

Increasing Anonymity in Peer Assessment Using Classroom Response Technology

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Abstract: This study explores the use of classroom response technology as a tool for anonymous peer assessment in face to face higher education. The technology was positively evaluated by students. They especially liked the immediate visual feedback and anonymity. Moreover, we found that ‘the experience of anonymity’ significantly predicts a lower ‘experience of peer pressure’. These results implicate that the use of a classroom response system can reduce peer pressure by making anonymous assessment possible.

Theoretical Background

The notion of assessment, which stresses the learning process and not only the result, is becoming more and more important in education. Different kinds of innovating forms of assessment have arisen, like self-assessment, peer-assessment and co-assessment. In this study we focus on peer assessment. Research has indicated that peer assessment assists students to create higher quality performances, as a consequence of better understanding of assessment criteria which they use when they play the role of assessors (Smith, Cooper, & Lancaster, 2002; Topping 2003). Moreover peer assessment has proven to be an accurate way of assessment, with high correlations between the ratings of peers and those of teachers (Dochy & Segers, 1999). Yet there have been some conditions put forward to guarantee this high accuracy, such as the presence of unambiguous criteria on which to evaluate (Nancy Falchikov & Goldfinch, 2000) and a necessary training in peer-assessment (Sluijsmans, Brand-Gruwel, & van Merriënboer, 2002).

Nevertheless Stepanyan, Mather, Jones and Lusuardi (2009) pointed at a disadvantage of peer-assessment. They found that students experience more stress, because they don’t feel entirely comfortable with publicly evaluating their peers. Peer-pressure might also cause a lack of accuracy of the assessment (Falchikov, 2003; Sung, Chang, Chang, & Yu, 2010). In this respect, anonymity of the assessor is an important issue to consider because it is found that students are often concerned about that (Draper & Brown, 2004; Stepanyan et al., 2009). However, anonymous assessment within a face-to-face classroom setting is difficult to orchestrate whereas Stepanyan et al. (2009) pointed out that the allocation of marks and in-class activities are important in encouraging student involvement. Consequently anonymity within in-classroom peer assessment has rarely been researched. Classroom response technology, e.g. the electronic voting system TurningPoint, may provide a solution to these given objections. A classroom response system is a system used in a face-to-face setting to poll students by means of individual infrared handset transmitters. The aggregated totals of votes are displayed as immediate feedback. In this way, within peer assessment students can anonymously and immediately submit their score for every given assessment criterion. This study went into the use of classroom response technology as a tool for peer assessment and more in particular we focused on the impact of anonymity on reducing peer pressure and feeling comfortable with this kind of evaluation.

Methodology

Participants in this study were 51 third year Bachelor students in Educational Studies at Ghent University. Most of them were female (92,2%). They participated as part of an obligatory course about teaching strategies.

Students first had to formulate a set of criteria for evaluation in consultation with their teacher and then got a training in using the corresponding rubrics (score 1-5). Evaluation criteria consisted of 8 criteria evaluating didactical quality of the group presentation and 4 criteria evaluating individual performance. Students had to give a group presentations, which were evaluated by their peers using these criteria. The classroom response system, i.e. TurningPoint was used to score every criterion. Finally, a questionnaire using a 5-point Likert-scale was conducted measuring students’ ‘experience of anonymity’ ($\alpha = 0.638$), ‘experience of peer pressure’ ($\alpha = 0.77$), ‘feeling comfortable’ ($\alpha = 0.76$), ‘positive attitudes’ ($\alpha = 0.84$) and ‘perception of the added value’ ($\alpha = 0.85$) of peer-assessment using the classroom response system.

Results & Discussion

Students liked the use of TurningPoint for peer assessment ($M=3.94$, which differs significantly from the neutral 3 on a 5-point Likert scale, $t(48)=11.23$, $p<.001$) and evaluated the immediate visual feedback as an added value ($M=3.98$, differs from 3, $t(48)=11.69$, $p<.001$). They also experienced the peer assessment as anonymous

($M=3.86$, differs from 3, $t(48)=9.68$, $p<.001$) and reported not to be influenced by peers ($M=2.34$, differs from 3, $t(48)=-6.45$, $p<.001$) and to feel comfortable ($M=3.84$, differs from 3, $t(48)=9.41$, $p<.001$) in scoring their peers. These results implicate that the use of a classroom response system as a tool for peer assessment can reduce peer pressure by making anonymous and immediate feedback possible in the classroom. Moreover, in a regression analysis we found that 'the experience of anonymity' significantly predicts a lower 'experience of peer pressure' ($\beta = -.51$, $t(47) = -3.45$, $p = .001$). In ongoing research, we are further examining the effects of anonymity in terms of accuracy of the scores and quality of the feedback.

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