ACCESS ISSUES

THE COMPUTER AS A COMMUNICATION TOOL FOR PRIMARY SCHOOL CHILDREN

Damian Maher

A thesis submitted in partial fulfilment of the requirements for the Degree of Doctor of Education

Faculty of Education
University of Technology, Sydney

2006

CERTIFICATE OF AUTHORSHIP/ORIGINALITY

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I received in my research work and the preparation of the thesis has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

Signature of Candidate

Production Note:
Signature removed prior to publication.

ACKNOWLEDGMENTS

There were many people who assisted and inspired me during my study that I would like to acknowledge.

I am particularly indebted to my supervisor, Dr Sandy Schuck. Sandy advised and supported me through what was a huge learning experience. Her patience, knowledge, and understanding were invaluable. I would also like to thank my co-supervisors, Dr Ross Todd and Dr Pauline Gibbons. Ross provided much guidance early in the thesis writing and his suggestions were always considered and gave me direction. Pauline was able to step in and take the place of Ross after he left UTS early in my candidature. She was able to contribute excellent ideas and material.

I would also like to thank other staff members at the University of Technology, Sydney (UTS). This includes Dr Gilda Segal, who gave much of her time and resources to assist me. Dr Matthew Kearney and Dr Gerry Foley provided support in proofreading versions of this thesis. I would also like to acknowledge members of the writing group I was fortunate to work with including fellow students- Donna, Leonie, Rachel, Sue, and lastly Alison Lee, a lecturer at UTS. In working with them, I learnt much.

I would particularly like to thank the students and teachers who allowed me to enter their world and share part of it. Their generosity in giving their time and their openness resulted in some exciting research. Without their support, I would not have been able to complete this thesis.

Lastly and most importantly, I would like to thank my wife and daughter, Jinah and Danah, for their support and encouragement. It is for them that I strive.

TABLE OF CONTENTS

Certificateii
Acknowledgmentsiii
Table of contentsiv
List of figuresix
List of tablesix
Glossaryx
Abstractxiii
PART ONE
Chapter one. Access issues
Introduction1
1.1 The need for the study2
1.2 The study5
1.3 The significance of the study7
1.4 Defining the boundaries of the study8
1.5 A plan of the thesis
Conclusion11
Chapter two. An analytical framework for understanding access issues
Introduction
2.1 Sociocultural theory: A theory of learning
Mediation15
The zone of proximal development
Scaffolding17
Appropriation19
Identity and power
Interactions22
2.2 Systemic functional grammar: A theory of language24

Chapter three. Research on access issues: A review of the literature	
Introduction	29
3.1 The provision of access	29
3.2 Identity	32
3.3 Gender	36
3.4 Safety	37
Contact with people	38
Contact with content	41
3.5 Language	43
Language practices at school.	43
Language practices in the home.	47
3.6 Home/school links	49
Conclusion	50
Chapter four. Study design: Methodology, sites and data	
	52
Introduction	
Introduction	52
Introduction	52
Introduction. 4.1 Methodology. Ethnographic research.	52 54 55
Introduction. 4.1 Methodology. Ethnographic research. The Case Study.	
Introduction. 4.1 Methodology. Ethnographic research. The Case Study. Applying rigour to the research process. Ethical considerations.	
Introduction. 4.1 Methodology. Ethnographic research. The Case Study. Applying rigour to the research process. Ethical considerations.	
Introduction. 4.1 Methodology. Ethnographic research. The Case Study. Applying rigour to the research process. Ethical considerations. 4.2 Research sites and participants.	
Introduction. 4.1 Methodology. Ethnographic research. The Case Study. Applying rigour to the research process. Ethical considerations. 4.2 Research sites and participants. Research site one.	
Introduction. 4.1 Methodology. Ethnographic research. The Case Study. Applying rigour to the research process. Ethical considerations. 4.2 Research sites and participants. Research site one. Research site two. My roles in the study.	
Introduction. 4.1 Methodology. Ethnographic research. The Case Study. Applying rigour to the research process. Ethical considerations. 4.2 Research sites and participants. Research site one. Research site two. My roles in the study.	
The Case Study. Applying rigour to the research process. Ethical considerations. 4.2 Research sites and participants. Research site one. Research site two. My roles in the study. 4.3 Data collection and analysis.	

Data analysis75
Conclusion77
PART TWO
Chapter five. Unlocking the door: Projects from the study
Introduction
5.1 Overview of the projects from the study
5.2 The pilot study79
The ePALS project80
The Gully way project81
The provision of access in the pilot study82
5.3 The main study84
The class web site85
The provision of access through the class web site94
The Expert Project96
The Schoolmail Project97
The Teddy Bear Project99
The Debate101
The High School Project
Messenger
Hotmail
Conclusion110
Chapter six. Opening the door, going underground
Introduction112
6.1 A move away from the public domain
6.2 Identity
Constructing identity through online interactions
My identity129
Unknown identity

6.3 Gender: patterns of participation	133
6.4 Safety: access to the unknown	139
Contact with people	139
Contact with content	146
Managing safety issues in schools: Why a gated community do	es not work149
Conclusion	153
Chapter seven. The effects of access on language practices	
Introduction	155
7.1 Field- Different types of content	
The technical content	
The navigational content	
The personal content	
The curriculum content.	
7.2 Tenor- Establishing relationships online	172
Visual resources	172
The language of asynchronous interactions	176
Discourse clash	184
Scaffolding students online	187
7.3 Mode- The computer as a medium	191
The web as an interface	191
Architectural considerations	195
Using Word	202
Conclusion	205
Chapter eight. Closing the door: Discussion, implications, and rec	ommendations
Introduction	
8.1 Providing access	209
8.2 The effects of providing access	
The Underground	
Changing language practices.	

Blurring boundaries-safety issues	217
8.3 Theoretical implications	220
8.4 Methodological implications	222
8.5 Beyond the study: Suggestions for further research	223
Conclusion	225
Appendix A: Ethics approvals	228
Appendix B: Instruments	232
Appendix C: Departmental policies	236
Appendix D: Students' classroom material	241
Appendix E: Numerical results of project data	248
References	252

LIST OF FIGURES

Figure 5.1 List of projects	79
Figure 5.2 The front page of the class web site	87
Figure 5.3 The Interactions page	90
Figure 5.4 The guest book icon	91
Figure 5.5 Web page presented to users when posting a message	92
Figure 5.6 The chat room.	93
Figure 5.7 The Debate web page.	103
Figure 5.8 Messenger screen shot.	109
Figure 6.1 Section of chat room screen.	121
Figure 6.2 Channel V chat room.	128
Figure 6.3 Email addresses.	140
Figure 6.4 Screen shot of log-in page of nineMSN	147
Figure 7.1 Emoticons.	173
Figure 7.2 NRL web site.	192
Figure 7.3 Four-room screen shot.	200
Figure 8.1 Model of research spaces.	222
LIST OF TABLES	
	0.5
Table 5. 1 Overview of project dates	
Table 5. 2 High school lesson overview	
Table 5. 3 Rules of online sessions.	106

GLOSSARY

Asynchronous interactions

"A method of communication where messages are sent and received over a time period. An analogy would be posting a letter, the writer creates and sends the letter. The receiver waits for the letter and sends a reply when it is received. Asynchronous communication usually appears in the computer world as email. Email is usually personal asynchronous communication in that email is sent from one person to another." daugenis.mch.mii.lt/UNESCOeducation/glossary.htm

Computer-mediated interactions

An interaction is a conversation that can be as simple as a single word or sentence between two people up to extended dialogue between many people. The term 'computer mediated interactions' refers to both interactions that are mediated **through** the computer and **around** the computer. Interactions mediated through the computer are electronic messages sent via the Internet using email, guest books, chat rooms, and peer-to-peer programs. These interactions can be asynchronous or synchronous. Interactions around the computer refer to spoken interactions between students and teachers or amongst students, where participants are engaged in either writing or reading electronic messages that were sent or received via the Internet.

Emoticon

"The term "emoticon" literally means "an <u>icon</u> that represents emotion." Emoticons grew out of the need to display feeling in the two-dimensional, online, written world. When speaking face-to-face (<u>F2F</u>), a person's facial expressions help you understand the meaning of what he or she is saying." Emoticons help to convey feelings or emotions online that are normally conveyed through facial expressions. Emoticons started out by combining grammatical features of the English language for example, and colon and bracket expresses happiness:). In more recent times emoticons have become coloured images.

http://www.netlingo.com/lookup.cfm?term=emoticons

Field

The field of discourse refers to what the language is being used to talk about, and is realised in terms of the ideational metafunction (Gibbons, 1999). This term is used in systemic functional grammar.

Key Learning Area (KLA)

In NSW schools there are six curriculum or key learning areas (KLAs). These include English, Maths, Personal Development/Health/Physical Education (PDHPE), Science and Technology, Creative Arts, and Human Society and its Environment (HSIE).

Mode

The mode of the discourse refers to the means by which meaning is conveyed, either through spoken or written means, and is realised in terms of the textual function. This term is used in systemic functional grammar.

Synchronous interactions

"Communication happening online between two or more people at the same time, but not necessarily in the same place. The most frequently used form of synchronous communication is online chat. Audio and video conferencing, instant messaging, and white boards are other examples".

www.csus.edu/uccs/training/online/glossary.htm

Tenor

The tenor of the discourse refers to the relationship constructed between speaker/listener or reader/writer and is realised in terms of the interpersonal metafunction (Gibbons, 1999). This term is used in systemic functional grammar.

Zone of proximal development (ZPD)

"..the distance between a child's actual developmental level as determined through independent problem solving and [his or her] potential development [level] as determined through problem solving under adult guidance or a collaboration with more capable peers" (Vygotsky, 1978).

ABSTRACT

This thesis investigates access issues associated with the use of the Internet to provide human-to-human interactions in the upper primary school classroom. In examining issues of access, a metaphor of a door is used. I suggest that doors are in place in schools but the doors are currently locked. The purpose of this study is to investigate what happens when these doors are unlocked.

In focusing on access issues the following two questions are considered.

What factors are required to provide access to the Internet for primary school students?

What are some of the effects of providing such access?

The study, which was conducted during the first half of 2001 and the whole of 2002 is informed by data collected with participants in two upper primary classrooms (grades five and six). Qualitative methodology is used, drawing on aspects of ethnography and case study methods. Data are collected through a variety of methods including observations, field notes, interviews, discussion with teachers, and by recording online interactions. A theory of learning and a theory of language are used to analyse the data.

A number of outcomes arise out of this study. It is found that there needs to be greater consideration in providing access to computers in the classroom, for without reliable technical and physical access, online interactions cannot proceed. Another finding of this study is that there are few online spaces that are reflective of the needs of primary school participants. In this study, several online spaces were developed including a class web site and a chat room. In providing access for students to the spaces developed for this study and through contact in student initiated sites, a window is opened to the students' online world where issues of identity, gender, safety, and language surface.

The significance of this study is that it contributes to an understanding of the use of the Internet in primary schools. Other areas to which this study contributes are the theoretical and methodological implications of conducting research involving the Internet as a communication tool.