Designing an Electronic Assessment to Foster Peer Learning

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Abstract

The potential benefits of peer learning have long been recognized and are especially relevant today when lifelong and life-wide learning is prevalent. In this paper, we propose to incorporate peer assessment as part of the learning activities using an on-line environment. Participants are required to conduct group projects which entail an intra-group reflection by critically evaluating their own progress and to perform an inter-group assessment by giving feedback and grades to their peer’s assignment via the web. Qualitative and quantitative analysis will be conducted at the end of the semester to examine if peer assessment can improve learning and group dynamics.

Introduction

Peer learning is one of the many student-centered approaches that matches with the philosophy of contemporary perspectives on learning and teaching which aim to promote higher achievement, more positive interpersonal relationships and greater psychological health [1, 4]. Dempsey et.al. [3] believed that the most obvious way in which computerization of assessment could be a virtue was through instant marking and feedback [3]. Buchanan [2] also confirmed that students who used the WWW-based formative assessment package performed better than those who did not. In this paper, we propose to incorporate peer assessment as part of the learning activities for a Bachelor of Education (Secondary) course, using an on-line environment, to improve learning and group dynamics.

A Web-based Peer Assessment Design Framework

The framework of an electronic peer assessment that is educationally sound with a potential to assess the lateral thinking skills of learners is shown in Figure 1 below:

![Figure 1: A Web-based Peer Assessment Design Framework](image-url)
With an objective to foster learning using peer assessment, the design of the study is proposed as follows:

Learners’ role – Participants are year one students of Bachelor of Education (Secondary) who are assigned with a group project for the module of Textile Science. They are required to conduct an intra-group reflection which forms the basis of the growth of the group by critically evaluating their progress (learning process) as well as giving suggestions on strategies to enhance the group’s effectiveness through submission of an electronic bi-weekly reflective journal. Participants are also required to perform an inter-group assessment by giving feedback and grades to their peer’s project presentation and report (the learning product) via the web to promote their lateral thinking skills. The focus of the assessment, however, is on development, not evaluation; on cooperation, not competition.

Peer assessment tool – a networked online platform is developed to facilitate prompt feedback and sharing of information. Learners and researchers discuss learner work as it progresses by means of asynchronous tools including discussion forums, e-mails and newsgroups as well as synchronous tool like chat room. Projects are posted for sharing and critique among groups.

Educator’s role – learning occurs as individuals exercise, verify, solidify, improve their mental models through discussion and sharing and create new knowledge by interacting with other people. The educator’s role is therefore to facilitate and to model peer learning with learners by participating in various learning and assessment activities.

Implementation Plan

An assessment item for the modules is a group project valued at 100% of the assessment marks. The collaborative assessment task will last for the whole semester. It is obvious the educator is not possible to observe the entire process which involved in a group-work outside classroom whereas a learner’s peers often have the opportunity to observe other group members’ performance. Data will be collected from two means to examine the effectiveness of the research framework. Quantitative information will be collected when participants conduct the inter-group assessment by completion of the online peer assessment table. The quantitative data will then be analyzed to examine if the peer assessment grades are reliable. Learners are also required to complete an electronic questionnaire that can be answered anonymously for assessing learner perceptions of the use of peer assessment in group project work. Qualitative information will be gathered by reading their online reflective journals. The qualitative data will then be analyzed to explore if writing reflective journals makes group dynamics transparent. Focus group meetings will also be conducted with an aim to have an in-depth understanding of participants’ views on the effectiveness of peer assessment to foster cooperative learning. Participants will be encouraged to give suggestions on improving this innovative assessment pedagogy and all the meetings will be tape-recorded.

Conclusion

We have proposed a research framework to use on-line environment to foster learning using peer assessment as part of the learning activities for student teachers. We have drawn the elements of peer learning from research findings and come up with a new framework to be implemented for our learners in this semester. The roles of different parties and the implementation plan were discussed. The evidences of fostering peer learning via an electronic assessment could be gathered from reflective journal and discussion forums. The data will be analyzed both quantitatively and qualitatively to examine if peer assessment can improve learning and group dynamics, in particular, the lateral thinking skills, collaboration and reflective practices which they will be required to perform in professional and academic life. Data collection will be completed in June 2002 and the findings of whether peer assessment can improve learning and group dynamics will be disseminated during conference presentation.

References


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