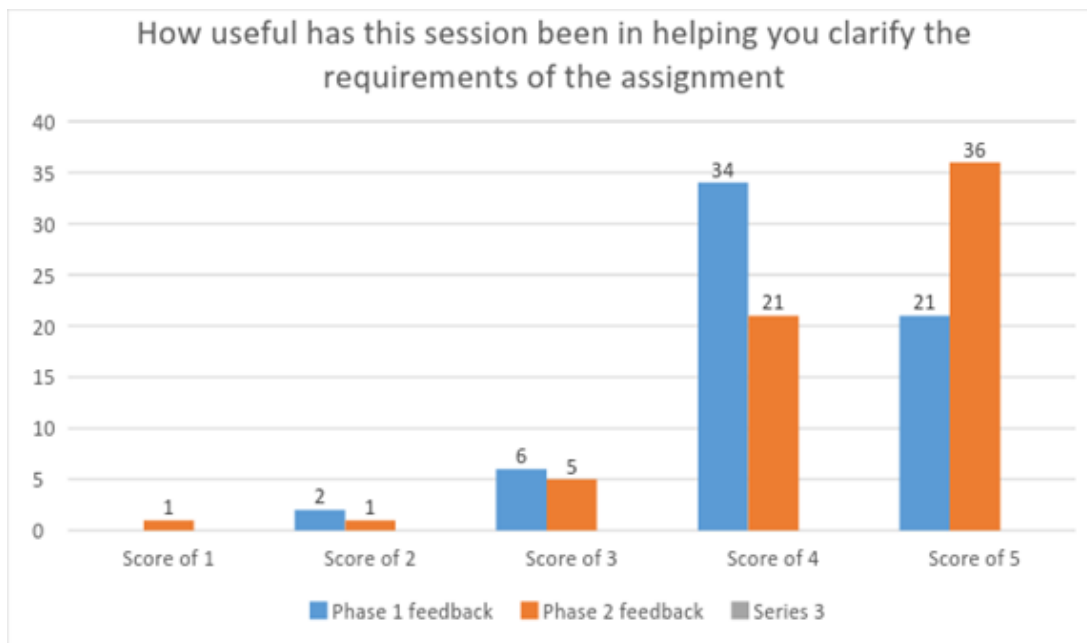
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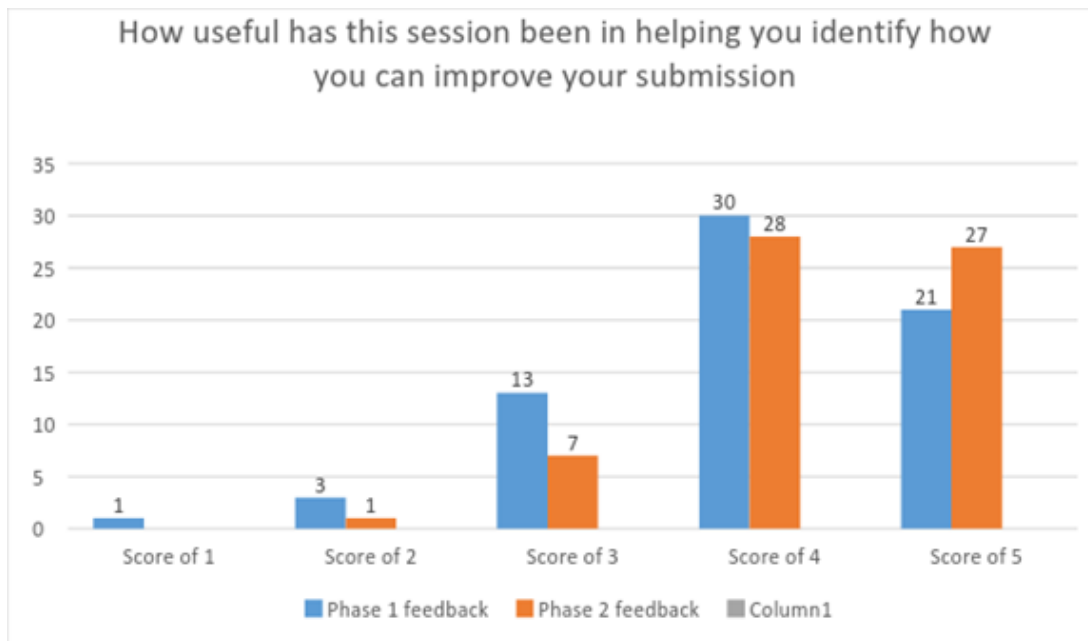
Tables 1-3 Comparison of Likert Scale data generated from Phases 1 & 2

Students were asked to respond to three questions with a Likert rating of 1-5, with 5 being the most positive score (Phase 1 N=68; Phase 2 N=64)
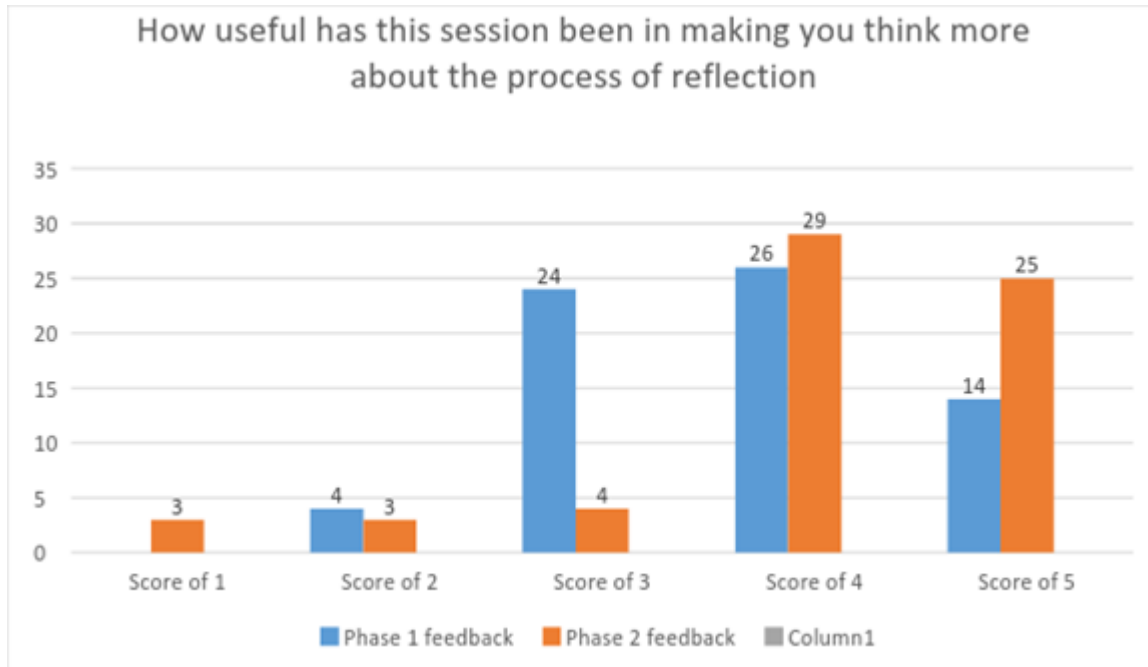
Table 1.

Table 2.

How useful has this session been in helping you identify how you can improve your submission

	Score of 1	Score of 2	Score of 3	Score of 4	Score of 5
Phase 1 feedback	1	3	13	30	21
Phase 2 feedback		1	7	28	27

Table 3.

How useful has this session been in making you think more about the process of reflection

	Score of 1	Score of 2	Score of 3	Score of 4	Score of 5
Phase 1 feedback		4	24	26	14
Phase 2 feedback	3	3	4	29	25

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Conflict of interests

None

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