

# **The contributions of peer evaluation in students' learning development and success in Problem Based Learning class**

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## **Purpose and motivation of the study**

The purpose of the study was to explore the contributions of peer evaluation in students' learning development and success in problem-based learning class. Problem-Based learning method requires students' close interaction and sharing of knowledge (collaborative learning). Facilitators (tutors) are expected to equip learners (students); with practicalities and formalities of the approach before they start with cases, particularly because students do not necessarily come to the university with prior knowledge of this learning method. Amongst others, issues around evaluation (assessment) and feedback are addressed. The challenge the researcher observed at the University of Venda (in Psychology classes) was that some students become reserved and feel uncomfortable with giving and receiving feedback from their peers. Possibly because students naturally resist the views of others that they do not like, particularly if they perceive it judgemental (Boud & Molloy, 2013). As indicated in Ashwin (2015, p.16), "social and peer-mediated approaches to learning require students to collaborate and learn from each other", not only from the teacher. It was assumed that students had knowledge about peer evaluation and its contributions to their learning development and success. It was also assumed that students have suggestions towards improvement of peer evaluation processes in the classroom setting that is probably overlooked by their lecturers or facilitators. Hence the focus of this study.

## **Literature Review**

In Problem Based Learning (PBL) classes students first encounter a problem, followed by a student-centered inquiry process (Barrows, 2000). In the process, learning is initiated by and structured around complex problems rooted in situations that the learner is likely to encounter in the real world outside of class (Woods, 1985). In PBL setting, the teacher relinquishes control of the curriculum for the reason that it is the students' responsibility to search for the knowledge that is necessary to solve the problems set by the teacher (Ashwin, 2015). PBL is believed to, amongst others, promote collaborative learning, self and peer assessment and life-long self-learning skills. Assessment is promoted because it is recognized as a learning activity that requires engagement on appropriate tasks (Boud & Associates, 2010).

It is known that nothing affects students more than assessment, whether in traditional or PBL classes. Possibly that is because assessment does not just test subject-specific skills and knowledge, but provides an ongoing measure of how well students are developing their learning skills and techniques. They can use assessment opportunities to check out how they are developing their study skills and can make adjustments where they see fit (Race, 2015). For the purpose of this study, only peer-assessment, referred to as peer evaluation is a central focus. The two concepts are used interchangeably in this document.

Peer evaluation is considered an important component of collaborative learning (Roberts, 2006). Since assessment is considered an exercise of power, using peers rather than tutors in assessment is a way of moving the power from the facilitator to the students (Cartney, 2012), which is another strength of PBL

method. Involving students in peer assessment/evaluation can put them into the assessment culture they must live with (Race, Brown & Smith, 2005). As a learning tool, once fully embedded into classroom practices, it can be effective in motivating students to move forward in their own learning (Bartlett, 2015).

Some people find the use of peer assessment “very radical” (Race, et al, 2005, p. 135). Once they have such an understanding it might be difficult for them to accept it or feel comfortable to participate. In order to avoid a feeling of discomfort, it is important to make all involved understand that peer evaluation is part of the learning process (Race, et al., 2005). Race (2015) indicated that involving students in their assessment can provide them with very positive learning experiences, and help them adjust in to the assessment culture around them.

Peer assessment allows students to develop a sense of ownership and learn from each other’s strengths and successes. When this learning-from-each-other is legitimized and encouraged, students can benefit a more from the work of the most able in the class and the mistakes made by others (Race, 2015). Once they discover that they are also learning from others and others’ mistakes, they turn to participate with positive attitude, willingness and improve their performance for their own success.

With the use of peer evaluation students get a powerful platform to receive feedback on their learning and participation in day-to-day activities in the classroom (Papinczak, Young & Groves, 2007). Instead of only receiving feedback, students also learn to give feedback constructively and confidently. The two elements, doing/giving and receiving feedback are considered ingredients of successful learning (Race, 2015). They are also evidence that students have the ability to make proper judgement (Brown, Rust, Gibbs, 1994). In the process deep learning occurs (Race, 2015).

Peer evaluation also helps to develop the acquisition of self-directed learning skills (a key principle of PBL), as students participate in the assessment experience (Ballantyne, Hughes & Mylonas, 2002). Students contribute to the evaluation of each other’s work, in order to match evaluation procedures with the curricular philosophy (Papinczak, et al., 2007). This is what Gareis and Grant (2015) argue that “alignment is important to creating good assessment” (p. 49).

Although literature provides evidence of the advantages of peer evaluation, there are also concerns. There are a number of biases associated with peer feedback including friendship, reference, effects of negative feedback on future performance, and lack of differentiation (Saito & Fujita, 2004). Some students may be excessively or insufficiently challenged or demotivated (Bartlett, 2015). When such happen, peer evaluation miss the positive purpose it is meant for.

On the basis of the advantages and concerns literature raises and the discomfort that students feel during peer evaluation, the researcher developed interest in exploring the contributions peer evaluation adds to students learning development and success in PBL class.

## **Implementation**

The study adopted a qualitative approach and exploratory design. Non-probability purposive and quota sampling methods were adopted to select 23 Level 1-4 Bachelor of Psychology students for participation in four focus groups discussion. The following semi structured questions were used to guide the discussion: (1) What do students know about peer evaluation? (2) What are the students’ views pertaining

to peer evaluation (strengths and weaknesses)? (3) What are the contributions of peer evaluation in students' learning development and success? (4) What are the strategies that can improve the nature of peer evaluation? Due to the fact that the process of qualitative research is hardly objective (Lal, 2001), trustworthiness was used to measure the quality of the data, which is the extent to which the data and the data analysis are believed to be valid, and trustworthy (Babbie & Mouton, 2006). Thematic analysis was considered for its ability to detect and analyse themes across data-sets (Wilson and MacLean, 2011). Permission to conduct the study at the University of Venda, was obtained from the university Registrar and DVC Academic prior to involvement of students. Ethical clearance was also attained from the University Ethics committee. Before each student participated in the group discussion, she/he had to sign an informed consent form as evidence that participation was voluntary with free will. The consent document containing the purpose and processes of the study was made available to all participants to make an informed decision to participate.

## **Results**

The results followed the three main themes that emerged from the data that was informed by the four questions that guided the semi-structured focus group discussions. Such themes were: (1) Knowledge about peer-evaluation; (2) Views pertaining to contributions of peer evaluation; (3) Strategies to improve peer evaluation.

### **Theme 1: knowledge about peer evaluation**

It was evident in the data collected and analysed that students in PBL class have knowledge about peer evaluation. They know peer evaluation as a way of evaluating one another's participation in the tasks given and roles occupied in the classroom. As a way of supporting one another in their learning process students indicated that during peer evaluation they give and receive feedback to and from their peers. It was also indicated that peer evaluation is a way in which what students know is compared to what the other peer knows. It is through this comparison and feedback that they improve their personal learning. Their knowledge of peer assessment as a support system concurs with Black and Wiliam (2006) who indicated that assessment in education must serve the purpose of supporting learning. The implication is that as students evaluate one another, the purpose should be to support peers to develop and succeed in their learning.

### **Theme 2: Views pertaining to contributions of peer-evaluation**

The study results show that peer evaluation have both strengths and weaknesses. Students indicated that peer evaluation helps them improve in the way they give feedback. As they give feedback to others they also develop self-confidence, team work and collaborative learning skills, positive attitude towards learning and interpersonal skills. Some students indicated that because they know that peer evaluation is not meant to destroy or demotivate them, they positively develop emotionally and become stronger in the process, in a way that they take feedback constructively. In the process they identify the areas of strength and weaknesses for improvement of their performances. They also develop in-depth self-directed learning, which is possible when students take an active role in the management of their own learning through peer feedback (Liu & Carles, 2006). The students' views pertaining to the strengths of

peer evaluation supports many authors who identified the advantages of peer assessment in their studies. Cartney (2012) considered peer-assessment to have a potential to improve students' learning. The implication is that as they give or receive feedback, using that feedback positively improves learning process.

Although there was an agreement on the strengths of peer evaluation, weaknesses could not be left unaddressed. The results have shown that peer evaluation is sometimes done for compliance in a way that it does not leave any improvement in some students' learning. Instead of learning from others' mistakes as indicated by Race (2015), some students still repeat the same mistakes when they occupy their roles or have turn to give feedback. Another weakness raised was that if not received positively peer evaluation can cause damage to the recipient. This is in line with Bartlett (2015) who indicated that feedback that is received from peers can make some students excessively challenged or demotivated. If this happen, learning process get affected and peer evaluation fails to achieve its primary role. In addition to that, students' biasness is also possible (Saito & Fujita, 2004), to an extent that some students feel uncomfortable to collaborate.

### **Theme 3: Strategies to improve peer evaluation**

Evidence shows that even though there are identifiable weaknesses of peer evaluation that hinder students' learning development and success, students know ways that can improve the way peer evaluation is tackled in their PBL classes. They suggested that annual training workshops on peer evaluation should be considered for students to understand the purpose of peer evaluation and improve their attitude towards it. That is possibly because if not done for its purpose (developmental) it can be detrimental (Saito & Fujita, 2004). Students also suggested that consistency be ensured so that they do not have to do peer evaluation occasionally with some facilitators and not with others. Facilitators were expected to fully participate in students' peer evaluation, as their role is to encourage students to be active learners and to utilize peer feedback as a way of enhancing learning (Cartney, 2012). Participation and involvement of facilitators in students' peer evaluation was also suggested by Race, et al (2005), when they indicated that it is a good idea to review how well students are assessing their peers (p. 136).

### **Conclusion**

The study concludes that although students have knowledge about peer evaluation as contributing positively towards their learning development and success, the room to improve its weaknesses remains. For students to fully develop and succeed in their learning there is a need for individuals' attitude towards peer evaluation to improve and have facilitators who consistently give students opportunities to learn from one another through peer evaluation.

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