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Assistive Computer Technology and Empowerment: The Vocational Experiences of Blind and Visually Impaired New Zealanders

A thesis presented in fulfilment of the requirements for the
degree of

Doctor of Philosophy
in
Development Studies

at Massey University
Palmerston North, New Zealand

Wendy Elizabeth Williams
2004



CERTIFICATE OF REGULATORY COMPLIANCE

This is to certify that the research carried out in the Doctoral Thesis entitled
“Assistive Computer Technology and Empowerment: The Vocational Experiences of
Blind and Visually Impaired New Zealanders” in the School of People, Environment
and Planning at Massey University, New Zealand is

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This is to certify that the research carried out for the Doctoral thesis entitled "*Assistive Computer Technology and Empowerment: The Vocational Experiences of Blind and Visually Impaired New Zealanders*" was done by *Wendy Elizabeth Williams* in the *School of People, Environment and Planning*, Massey University, *Turitea*, New Zealand. The thesis material has not been used in part or in whole for any other qualification, and I confirm that the candidate has pursued the course of study in accordance with the requirements of the Massey University regulations.

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Date

12-10-04



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Abstract

The technology revolution which has occurred in New Zealand over the past 30 years has introduced an array of assistive mainstream and specialised computer technologies (ACT) such as the internet, voice and braille output systems. These technologies compensate for the information access limitations of the blind and visually impaired and promise eventual empowerment. In a few years New Zealanders with sight impairments have travelled from print illiteracy to print literacy, and the memories of the change, its impact, its success and pitfalls are still relatively recent. This thesis seizes the opportunity to explore their impact on empowerment using the vocational experiences of visually impaired and blind people as a case study.

Underpinned by a philosophy of empowerment, the study targets individuals who are themselves visually impaired, are of working age and have come into contact with ACT, along with relevant individual specialists and organisations. In methodological terms it is mainly qualitative with a pragmatic and complementary mix of focus groups, personal and specialist (key informant) interviews and a survey.

The study discovers that ACT has indeed spawned a range of benefits for participants in their personal and social contexts. It has improved users' information management abilities. Improvement in information management has led to spin-off benefits such as communication, which facilitates social involvement and participation. Participation and improved management of information have improved ACT users' response capability, or their ability to respond to changes in their external vocational environments. These three benefits when applied to the work context have led to increased access for users to another set of personal and social, tangible and intangible resources available through paid and voluntary work and self-employment. However some persistent social barriers and underlying structural factors impede the empowering potential of ACT.

Acknowledgements

I set out to do this thesis with a vision to improve and mature from the process. I believed that if I could observe other people's struggle with similar issues to mine - in this case blind and visually impaired people and ACT in another setting - that would help me to understand more about impairments and development and outfit me for making a meaningful contribution to the lives of marginalised peoples.

My journey took me to New Zealand - a country a universe away from my own. Here in a foreign, beautiful and cold (climate-wise) land I met people who have left indelible imprints on me. While the thesis process has been important and the prima facie reason for my visit, Kiwis (local name for New Zealanders) have impacted my life in far greater ways. They have shown me gentleness, politeness, kindness, love for animals, the value of order in social and political life and some of the finer aspects of human nature.

In turn they have forced me to reconsider some personal and cultural assumptions as well as to adopt some practices and strategies that will undoubtedly be beneficial in my personal and professional life. These, dear readers, are the intangible and unquantifiable but extremely valuable aspects of the PhD degree and the thesis writing process for which I owe a debt of gratitude to New Zealand.

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Wendy Elizabeth Williams

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List of Abbreviations

ABC	Association of Blind Citizens of New Zealand
ACC	Accident Compensation Corporation
ACT	Assistive Computer Technology, also known as “access”, “enabling” or “adaptive” technology
ADA	Americans with Disabilities Act 1990
ATIG	Assistive Technology Interest Group (hosted by RNZFB)
CBO	Community-Based Organisation
CBR	Community-Based Rehabilitation
CCTV	Closed Circuit Television
DOS	Disk Operating System
DPI	Disabled Peoples’ International
EMS	Equipment Management Services (now Enable Funding)
GUI	Graphic User Interface
HTML	HyperText Markup Language
IT	Information Technology
JAWS	Job Access With Speech
NASC	Needs Assessment and Service Coordination
NGO	Non-Governmental Organisation
NZQA	New Zealand Qualifications Authority
OCR	Optical Character Recognition; usually software allowing scanning and recognition of printed words
PC	Personal Computer
RHA	Regional Health Authority (now superseded by other bodies)
RNIB	Royal National Institute of the Blind (Britain)
RNZFB	Royal New Zealand Foundation of the Blind
SES	Special Education Services
SGML	Standard Generalized Markup Language
TIS	Telephone Information Service (RNZFB)
UPIAS	Union of the Physically Impaired Against Segregation (Britain)
VI listings	Visually impaired listings (RNZFB email listings)
WINZ	Work and Income New Zealand