

21. McRae, N., (2005). *Enhancing the Student Learning Experience: The Employer's Perspective*. Presentation at the Cooperative Education and Internship Association conference, USA.
22. McRae, N., (2004). *Enhancing the Student Learning Experience; During the Work Term*. Paper presentation at the Asia Pacific Co-operative Education conference, Auckland, New Zealand.
23. McRae, N., Ilg, B., (2002). *International Work Placements Europe and Canada: The Possibilities*. Presentation at the European Association for International Education conference, Porto, Portugal.
24. McRae, N., (2001). *Globalized Co-operative Education: The Keys to Success*. Presentation at the World Association for Co-operative Education, Thailand.
25. McRae, N., Jennings, K., (2000). *Preparing to Work in Canada*. Presentation at the Association of Academic Programs in Latin America and the Caribbean, Oaxaca, Mexico.
26. McRae, N., (1999). *Creating an Optimal Learning Environment*. Presentation at the World Association Conference for Cooperative Education, Washington, USA.
27. McRae, N., (1999). *Technology in Co-operative Education*. Presentation at the World Association Conference for Cooperative Education, Washington, USA.
28. McRae, N., (1998). *Preparation on-line*. Presentation at the Cooperative Education Association Conference in USA, and at the Canadian Association for Co-operative Education Annual conference in Canada.
29. McRae, N., (1998). *Curriculum on the Internet*. Presentation at the Second Asia Pacific Conference of Co-operative Education, Australia.
30. McRae, N., Bailey, D., (1995). *Cross-Program Work Site Visits; A Measure of Validity and Reliability in Co-operative Education*. Paper presented at WACE, Kingston, Jamaica.

Publications

1. McRae, N. (2013). Students as culturally intelligent change agents. In J. B. Rennick & M. Desjardins (Eds), *The World is my Classroom: Priorities for Globalizing Canadian Higher Education*. Toronto: University of Toronto Press.
2. Anderson, E., Johnston, N., Iles, L., McRae, N., Reed, N., Walchli, J. (2012). Co-operative Education and Student Recruitment, Engagement and Success: Early Findings for a Multi-institutional Study in British Columbia. *Journal of Co-operative Education and Internships*. 46:58-76.
3. McRae, N. & Ramji, K. (2011). Enhancing cultural intelligence through cooperative and work-integrated education. In R. Coll & C. Eames (Eds.), *International Handbook of Co-operative Education: An International Perspective of the Theory, Research and Practice of Work-Integrated Learning*. 2nd edition. Hamilton: World Association for Cooperative Education.
4. McRae, N. (2010). "I Want to Be a Doctor": Discourses of Medicine as a Possible Career. In W-M Roth & P-L Hsu (Eds), *Talk about Careers in Science*. Rotterdam: Sense.
5. Roth, W-M., Hsu, P-L., Bautista, A., Collyer, V., Connelly, C., Delgado, N., Emad, G. R., Hall, K., Kottova, A., Maheux, J-F., Marsden, S., McRae, N., Raju, D., Simpkins, S., & Wu, C-Y. (2010). Metalogue on Career Talk and Its Study. In W-M Roth & P-L Hsu (Eds), *Talk about Careers in Science*. Rotterdam: Sense.
6. McRae, N. (2010). Linking experiences with emotions and the development of interpretive repertoires. *Cultural Studies of Science Education*. 5:181-189.
7. McRae, N., & Baldwin, J. (2004). Business and Finance Co-operative Education. In R. Coll & C. Eames (Eds.), *International Handbook of Co-operative Education: An International Perspective of the Theory, Research and Practice of Work-Integrated Learning*. Hamilton: World Association for Cooperative Education.
8. McRae, N. (1999). Preparing for the Work Term: On Line. *Journal of Cooperative Education*, 34(2), 49-53.



**University
of Victoria**

Graduate Studies

PROGRAMME

The Final Oral Examination for the Degree of

DOCTOR OF PHILOSOPHY
Interdisciplinary Studies
(Schools of Exercise Science, Physical and Health
Education and Business)

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1987
1983

University of Alberta
University of Alberta

MBA
BA

"Exploring Conditions for Transformative Learning in Work-Integrated Education"

Wednesday, April, 16, 2014
7:00pm

David Turpin Building, room A136

Supervisory Committee:

- Dr. Geraldine Van Gyn, School of Exercise Science, Physical and Health Education, UVic (Co-Supervisor)
Dr. A.R. Elangovan, Peter B. Gustavson School of Business, UVic (Co-Supervisor)
Dr. Carmen Galang, Peter B. Gustavson School of Business (Member)
Dr. Alison Preece, Department of Curriculum and Instruction, UVic (Non-Unit Member)

External Examiner:

Dr. Deborah Peach, Queensland University of Technology

Chair of Oral Examination:

Dr. Gweneth Doane, School of Nursing, UVic

Abstract

A qualitative study was undertaken that explored the conditions for transformative learning (Mezirow, 2000) in a specific form of work-integrated education (WIE), co-operative education, towards the development of a theoretical model. The research question considered was 'what pedagogical and workplace practices available during WIE contribute to transformative learning?' WIE students, supervisors and their co-op coordinator were the participants in this study. Four case studies were developed based on evidence from interviewing these participants at the beginning and end of one work term. Aggregated data from the coordinator, student and supervisor interviews were analyzed. The Kelly repertory grid was used as a way to elucidate and rate participant constructs of transformative learning during WIE. Activity theory, which theorizes that expansive learning is a result of a dialectic, mediated process embedded in a socio-cultural context (Engeström, 1987), provided the theoretical framework to examine these constructs and their relationship to the conditions for transformative learning. The findings from the study revealed several results that add to our theoretical models for WIE. First, WIE, including co-operative education, relies heavily on the constructivist perspective of Kolb's Experiential Learning Theory (Kolb, 1984) yet the participants cited transformative learning from critical-cultural, psychoanalytical, situative and enactivist perspectives (Fenwick, 2000) with each perspective providing a different lens through which critical reflection, the antecedent to transformative learning, could be supported (Mezirow, 1998). Second, critical reflection, in addition to being supported from a variety of perspectives, was found to occur as a result of the resolution of contradictions found in the dialectic and mediated processes explicated by activity theory's cycle of expansive transition (Engeström, 1987). Third, the enablers (mediators) most involved in contributing to this process were: opportunities for work and learning, a supportive environment, student capabilities, co-workers, supervisors, and assessment and reflection practices. Fourth, within the context of WIE, activity theory introduces the dimensions of time, context and transformative processes (Keengwe & Jung-Jin, 2013) to our understanding of how transformational learning occurs and results in the transformative outcomes of self-formation (Dirkx, 2012), and social transformation (Merriam, Caffarella, & Baumgartner, 2007). Fifth, the integration of these transformative outcomes into the WIE or workplace was dependent upon the time and value given to transformative processes, institutional requirements and a positive emotional environment that supported the resultant changes to the students' world view and ability to act (Avis, 2009; Hanson, 2013; Holman, Pavlica, & Thorpe, 1997; Taylor, 2008). The implications of these findings are that WIE theoretical models include considerations of: perspective, socio-cultural context, dialectic and mediated processes and creating a positive emotional space to support the critical reflection necessary for transformative learning. Including these considerations shifts WIE theory from a constructivist perspective towards an enactivist perspective with the potential that programs intentionally support both students' individual change and the social change of organizations where they work and study. Furthermore, adopting a view of WIE as an interaction between two systems, with the resultant "knotworking", "boundary spanning" and "co-configuration" (Engeström, 2009), opens up possibilities for innovation and renewal in WIE programs and workplaces.

Awards, Scholarships, Fellowships

- CAFCE: Dr. Graham Branton Research Award, 2011/12
- United Way of Greater Victoria: Best Workplace Campaign award co-winner as Chair of the University of Victoria campaign, 2009
- CAFCE: Volunteer Recognition Awards: 2000, 2005/06
- Canadian Association for University Continuing Education: Program Award co-winner, 1990
- Graduate Assistantship, 1986
- Delta, Delta, Delta Alumnae Fellowship, 1983

Presentations

1. McRae, N., (July, 2013). *Activity theory and work-integrated education*. Presented at the Journal for Vocational Education and Training conference, Oxford, UK.
2. McRae, N., (October, 2012). *International Work-Integrated Learning*. Workshop presented at the pre-ACEN conference, Geelong, Australia.
3. McRae, N., Gayler, S., (August, 2012) *Competency based assessment for co-operative education*. Presentation at CAFCE, Whistler, Canada.
4. McRae, N., Ramji, K., (August, 2012). *CANEU Co-op: lessons learned*. Presentation at CAFCE, Whistler, Canada.
5. McRae, N., (June, 2012). *Work-Integrated Education a complex system*. Paper presented at WACE, Istanbul, Turkey.
6. McRae, N., (May, and June 2011). *CANEU Co-op: A pilot study in cultural competence development*. Presentation at ACE BC, Victoria, Canada and WACE, Philadelphia, US.
7. McRae, N., (February, 2010). *The Current State of Co-operative Education in the World: Learning from the Canadian Experience*. Keynote presentation at the Kyoto Sangyo University Forum, Japan.
8. McRae, N., Kay, J., (February, 2010). *Portal to the World: New Connectivity between University, Industry and Community: Provincial, National and International Developments*. Presentation at WACE Regional Conference, Hong Kong.
9. McRae, N. (April, 2010). *ACE Research findings from a UVic perspective and Co-op and Career Curriculum Development at UVic*. Presentation at Memorial University, St. John's, Newfoundland, Canada.
10. McRae, N., (June 2010). *Competency-based Assessment*. Paper presentation at World Association for Co-operative Education, International Symposium, Graz, Austria.
11. McRae, N., Ward, N., Ilg, B., Laslett, B., (2009). *Lessons learned from International Co-op Exchanges*. Presentation at the World Association for Co-operative Education, World Conference, Vancouver, Canada.
12. McRae, N. Van Gyn, G., (2009). *Student engagement in co-operative education*. Presentation at World Association for Co-operative Education, World Conference, Vancouver, Canada.
13. McRae, N., Johnston, N., Anderson, E., Iles, L., (2009). *Co-operative Education and Student Engagement, Recruitment and Retention: early results from a multi-institutional study in British Columbia*. Presentation at World Association for Co-operative Education, World Conference, Vancouver, Canada.
14. McRae, N. (2008). *An Overview of Co-operative Education in BC* presented for the Association for Co-operative Education BC/Yukon at the BC- Canada Beijing Pavilion, China.
15. McRae, N., Van Gyn, G., (2008). *Student engagement in co-operative education: Examining the research and implications for practice*. Presentation at Canadian Association for Co-operative Education, National Conference, Canada.
16. McRae, N., Inouye, L., (2008). *Integrating Co-operative Education into the Classroom*. Presentation at Canadian Association for Co-operative Education, National Conference, Canada.
17. McRae, N., Kobrc, H., (2008). *Co-operative Education and Community Based Research*. Presentation at the CU Expo, Victoria, Canada.
18. McRae, N., Kay, J., (2006). *Experiences of Co-op in China: A Western Industry Perspective*. Presentation and panel at World Association for Co-operative Education, Asia Pacific Conference, Shanghai, China.
19. McRae, N., (2006). *Simply SWOT*. Presentation at the Canadian Association for Co-operative Education, National Conference, Regina, Canada.
20. McRae, N., (2005). *Enhancing the Educational Features of Co-operative Education Programs: Working Hand-in-Hand with Employers to Build a Global Workforce*. Presentation at the World Association for Co-operative Education, World Conference, Boston, USA.