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# Using Online Peer Assessment Activities to Enhance Team Collaboration in Two Undergraduate Courses

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## Abstract

Group work as a form of cooperative learning has been shown to promote learning in many aspects. However, challenges may arise for group work when members have different expectations and little to no familiarity with each other. This action research was to investigate how well the online peer assessment activities (in the form of Moodle workshops) implemented in two different undergraduate courses would promote individual contribution in a subsequent group project and enhance individual achievements. Online peer assessment activities were introduced in Cohort 2020-21 with the purpose to enhance team collaboration in academically heterogenous groups. The assessment scores of Cohort 2020-21 ($N = 70$) were compared with those of the previous cohort ($N = 69$), which had no peer assessment activities, using independent samples *t*-tests. Additionally, students' opinions about the online peer assessments were identified from the qualitative comments of the teaching-and-learning evaluations of one course and the focus group discussion of another course. Findings showed that students who had participated in online peer assessment activities were perceived by their peers to have better collaboration in the group work than those who had not. However, no evidence suggested that better team collaboration would associate with higher achievements in the group project, nor would the implementation of online scaffolded peer-assessed activities directly connect to higher academic performance in the individual final assessment. How peer assessment activities could be adjusted using the functions of Moodle workshops to cater for the needs of students are discussed.

*Keywords:* action research, Moodle workshop activity, cooperative learning, online peer assessment, higher education

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## Teaching and Learning Context

Group work as a form of cooperative learning has been shown to promote learning among university students in many aspects, such as promoting higher order thinking and reasoning (Klimovienė et al., 2006), and enhancing academic achievements and retention (Tran & Lewis, 2012). Challenges may arise for group work when members come together with different expectations and attitudes associated with response time and level of commitment (Jackson et al., 2014), and little to no familiarity with each other (Akhile, 2018). Therefore, students generally prefer to choose their own group members and cooperate with those who they are familiar with (Nhan & Nhan, 2019; Scanlan, 2018). However, allowing students to self-select their groups often leads to less diverse teams, and academically weaker students or introverts are often left out after the initial round of selection (Chapman et al., 2006).

To ensure that all groups start on more-or-less equal ground for a group project and no students feel left out, the instructor may assign students to groups according to a certain criterion, such as students' academic background, or their academic performance at the beginning of the course or in a previous course. Heterogeneous groups will then be formed with each group having a roughly diverse combination of different majors, concentrations, or years of study; or a roughly similar combination of academically strong and not-so-strong students. Though the issue of equity for group work can be solved, such kind of instructor-assigned heterogeneous groups could not mitigate the challenges of cooperative learning arising from poor group dynamics.

A possible solution to the group dynamics challenges in instructor-assigned groups could be arranging some activities, such as online peer assessments, within each group throughout the semester for team development. It has been pointed out that peer assessment, which involves students learning with and from each other through the process of assessing each other's work, is "an inherently social process" (Van Gennip et al., 2010, p. 281). Conducting an experiment with an intervention group ($n$ = 45, consisting of twelve project teams) and a control group ($n$ = 17, consisting of five project teams) in a Dutch secondary-vocational school, Van Gennip et al. (2010) found that "students in a peer assessment setting significantly feel safer and perceive more unanimity in goals than students in a traditional teacher-assessment setting" (p. 288). In other words, peer assessment activities could contribute to