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Te Kura Toi Tangata

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Te Hautaka Mātauranga o Waikato

Volume 18, Issue 2: 2013

A large, stylized graphic on a purple background. It features a thick yellow wavy line that starts on the left, dips down, and then rises to form a staircase with three steps. The steps are white with black outlines. The yellow line continues to wavy down and then up again on the right side.

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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Special Section

- Editorial: Culturally responsive pedagogies as transformative praxis**
Mere Berryman 3
- From responsive social learning contexts to culturally responsive pedagogy: Contributions from early New Zealand research**
Ted Glynn 11
- Applying culturally responsive practices: Implications for mainstream education**
Therese Ford 25
- ‘A culturally responsive pedagogy of relations’: Coming to understand**
Annie Siope 37
- Discursive repositioning: The impact a group of Te Kotahitanga teachers within a mainstream secondary school had on one student**
Edith Painting-Davis 51
- Culturally responsive evidence-based special education practice: Whaia ki te ara tika**
Sonja Macfarlane and Angus Macfarlane 65
- Crossing borders: At the nexus of critical service learning, literacy, and social justice**
Fatima Pirbhai-Illich 79
- University and school: Collaborative research as culturally responsive methodology**
Marilyn Blakeney-Williams and Nicola Daly 97
- ### General Section
- Health invaders in New Zealand primary schools**
Lisette Burrows, Kirsten Petrie, and Marg Cosgriff 111
- Peer coaching: A review of the literature**
Tracey Hooker 129
- Developing a resource for teachers: Theory, practice, possibility**
Elizabeth Anderson 141

Resistance within a performativity discourse: Learning from an analytic autoethnographic perspective	
<i>Jason Loh</i>	157
Book review	
<i>Dianne Forbes</i>	171
Ph.D Abstracts	
Participant perspectives informing pedagogy for asynchronous online discussion in initial teacher education	
<i>Dianne Forbes</i>	173
The nature of conversation of primary students in technology education: Implications for teaching and learning	
<i>Wendy Helen Fox-Turnbull</i>	175
Problematised history pedagogy as narrative research: Self-fashioning, dismantled voices and reimaginings in history education	
<i>Philippa Hunter</i>	177
How is teacher evaluation policy enacted? The workings of performativity and micro-politics in Japanese schools	
<i>Masaaki Katsuno</i>	179
Students' mental models of chemical reactions	
<i>Denis Lajium</i>	181
Effective Pakeha teachers of Māori students	
<i>Catherine Lang</i>	183
Toward ecological literacy: A permaculture approach to junior secondary science	
<i>Nelson Lebo III</i>	185
Colouring in the white spaces: Reclaiming cultural identity in whitestream schools	
<i>Beverley Milne</i>	187
Online collaborative learning in tertiary ICT education to enhance students' learning in Malaysia	
<i>Mohd Nihra Haruzuan Bin Mohamad Said</i>	189



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.