The Final Oral Examination
for the Degree of

DOCTOR OF PHILOSOPHY
(Department of Curriculum and Instruction)

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1998 Royal Roads University MA (Leadership and Training)
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“Complexity in an Educational Technology Transformation from Proprietary to Free/Libre Open Source Software: A Case Study”

Monday, August, 26, 2013
4:00 PM
MAC A341

Supervisory Committee:
Dr. Kathy Sanford, Department of Curriculum and Instruction, UVic (Supervisor)
Dr. James Nahachewsky, Department of Curriculum and Instruction, UVic (Member)
Dr. Tim Hopper, School of Exercise Science, Physical and Health Education, UVic (Outside Member)

External Examiner:
Dr. Julie Mueller, Faculty of Education, Wilfred Laurier University

Chair of Oral Examination:
Dr. Gregory Rowe, Department of Greek and Roman Studies, UVic
Abstract
Information and communication technologies (ICT) are having a rapid and increasing impact on all K-12 schools as school districts attempt, in a myriad of ways, to keep pace with the technological changes taking place in society. Unfortunately, this impact is increasingly a financial one as financial challenges continue to figure among the most extensive barriers to ICT use (Plante & Beattie, 2004). This research explores ICT options that are cost effective to our educational institutions and our communities while maintaining high functioning and sustainable technology for students and educators. Low-cost alternative technologies such as Free/Libre Open Source Software (FLOSS) and cloud computing lessen the socio-economic divide between students, encourage the sharing of technological advancements and collaboration and allows teachers to freely and legally give their students access to software necessary for success. In addition to the potential benefits of this technology’s use in an educational setting, this research also addresses the pragmatic aspects of introducing these tools district-wide. Complexity theory is utilized to lend an understanding of how to look at technological changes within the context of society as a whole, within enabling constraints that create the conditions for the emergence of new patterns of teacher, student, task and content interactions. This complexity frame informs themes in the study such as: (1) the importance of forward-thinking technology from recursive feedback loops on decision-making and planning in order to “keep up” with technological changes outside of school, (2) the critical impact educational leaders have on the change environment when both introducing these technologies into a school district and
providing enabling conditions so that new ways of teaching and learning with technology can emerge and (3) the effect changing technological systems and support infrastructures have on enabling new teaching and learning processes.

**Awards, Scholarships, Fellowships**

2011  Doug and Anne McLaughlin Scholarship  
2010  Vera Flett Keddy Buchanan Memorial Scholarship  
2010  University of Victoria Academic Income Supplements  
2009  University of Victoria Graduate Award  
2009  University of Victoria Fellowship  
2009  University of Victoria Travel Grant  
2009  University of Victoria Academic Income Supplements

**Presentations**


**Publications**