

***Looking From The Outside In:
The Issue of Equal Access to
Computer-Mediated Learning by
Distance Learners in Higher
Education***

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submitted in partial fulfilment of the award
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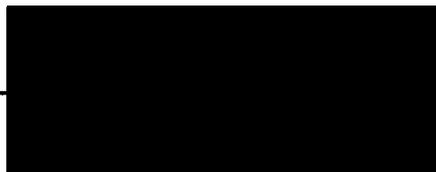
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CERTIFICATION

I certify that I am the sole author and that the substance of this thesis has not already been submitted for any degree and is not being currently submitted for any other degrees.

I certify that to the best of my knowledge that any help received in preparing this thesis, and all sources used, have been acknowledged in this thesis.

A solid black rectangular box redacting the signature of the author.

Signature - Julie Anne Willems

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GLOSSARY OF KEY TERMS AND CONCEPTS

Asynchronous – pertaining to online communication. Describes that which is not time-dependent, and can take place when opportunity and/or desire permits, or when time allows.

Bulletin Boards – see Forums.

Chat Rooms – are arenas which allow synchronous or real-time communication (or ‘chat’) between students and their peers, and/or their teachers, with the benefit being that users may gain immediate feedback.

CD – a flat plastic disc containing metal layers which is capable of storing large amounts of digital computer information.

Computer-Mediated Communication (CMC) - in its simplest form is the process of exchanging thoughts, ideas, and information via a computer keyboard and screen which is connected to other computers (Berge & Collins, 1995, p. 16). In other words, CMC covers all forms of human communication which use computers as the medium of sending and receiving messages. It includes Internet-based technology such as e-mail, chat-rooms, forums, computer conferencing, and the use of online databases (Chapman, 1999, p. 2).

Computer-Mediated Education (CME) - computer applications that facilitate the delivery of instruction online, and including electronic mail, fax, real-time conferencing, the Internet, and World Wide Web applications (Gottschalk, 1995a, p. 2)

Computer-Mediated Learning (CML) – learning which takes place through the medium of online materials and interaction.

Cultural Capital – the belief that culture operates to create hierarchies in society (Allen, 2001, p. 376), in much the same way as economic capital and physical capital create divisions in society between the “haves” and “have nots”.

Cyberspace - the term first coined by William Gibson to describe the dimension (the 'nebulous space') in which humans interact through computer networks (Touchstone, 1996, p. 2)

Distance Education (DE) - the delivery of the educational process to students who are not in proximity to the person(s) managing or conducting that process (Berge and Collins, 1995, p. 14)

Distance Learning (DL) - the desired outcome for students undertaking studies via distance education (Touchstone, 1996, p. 2)

Distance Learners (DLs) – those individuals who participate in distance learning.

Electronic Mail (e-mail) - is used to exchange messages or other information via Internet software through a computer network, from one computer address to another (the e-mail address) (Gottschalk, 1995c, p. 2).

Equality – concerns parity among different social groups along a given measure (Sutton, 1991, p. 477).

Equal Opportunity (to Educational Access) – the Organisation for Economic Co-operation and Development (OECD) emphasises equality of opportunity in an educational context as having equal access to education, especially in relation to minority groups (Matthews & McClure, 2002, p. 3). In Australia, organisations are bound by such

legislation as the *Disability Discrimination Act* 1992, the *Human Rights and Equal Opportunity Act* 1986, the *Racial Discrimination Act* 1975, and the *Sex Discrimination Act* 1984. These and other acts attend to the equal opportunity of all citizens in relation to employment, services, benefits, and in education (including tertiary institutions and their students).

Equity – from the Middle English ‘equite’ meaning equal or fair, and implying a freedom from bias or favouritism (Merriam-Webster Online Dictionary, 2003). In an educational context, it connotes the access of different social groups to education (Allen, 2001, p. 49).

Equity Groups – for the purpose of this study, these include recognised socially, economically and geographically disadvantaged groups within the tertiary students population, such as Indigenous people, people who live in rural or isolated locations, people with disabilities, people from a non-English-speaking-background, and women enrolled in non-traditional areas or post-graduate studies.

Female Students Enrolled in Non-Traditional or Postgraduate Areas of Study - the DETYA (Department of Education, Training and Youth Affairs, now known as DEST (Department of Education, Science and Training) definition is any category of study or type of course for which the percentage of female enrolments is less than 40% (UTAS, 2003).

Forums – (Bulletin Boards) are another form of facilitating online discussions. These are asynchronous, and allow for the placing (‘posting’) of messages or information to be read by others. Participants in forums can compose and post directly onto the bulletin board which is online, or they can compose a message off-line on a PC, and then cut and paste the message onto the bulletin board for posting (Chapman, 1999, p. 11).

Hidden Curriculum – the covert or implicit aspects of a curriculum which reflect the underlying social construction of knowledge in education (Allen, 2001, p. 379).

Hyperlink – enables words or graphics on one online document to be linked to another document, or in a different section of the same document, by clicking the mouse-pointer onto the highlighted or underlined text (Gratton, 1999, p. 18). This swiftly directs the reader to the recommended or associated site.

Indigenous Person – is defined as native to or belonging naturally to a place, as opposed to those who coming later, for example, an Aboriginal person as opposed to a migrant or their descendants. The Commonwealth of Australia recognises Australian Aboriginals and Torres Strait Islanders as Indigenous peoples (UTAS, 2003).

Internet - the world's largest network of interconnected computers. Computers on the Internet all have e-mail capability.

Internet Relay Chat (IRC) - like e-mail, a writing-based system that allows you to communicate via computer. Unlike e-mail, however, this is sent as you type in 'real time' giving the notion of live 'chat', rather than the transmission of the whole document at once, as is the case for e-mail (Moraitis, 1999, p. 11).

Information Technology (IT) – pertains to computers, their associated hardware and software, and the science of this technology.

Internet Service Provider (ISP) - the company that connects you to the Internet.

Low Socio-Economic Status - the DETYA (now known as DEST) definition for students with a low socio-economic status is: where the postcode of home location falls within the lowest quartile of the population of a given catchment region determined by the value of the ABS Index of Education and Occupation (UTAS, 2003). There is argument as to the adequacy of this definition (Watson & Pope, 2000, p. 7).

Lurking – the 'quiet' observation of the proceedings in forums and chat rooms, without active participation (Chapman, 1998, p. 23): readers as opposed to contributors.

Modem – the equipment which allows computers to interact with one another over telephone lines by converting digital signals to analog signals for transmission along the analog lines (Gottschalk, 1995g, p. 4).

Multi-media – the use of computers as a medium to present text, graphics, video, animation and sound (music, voice). These mediums can be memory-hungry and require specialised software, however, thus posing access challenges for some users.

Netiquette - like etiquette, netiquette refers to the 'unpoliced rules' that users of the Internet should abide by (Moriatis, 1999, p. 13).

Non-English Speaking Background (NESB) – DETYA (now known as DEST) definition for this equity group is: those who were born overseas and arrived in Australia less than 10 years previously, and who speak a language other than English at home (UTAS, 2003).

Online - communications or transactions which occur over the Internet (Allen, 2001, p. 381).

Personal Computer (PC) – originally applied to the first personal computer produced by the company IBM, but now applied to IBM compatible computers.

Rural and Isolated Students – the DETYA (now known as DEST) definition for this equity group is: where the postcode of home location identified as rural or isolated by the Department of Primary Industry and Energy (UTAS, 2003).

SPAM – specifically, electronic junk-mail for advertising purposes, but used more broadly to describe any unsolicited e-mails.

Students with Disabilities - As defined by the *Disability Discrimination Act* (Commonwealth, 1992, Section 3)

- ◆ A total or partial loss of the person's bodily or mental functions, eg being paraplegic, having epilepsy;
- ◆ Total or partial loss of a part of the body, eg amputation;
- ◆ The presence in the body of organisms capable of causing disease, eg being HIV positive but not having full-blown AIDS;
- ◆ The malfunction, malformation or disfigurement of a part of the person's body, eg having a club foot;
- ◆ A disorder or malfunction that results in the person learning differently from a person without the disorder or malfunction, eg being dyslexic;
- ◆ A disorder, illness or disease that affects a person's thought processes, perceptions of reality, emotions or judgement or that results in disturbed behaviour, eg having schizophrenia, having a psychiatric condition.

This includes:

- ◆ People who currently have a disability;
- ◆ People who previously had, but no longer have a disability, eg having a medical history of severe asthma which is now under control;
- ◆ People for whom a disability may exist in the future, eg being a member of a family which has a history of heart disease, and
- ◆ People to whom a disability is imputed, eg assuming that a gay man has AIDS when he is in fact healthy (UTAS, 2003).

Social Capital - whilst economic capital, and even physical capital are often discussed, the notion of social capital (the resources available to individuals or groups), is becoming more important in understanding why some individuals or groups succeed, and others do not. Outcomes for individuals or groups are better when there are high levels of capital available (ABS, 2003b, p. 1), and inversely, are worse when there are lower levels of capital available.

Synchronous – pertaining to 'real' or present time.

Threads – a series of messages that have been posted as replies to online discussions, which are read as consecutive entries in a string of connected messages.

Uniform Resource Locator (URL) – the global address (the homepage) of documents and resources on the World Wide Web (Gottschalk, 1995g, p. 5).

Video Conferencing – is a combination of video and audio communication between users in different locations, and usually takes place synchronously (Ebbelink, 1998, p. 2), although a video may be pre-prepared and transmitted via the Internet asynchronously (Chapman, 1999, p. 12).

Virus – a program which can reproduce itself once loaded onto a computer, having the potential to delete memory, software programs and/or render the entire system unusable. A virus can be transmitted through infected programs or as attachments on e-mails to individual computers and/or interconnected computers.

Weaving – is the process of tying together all the threads of communication that have taken place in a particular communication session or on a particular subject. This can be by summation. Weaving can also focus the conversation on particular topics (Chapman, 1998, p. 14).

World Wide Web (WWW) – is a global network of computers, inter-linked by telephone lines, allowing the sending and receiving of information from individual computers to others (Gratton, 1999, p. 1). It is a hypertext-based Internet tool (Touchstone, 1996, p. 5).

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ABSTRACT

This study examines the experience of distance learners, particularly those who fit into different equity groups, with online learning in higher education. Cyber education is no longer the realm of science fiction. Instead, the use of computer technology has now become an integral part of learning in the modern university. Computer-mediated communication (CMC) - it is hoped - will extend opportunities for learning outside the pre-existing parameters of distance education and enhance the learning opportunities and outcomes for all students within these courses.

Whilst there are many potentials for the new technology, the implementation of CMC in distance education, however, may assume that students will possess a pre-existing practical knowledge of computer technology. It also may assume equality of students in terms of access, competency, and opportunity. However, not all students have had the opportunity, the desire, or even the confidence to gain access to this medium. Often factors such as little or no income, geographical isolation, gender, time constraints, age, cultural background and disabilities compound to separate distance learners from the very technology that has the capabilities to provide them with greater opportunities in tertiary education.

This study, conducted over a five-year period from 1998 to 2003, spans a time of rapid change in tertiary institutions in Australia, from the initial incorporation to the now widespread utilisation of computer-mediated technology in distance learning, the so-called 'third-generation' of distance learning. The aim of the study has been to explore the lived reality of a select group of 35 distance education students through their experiences with CMC.

Case study methodology is the basis of this research. Thirty-five students who are enrolled as distance learners with seven Australian and two off-shore providers of higher education using CMC as a medium of delivery, were surveyed to gather information by means of a

comprehensive three-part questionnaire. The respondents provided feedback across three broad areas: their personal profiles as distance learners; the circumstances behind their choice of distance education as their preferred mode of learning in tertiary education; and their current access to, and knowledge of, computer technologies and their experiences in the utilisation of CMC in distance education.

On completion of the survey questionnaire, respondents were invited to take part in an open-ended interview. Due to researcher and respondent variables, these interviews were conducted anywhere between one day and twelve months from the completion of the survey questionnaire. The interview provided the opportunity for respondents to elaborate on their experiences with CMC in distance learning, and to identify any changes that they perceived had taken place in terms of advantages or barriers. It also enabled distance learners to articulate suggestions for the enhancement of CMC in distance learning. Owing to the geographical distances separating the researcher from subjects in the study, the majority of interviews were conducted over the telephone. A small number of the sample were interviewed in-person when opportunity allowed.

The key findings from this research demonstrate that despite the incorporation of CMC into distance learning, difficulties in negotiating distance education still remain, with a ratio of one positive response noted by the case study participants to four negative responses.

Across all sectors of distance learners represented in this study, including urban students who did not fall into any equity groups, commonality was experienced with the noting of three areas of challenge. These are: poor communication flow despite the potentials of technology; difficulty in negotiating webpages; and difficulty in accessing online and off-campus library resources. These were considered by distance learners to be barriers to the successful retention and completion of their distance learning.

94.28% of respondents in the study fall into at least one of the recognised equity groups for disadvantaged students (Indigenous student; rural and isolated students; students with disabilities; students from non-English speaking backgrounds; students who have a low

socio-economic background; and female students enrolled in non-traditional academic areas). A further equity group who are identified in this study are students who are over 55 years of age. In addition to concurring with distance learners from urban, non-equity groups, each of these groups of distance learners identified other equity-specific areas of challenge in utilising CMC in their distance learning. Respondents reported equity-specific challenges. Students who are vision-impaired reported difficulties with reading documents online. Mobility-impaired students reported difficulties with the sedentary nature of print-based CMC. Rural and isolated students reported challenges in accessing the Internet due to frequent telephone line and power failures, and in costs associated with accessing purchase and repairs of technology requirements.

In addition, this study identifies the existence of sub-groups within the various main equity groupings. These include low socio-economic status, rural and isolated, low skills, unemployment, chronic illness, low self-esteem, social isolates, and carers for others. Specific challenges exist for these sub-groups in addition to the shared barriers of the equity group as a whole, compromising a successful experience in utilising CMC in distance education

The study establishes a clear link between the compounding effects of the experiences of distance learners who fall into more than one of the equity groups and/or sub-groups. The greater the number of equity groups and sub-groups that a distance learner falls into, the greater the challenges for the successful retention and completion of higher education. Significantly, one quarter of respondents in the study had membership in three or more equity groups. These findings indicate the existence of sub-classes of distance learners those who despite the optimism of the democratising nature of CMC, remain marginalised on the periphery of academia – relegated to “looking from the outside in”.