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Te Kura Toi Tangata

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Te Hautaka Mātauranga o Waikato

Volume 18, Issue 2: 2013

A stylized graphic on a purple background. It features a thick yellow path that starts on the left, curves down, then up, and then down again. The path leads to a white archway with black vertical stripes. The archway is supported by black pillars. The path continues to curve down and then up again, ending on the right side of the image.

WAIKATO JOURNAL OF EDUCATION TE HAUTAKA MĀTAURANGA O WAIKATO

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Submissions for special sections of the journal are usually by invitation. Offers for topics for these special sections, along with offers to edit special sections are also welcome.

Correspondence, articles for review, subscriptions and payments should be addressed to the Administrator Wilf Malcolm Institute of Educational Research, Faculty of Education, The University of Waikato, Private Bag 3105, Hamilton, 3240, New Zealand. Email: wmier@waikato.ac.nz

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Online collaborative learning in tertiary ICT education to enhance students' learning in Malaysia

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This study investigated the nature of students', and student group, interactions through the incorporation of an online collaborative learning (OCL) initiative, with its aim to enhance students' learning in a Malaysian tertiary classroom. In order to contribute to knowledge and understanding about the nature and quality of OCL, the learning processes and outcomes were drawn predominantly from Harasim's model, with inclusion of a socio-cultural framework aimed at enhancing learning outcomes for undergraduate science and ICT education students. Harasim's model of OCL that was used in the intervention includes steps to setting up the stage and a system for Idea Generating (IG), modelling and guiding the OCL discussions for Idea Organizing (IO), and evaluating and reflecting the OCL discussions for Intellectual Convergence (IC). The interactions in OCL were analysed through four dimensions: participative, interactive, social, and cognitive in support of the students' cognitive, social and emotional development.

The OCL intervention in this study was conducted through an ICT education course in a Malaysian university that required OCL discussions for 13 weeks: the first four weeks were intra-group work discussions (Task 1), followed by four/five weeks of inter-group work discussions (Task 2), and the remaining four weeks were for the final intra-group work discussions (Task 3). The OCL intervention was aimed at facilitating interdisciplinary collaboration and interaction between students from Chemistry, Physics and Mathematics majors through the university's Learning Management System (Moodle), which provided the shared space for the OCL discourse and tools for collaboration. A total of nine groups of four to six students (N=46) were involved in this study. In order to evaluate the OCL intervention using a holistic view, an interpretive approach that included the collection of quantitative and qualitative data was adopted to frame the collection and analysis of the data. Quantitative data were obtained from online questionnaires, together with online data based on the frequency of students' posts in participative, interactive, social and cognitive dimensions. Qualitative data were gathered via interviews with students (group and post-course interviews) and lecturers, and online transcripts that included online postings and students' online journal entries. These data were collected and analysed in order to triangulate the findings and to help the researcher assess the extent to which the intervention was successful in enhancing students' learning.



The findings from the study revealed the nature of students' interactions in OCL correspond with particular socio-cultural views that students' interactions are characterised based on the participative, interactive, social and cognitive dimensions in support of the students' cognitive, social and emotional development. From a socio-cultural perspective, the outcomes that arose from the study included the following:

- The socio-cultural learning constructs have been useful as a framework for the analysis of the OCL intervention based on the participative, interactive, social and cognitive dimensions.
- The affordances of the OCL group work helped the students in their group work.
- The constraints of OCL influence the communication methods and interaction styles used by students in achieving task goals through group work in the OCL intervention.

The findings also show students' interactions and student group interactions were an important part of the learning process. The implementation of OCL intervention into the course can lead to the facilitation of the student group learning process as well as supporting their cognitive, social and emotional development, and potential constraints from the technology (e.g., Internet connection) or the lack of social and verbal cues (e.g., facial expression) can lead to different working methods of communication for achieving task goals and different styles of interactions. Overall, the findings of the study indicate the value of OCL in a tertiary classroom to enhance learning.