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THE STORY OF WIRED SCHOOLS:

A STUDY OF INTERNET-USING TEACHERS

A thesis submitted as fulfilment of

the requirements for the degree of Doctor of Philosophy

Massey University

Palmerston North New Zealand

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CANDIDATE'S DECLARATION

This is to certify that the research carried out for my Doctoral thesis entitled "The Story of Wired Schools: A Study of Internet-using Teachers" in the Department of Learning and Teaching, Massey University, Palmerston North, New Zealand is my own work and that the thesis material has not been used in part or in whole for any other qualification.

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ABSTRACT

The story of wired schools addresses the lack of critical debate over the adoption and implementation of the Internet in New Zealand schools. It is set in the backdrop of rapid technological change and growing international concern over the wisdom of the substantial investment in new computer technology in the education system. The study addresses the problem that the hype surrounding the Internet in schools is potentially diverting much attention away from its real pedagogical value. Thus, the research objective investigates how teachers believe the Internet has affected learning and teaching—for better and worse. In the context of this objective, a number of methodological issues related to conducting research in the area of educational technology are considered and a multi-paradigmatic framework is adopted utilizing both quantitative and qualitative research techniques.

The research consists of three phases over a period of three school years. It reports a process to identify and systematically investigate a purposive sample of proficient, accomplished and experienced internet-using teachers. The first phase involves a survey in which a written questionnaire gathers baseline information on the background characteristics, experiences, perceptions and practices of a group of teachers nominated as proficient in using the Internet for learning and teaching. In Phase Two, the survey is repeated through a follow up questionnaire and informant interview with a refined sample of perceived accomplished internet-using teachers. The final phase culminates with narrative-biographical and micro ethnographic case studies of three teachers judged to be experienced in using the Internet for pedagogical purposes.

An analysis of data shows that the advent of the Internet has clearly had an impact on the nature of teachers' work. The standout effects of the Internet are reported under the themes of: (a) school organization and classroom management, (b) displacement costs, (c) collegial relationships, (d) workload considerations, and (e) teachers thinking more globally. Notably, the research shows that teachers do not simply experience the Internet, they reshape and reframe it based on their pedagogical beliefs and lived experiences. Thus, teachers have equally affected the Internet and these effects are reported under the themes of: (a) differential uptake, (b) limited local action, (c) teaching is messy, (d) computer as tool, and (e) technology as progress. The key lesson is that the implementation of an educational technology is a mutually adaptive process full of conflicts, tensions, and contradictions that simultaneously give rise to positive, negative, and unknown effects. Accordingly, the effects of the Internet on teachers' lives and work culture can not be analysed in terms of simple dichotomies of good and bad as a more dialectical perspective is required of the relationship between technology and society.

A rough portrait of the educational technology landscape is sketched from the tensions and individual mindsets embedded in the research sample, and the shape of the topography is shown to amplify rival theoretical positions in the literature. From a post-technocratic political economy perspective, the new digital landscape consists of a number of competing and coexisting discourses that borrow and co-construct a socio-cognitive language of persuasion to advance their own hegemonic agenda. Such an analysis brings into question the hidden curriculum behind the new ways of enterprise constructivism promoting the adoption of information and communication technology (ICT) in New Zealand schools. The ensuing discussion endeavours to reframe the teacher's role around critical pedagogy and the need for pedagogical activism in the backdrop of a number of potential dark clouds looming on the digital horizon. Finally, the story of wired schools is brought together through the metaphor of planes, trains and automobiles in which a lot of misinformation, dissembling language and even propaganda is claimed to prevent teachers from understanding the meaning and non-educational intention of the ICT-related school reform movement. A number of implications arise from the explanation of how things have come to be this way and these are presented for teachers, researchers and policy-makers.

The central thesis is that teachers need to approach the ICT movement as problematic and a deeper level of critical dialogue is required over the move to plug New Zealand schools into the Knowledge Economy. In short, wired schools require wired educators capable of reading and responding to current efforts to boost capacity, increase bandwidth and catch the knowledge wave—for better and worse.

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This research was inspired by the commitment that many teachers have made over more than 20 years towards integrating new computer technology into the classroom. Much of this work has gone unheralded. The rapid growth of the Internet over such a short duration has demanded a great deal from teachers. Without their experience and willingness to take on this challenge, the use of new educational technology would not be so prevalent in New Zealand schools.

I owe a particular debt to the teachers who participated in this study for their time and willingness to converse with me. The research was dependant upon their participation and I sincerely thank the teachers for sharing so much rich and often sensitive information about their teaching practice. In particular, I would like to thank Andrea, Barry and Catherine from whom I learnt so much. I hope other people will learn from their experience as I have in the dissemination of the research findings.

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LIST OF ABBREVIATIONS

AUP = Acceptable Use Policy

ACOT = Apple Classrooms of Tomorrow

BECTA = British Educational Communications and Technology Agency

CAI = Computer Assisted Instruction

CBAM = Concerns-based Adoption Model

ERO = Education Review Office

ICT = Information and Communication Technology

ICTPD = Information and Communication Technology Professional Development

IFIP = International Federation for Information Processing

ISTE = International Society for Technology in Education

ITAG = Information Technology Advisory Group

LAN = Local Area Network

NZEI = New Zealand Education Institute

NZCTU = New Zealand Combined Trades Union

OECD = Organisation for Economic Cooperation and Development

OFSTED = Office for Standards in Education

PAR = Participatory Action Research

PC = Personal Computer

PDA = Personal Digital Assistants

SITES = Second Information Technology in Education Study

TKI = Te Kete Ipurangi

TOP = Terrain of Online Pedagogy

UK = United Kingdom

US = United States

WWW = World Wide Web