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Canada

ENCOURAGING ON-LINE SOCIAL INTERACTION: THE USE OF EXPERT PRACTICE

by

Susan Crichton

B.S., California State Polytechnic University,
Pomona, California, 1973

THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS

in the Faculty
of
Education

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SIMON FRASER UNIVERSITY
March 1993

Canada

Dear Sandra,

Thank you for agreeing to let me use your on-line commentary and to allow me to interview you on-line.

At any point during my research you are free to withdraw, and before I printed any of your commentary or interview statements in my final thesis I would ask your permission.

I believe that the interaction that is taking place in WIER is special and valuable, and I am anxious to look at this interaction because I believe strongly that other on-line conferences could learn and benefit from the strategies that you are using in WIER.

Please check the appropriate statements below, sign this copy, and return it to me in the self-addressed envelope.

Thank you again for your support in my project.

Sincerely,

Susan Crichton

___✓__ I grant permission for Susan Crichton to use my on-line commentary and to interview me regarding WIER.

___ I would like my on-line commentary and interview comment to be anonymous.

___✓__ I would like to have my name remain on the commentary and in the interview notes. (*if you wish*)

May 7, 1992

Dear Shine,

Thank you for agreeing to let me use your on-line commentary and to allow me to interview you on-line.

At any point during my research you are free to withdraw, and before I printed any of your commentary or interview statements in my final thesis I would ask your permission.

I believe that the interaction that is taking place in WIER is special and valuable, and I am anxious to look at this interaction because I believe strongly that other on-line conferences could learn and benefit from the strategies that you are using in WIER.

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Sincerely,

Susan Crichton

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     commentary and to interview me regarding WIER.

___   I would like my on-line commentary and interview comment to
      be anonymous.

√   I would like to have my name remain on the commentary and in
     the interview notes.

I agree to allow Shine to participate in the research project described in the letter to John McClusky from Susan Crichton. I understand that all the writings of my child will be used only in Susan Crichton's thesis and that my child's name will not appear in either the thesis or on the writing used in the thesis.

I also understand that I can stop the use of my child's written work in this project at any time.

_____
Parent /Guardian

_____
Date

May 7, 1992

Dear John Huff,

Thank you for agreeing to let me use your on-line commentary and to allow me to interview you on-line.

At any point during my research you are free to withdraw, and before I printed any of your commentary or interview statements in my final thesis I would ask your permission.

I believe that the interaction that is taking place in WIER is special and valuable, and I am anxious to look at this interaction because I believe strongly that other on-line conferences could learn and benefit from the strategies that you are using in WIER.

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Susan Crichton

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       be anonymous.

__✓__ I would like to have my name remain on the commentary and in
       the interview notes.

I agree to allow John Huff to participate in the research project described in the letter to John McClusky from Susan Crichton. I understand that all the writings of my child will be used only in Susan Crichton's thesis and that my child's name will not appear in either the thesis or on the writing used in the thesis.

I also understand that I can stop the use of my child's written work in this project at any time.

Parent/Guardian

__May 14/92_____
Date

May 7, 1992

Dear John McClusky,

Thank you for agreeing to let me use your on-line commentary and to allow me to interview you on-line.

At any point during my research you are free to withdraw, and before I printed any of your commentary or interview statements in my final thesis I would ask your permission.

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Sincerely,

Susan Crichton

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___ I would like my on-line commentary and interview comment to
     be anonymous.

✓ I would like to have my name remain on the commentary and in
   the interview notes.

May 7, 1992

Dear Thuy Bui,

Thank you for agreeing to let me use your on-line commentary and to allow me to interview you on-line.

At any point during my research you are free to withdraw, and before I printed any of your commentary or interview statements in my final thesis I would ask your permission.

I believe that the interaction that is taking place in WIER is special and valuable, and I am anxious to look at this interaction because I believe strongly that other on-line conferences could learn and benefit from the strategies that you are using in WIER.

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___   I would like to have my name remain on the commentary and in
       the interview notes.

I agree to allow Thuy Bui to participate in the research project described in the letter to John McClusky from Susan Crichton. I understand that all the writings of my child will be used only in Susan Crichton's thesis and that my child's name will not appear in either the thesis or on the writing used in the thesis.

I also understand that I can stop the use of my child's written work in this project at any time.

_____
Parent /Guardian

__May 20 /92
Date

Hi Susan!

I thought that I would slip in a note & say hi. Sorry for the ripped-out paper B^)

The weather is beautiful here... Any rain yet? ;^)

I'll send you a message tonight.

Ciao,
Tara

Dear Tara,

Thank you for agreeing to let me use your on-line commentary and to allow me to interview you on-line.

At any point during my research you are free to withdraw, and before I printed any of your commentary or interview statements in my final thesis I would ask your permission.

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Sincerely,

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      commentary and to interview me regarding WIER.

___ I would like my on-line commentary and interview comment to
      be anonymous.

_✓_ I would like to have my name remain on the commentary and in
      the interview notes.

May 7, 1992

Dear Susan,

Thank you for agreeing to let me use your on-line commentary and to interview you on-line.

At any point during my research you are free to withdraw, and before I printed any of your commentary or interview statements in my final thesis I would ask your permission.

I believe that the interaction that is taking place in WIER is special and valuable, and I am anxious to look at this interaction because I believe strongly that other on-line conferences could learn and benefit for the strategies that you are developing here.

Please check the appropriate statements below, sign this copy, and return it to me in the self-addressed envelope.

Thank you again for your support in my project.

Sincerely,

Susan Crichton

✓ I grant permission for Susan Crichton to use my on-line
   commentary and to interview me regarding WIER.

___ I would like my on-line commentary and interview comment to
   be anonymous.

✓ I would like to have my name remain on the commentary and in
   the interview notes.

Dear Katherine,

Thank you for agreeing to let me use your on-line commentary and to interview you~~on-line~~ I prefer to do this by phone.

At any point during my research you are free to withdraw, and before I printed any of your commentary or interview statements in my final thesis I would ask your permission.

I believe that the interaction that is taking place in WIER is special and valuable, and I am anxious to look at this interaction because I believe strongly that other on-line conferences could learn and benefit for the strategies that you are developing here.

Please ~~check the appropriate statements below, sign this copy~~, and ~~return it~~ to me in the self-addressed envelope.

Thank you again for your support in my project.

Sincerely,

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        commentary and to interview me regarding WIER.

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        be anonymous.

___   I would like to have my name remain on the commentary and in
        the interview notes.

Dear Brian,

Thank you for agreeing to let me use your on-line commentary and to interview you on-line.

At any point during my research you are free to withdraw, and before I printed any of your commentary or interview statements in my final thesis I would ask your permission.

I believe that the interaction that is taking place in WIER is special and valuable, and I am anxious to look at this interaction because I believe strongly that other on-line conferences could learn and benefit for the strategies that you are developing here.

Please check the appropriate statements below, sign this copy, and return it to me in the self-addressed envelope.

Thank you again for your support in my project.

Sincerely,

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   commentary and to interview me regarding WIER.

___ I would like my on-line commentary and interview comment to
   be anonymous.

✓ I would like to have my name remain on the commentary and in
   the interview notes.

Dear Hiren,

Thank you for agreeing to let me use your on-line commentary and to allow me to interview you on-line.

At any point during my research you are free to withdraw, and before I printed any of your commentary or interview statements in my final thesis I would ask your permission.

I believe that the interaction that is taking place in WIER is special and valuable, and I am anxious to look at this interaction because I believe strongly that other on-line conferences could learn and benefit from the strategies that you are using in WIER.

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Sincerely,

Susan Crichton

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        commentary and to interview me regarding WIER.

____   I would like my on-line commentary and interview comment to
        be anonymous.

____   I would like to have my name remain on the commentary and in
        the interview notes.

Dear Peter,

Thank you for agreeing to let me use your on-line commentary and to allow me to interview you on-line.

At any point during my research you are free to withdraw, and before I printed any of your commentary or interview statements in my final thesis I would ask your permission.

I believe that the interaction that is taking place in WIER is special and valuable, and I am anxious to look at this interaction because I believe strongly that other on-line conferences could learn and benefit from the strategies that you are using in WIER.

Please check the appropriate statements below, sign this copy, and return it to me in the self-addressed envelope.

Thank you again for your support in my project.

Sincerely,

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   commentary and to interview me regarding WIER.

___ I would like my on-line commentary and interview comment to
     be anonymous.

___ I would like to have my name remain on the commentary and in
     the interview notes.

Note 223 (of 239) by SANDRA HAWKINS (hawkinsa) on 29 May 1992, 21:36 Pacific
(654 characters).

Yeah, I'm sure you're right, Kevin. Regionalism was my suggestion--writing
while I was thinking how to keep the writers from getting burned out. We have a
lot of great stuff happening here, but this year we missed some of the good
interaction we used to

get between the kids. Some of them really found soul mates and continue to
dialogue two and three years later. WIER is so successful we have to keep
looking at new ways of keeping the best of it while it necessarily grows.

Sorry, Trevor--I know we weren't going to get discussing this here, but since I
made the suggestion in the first place I wanted to retract it before it goes
any further!

Action on "WIER" (223 of 239) ==> (Next)

Note 229 (of 239) by BRIAN BRETT (bbrett) on 31 May 1992, 19:40 Pacific (2124
characters).

Everyone: I am probably being very rash here. I have enjoyed this
program a lot more than I thought I would. I don't know if I'll
be back or if WIER will even be back, though I suspect, I hope it
will. It's one of the best encounters I have ever seen between
writers and students, and I have done a lot of them over the
years.. I do know that there is some difficulty with my phone
costs, which makes me an extra expense compared to other writers,
and then of course, there is my sometimes gruff though honest
responses which are not always "politically correct" in the world
of teaching (as far as I understand). But I do want to say that I
feel privileged to have participated in such an excellent
program, and that I have enjoyed and learned, yes learned from
the submissions and responses (including my own.) I want to thank
Trevor and Susan (and the many unnamed others) for their hard
(some of you don't know how hard they have worked) endeavours
that made this conference come about. A hand to all of you.

--more--? (Yes)
Excellent.
        As for myself, once I finish up here, it will return to my
novel and my dreams and my gardens and my peacocks. Life on the
lucky islands.
        And for those who sent in work and intend to go on working,
or have a burning curiosity about words and the responses they
create. I am going to declare an open house day. I'm thinking
here of people like Chantelle and Ned/Orion and Hiren and John
Huff (and so many others), etc., And I will be silly enough to
give out my phone number (604) 653-2377 for those who can afford
(or their parents can afford) a call. I will be home to all
students (or teachers) who would like to discuss work privately
on Sunday, June 13. If you want to discuss specific works that
have been online, have on hand the date they sent, so that I can
look them up in my downloads (it might take some time, but I

think I have everything). Anybody that phones before or after the
'3th will be toast !!!. But if you do want to talk about your
work on that day, I am at your service. It seems the least that I
can do as a thank you to such a spectacular and interesting
program. Brian

Message 92.7519 by SANDRA HAWKINS (hawkinsa) on 1 June 1992, 18:56 Pacific (186 characters).

Well,Susan, had such a good time at the Apple Tree that I didn't get any further--will get to it a.s.a.p.! :) Of course, I will now have to visit the discussion's name sake in July!

"BELATED RESPONSE" by PETER MARMOREK (marmorek) on 13 May 1992, 15:57 Pacific,
about DELAYED MESSAGE (433 characters and 0 notes).

Dear Susan,

Kevin downloads from WIER for me, and it took a few days to get
your message...which just arrived today. (Got your note about it
last night). Anyway, yes!!!! Both Hiren and I would love to
participate and help in any way we can. As a media teacher, I'm
fascinated with what WIER is doing, and would love to see what
your findings are. I'd also love to be more involved with
WIER...but that's another story.
Later,
Peter

Action on 647 inbox notes ==> (Read) 92.6745

.essage 92.6745 by TARA MCFARLANE (tmcfarla) on 18 May 1992, 15:30 Pacific (188 characters).

Susan,

I would love to help you out. I don't know how long that I will be on line for, but I hope that I will be on long enough to assist you. You do know that I am not a teacher :)
TAra

Message 92.6380 by KATHERINE GOVIER (govier) on 8 May 1992, 11:20 Pacific (253 characters).

Dear Susan
            I agree to having you use my commentary provided that
I can check the statements or commentary first- as you suggest.
I'm away until June 1. After that we can agree on how to do
the interview. Glad you're doing this, but rushed right now! k

Message 92.6325 by JOHN MCCLUSKY (mcclusky) on 7 May 1992, 12:26 Pacific, about REPLY (258 characters).

Dear Susan
        Thuy Bui, Shine, John Huff and I would all be pleased to help you with your rsearch by answering questions.
        We have only about a month of classes left. After that it may be difficult to track students down.
        Best, John McCluskey

Message 92.6282 by SUSAN MUSGRAVE (musgrave) on 6 May 1992, 18:40 Pacific,
about COMMENTARY AND INTERVIEW (117 characters).

Susan, please feel free to use my commentary and yes - count me in for an
interview! Sounds interesting.
Best, Susan

Action on 92.6574 ==> (Next)

əssage 92.6593 by SANDRA HAWKINS (hawkinsa) on 13 May 1992, 19:32 Pacific (820 characters).

Susan,

Tara's address is 1814 Juniper Street --Williams Lake. I am sure she will be a willing participant. She is a great person who truly believes in telecom as an educational tool--and social institution!

Got your consent letter yesterday and will have it in the mail tomorrow--was

in Horse Lake today doing a bit of a workshop on telecom, so haven't tendend to messages etc. Also just booked a Silverton Lodge cabing for July 17 & 18--will be attending a wedding in New Denver. This will be our family's first trip to the area and we

have been told we are in for a real treat. One of the teachers on my staff, Gerry Tickner is realed by marriage to the McCrory family. Colleen is his

--more--? (Yes)
sister in law. She did some great environmental conferences here for our students. Do you know her?

Regards, Sandra

Action on 92.6593 ==> (Next)

Message 92.6599 by BRIAN BRETT (bbrett) on 13 May 1992, 23:48 Pacific, about THESIS AND THE DREAMS OF THOSE WHO RUN (3402 characters).

Susan: No, I have not forgotten your request. The reason that I
haven't replied is that I do have some problems with it.
        As a writer I have spent many years working through the
words. I am still firing at a novel that I began in 1974.
Tanganyika's first story was begun in 1972. I spent 12 years on
The Fungus Garden. The poems, I still haven't got right despite
20 years of pain and dreams. Yes, I do shit work, reviews and
articles for various newspapers and publications, but they are
different (at least to my mind).
        I guess what I am saying is that I take Kundera's words very
much to heart when he says that his interviews are all lies ...
that he spends so many years working on his novels and then some
dumb reviewer expects him to clarify and simplify everything in
an off-the-cuff remark. It doesn't work that way with the text.
        Which brings me to WIER. I am more fond of this program than
I imagined I would be. Maybe that's why I have some concerns

--more--? (Yes)
about your doing a thesis on it. Yet at the same time I recognize
that your work could enhance the program or bring enough
awareness to people to allow the creation of more programs like
this.
        My problem, basically, is that I decided, I had to, to work

through this program in a conversational approach, run and fly
and laugh and sink. So I became many things to many different
ranches, devil's advocate (as in Inborn Consent), preacher (as
in my ten commandments), jokester, advisor, encyclopedia, friend.
Each approach was a decision, sometimes hurried, on how to deal
with a particular encounter. That's one of the things that makes
the program so exciting, but to take that excitement and reduce
it to thesis format engenders all kinds of other decisions, none
of which, I'm afraid, I would be part of.
        So, my basic fear is that the context of these discussions
will be lost, and I do not want to become the potential animal
that the victim of a thesis can be.
        I know this sounds harsh. It's not meant to be. But,
basically, it means, I have trusted my judgement throughout these
proceedings, but because of the nature of the offhanded, often

--more--? (Yes)
ungrammatical, eccentric, off-the-wall, jocular, harsh, playful
replies that I have made, I do have concerns about how they would
appear outside of that context. They were meant to exist and work
within the program. They were not meant to be part of an extended
document on the merits/values of that program.
        Basically, I am torn here. The only solution that I can come
up with is that, yes, I will give you approval, but only if I can
approve the final version of any texts I may have spun off, as
well as insert a commentary into those texts.
        Myself, I would find that insufferable if I were writing the
thesis. It could, on the other hand, have some rather interesting
results, and certainly would make for some wild and interactive
texts. The decisions is yours. I am just unwilling to give any
ind of carte blanche to these meanderings, many of which I
probably disagreed with or denied on the next morning, depending
on my mood.
        The reason I like the program so much is its lively
qualities, and the danger of dealing with unknowns while typing
the words that come. This, I'm afraid, doesn't agree with being
executed in a permanent format.

--more--? (Yes)
        I don't know if this answers your request. I guess I'm still
online!!! Maybe a phone call would be more appropriate.

yrs,

Brian

Action on 92.6599 ==> (Next)

Message 92.6606 by JOHN MCCLUSKY (mcclusky) on 14 May 1992, 05:41 Pacific,
about ROYAL MAIL (416 characters).

Dear Susan,
        We have a great bunch of people working for Canada Post. Your
letter arrived today, even though my name was misspelled, the school's
name wasn't on the envelope, and there was no street address. So those
postal codes really do work. I'll pass your letters on today. Most
(maybe all) of these students are over 18. You don't require parent

signatures for them, do you?
        Best, John McCluskey

Message 92.7152 by BRIAN BRETT (bbrett) on 24 May 1992, 23:31 Pacific, about
PERMISSIONS, KNOWLEDGE, RUNS, THE UNIFVERSE, EVERYTHING (493 characters).

Susan:
Hi. Can you phone me about the permissions form. I want to talk
to you before I sign it. Nothing serious. It's just that I don't
think we should be anonymous (the format is too personal), and I
think If I talk to you I will know you enough to feel easy about
signing this thing. I am such a formal writer in so many odd ways
that I am nervous about releasing off-handed and sometimes off-
the-wall commentaries to print. I want to hear your voice as you

--more--? (Yes)
tell me what you are planning.

APPROVAL

Name: Susan Elizabeth Crichton

Degree: Master of Arts

Title of Thesis: Encouraging On-line Social Interaction:
                                 The Use of Expert Practice

Examining Committee:

Chair: Michael Wolff-Roth

_____

Celia Haig-Brown
Senior Supervisor

_____

A.J. (Sandy) Dawson
Associate Professor

_____

Gerri Sinclair
Research Associate
Faculty of Education
Simon Fraser University
External Examiner

Date Approved _March 2, 1993_____

ii

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Title of Thesis/Project/Extended Essay

Encouraging On-line Social Interaction: The Use of Expert Practice

_____

_____

_____

Author:

_____
(signature)

Susan Elizabeth CRICHTON
(name)

March 2, 1993
(date)

ABSTRACT

This thesis is a case study of one computer conference, Writers' In Electronic Residence (WIER). It explores the use of expert practice as a moderating strategy to encourage on-line social interaction. The purpose of the social interaction was to allow participants to negotiate meanings and exchange commentary concerning issues arising from the students' writing.

The computer conference studied (WIER) is based in Toronto and sponsored by the Writers' Development Trust. It connects schools nation-wide with professional, Canadian writers. Students, teachers, and expert writers worked together, on-line, to discuss the students' original writing and talk about issues arising from the on-line commentary.

The theories of Vygotsky and Wertsch (expert practice) and Lave and Wenger (situated learning) form the basis for this study. The application of their work on the relationship between the learner and the more experienced expert in the establishment of a community of practice informed the analysis of the exchanges among students writers and their professional counterparts.

The participants' words, taken directly from the computer conference, are used in this study. Their words were more eloquent than anything that could have been summarized or restated. Each of the eleven participants selected for this study not only took part in the WIER conference, but also agreed to help with this research and join an on-line interview branch.

During the analysis of the data, the focus of this study was broadened. It was necessary to include an examination of some of the human factors (such as the use of ASCII characters to personalize the text) that came into effect as the participants established an on-line community of practice.

Current literature (Mason, Riel, and Levin) suggests that computer conferences need clear organization and moderation. This study supports those suggestions and illustrates that expert practice can be an effective moderating strategy.

ACKNOWLEDGMENTS

I would like to thank Dr. Celia Haig-Brown, my senior supervisor, for her patience and assistance. She managed to share the rigour of this academic experience in a human manner, making the thesis process both challenging, fascinating, and enjoyable. Also, I would like to thank Dr. Sandy Dawson, the second member of my committee, for his clear comments and suggestions which were presented in an objective and professional manner.

Thanks must also go to Dr. Evelyn Ng, Larry Wiebe, and George Murnaghan for all the technical support they so generously offered and for the long hours of thoughtful conversation we shared concerning CMC and on-line data collection.

My appreciation and respect goes to all those participants in the educational community (Gerri, Trevor, Susan, Katherine, Peter, Sandra, John, Hiren, Tara, Shine, and Thuy) who create new programs and take the plunge into the untested waters of innovative education. The hours are long, the frustrations can be great, and I applaud and encourage your efforts!

Special thanks goes to my friends who offered endless encouragement and were supportive enough to lure me away from my work on only those very special, sunny days when being indoors would have been obscene.

My total appreciation goes to Ian, who stayed home and kept the home fires burning while I indulged myself in this academic adventure. I could never have accomplished this without his encouragement, support, and assistance.

TABLE OF CONTENTS

LIST OF FIGURES

CHAPTER ONE

EXPERT PRACTICE AND COMPUTER-MEDIATED COMMUNICATIONS

... there is no underestimating the challenges of
getting technology and psychology to mesh.

David Brittan

COMPUTER CONFERENCING AND WIER

Computer *networks*[1] and *conferences* have been developing in educational communities across North America since 1982 (Harasim, 1991). While these on-line educational experiences may vary in structure from bulletin board services to resource databases, interactive conferences, or hybrids of the three, all have the generally accepted purpose of connecting people and/or information across place and time.

One such computer conference, *Writers In Electronic Residence* (*WIER*), connects students (novice writers) with professional writers (expert writers) from across Canada. WIER was chosen for this study because for the past five years it has been growing as more schools become involved and more expert writers participate. Its objective is to combine the technology of computer conferencing with curriculum links to the traditional, physically-located, classroom, emphasizing writing rather than technology.

In WIER, as in other computer conferences,

---

[1] See Glossary. All terms in italics are technical and can be found in the glossary. The first use of the term has been italicized throughout this thesis.

> Teachers and learners have found that computer
> conferencing can enhance cognitive and socio-affective
> interaction, ... [conferencing] is not overly difficult to learn,
> and ... offers features than can positively change the way
> in which learners can learn and teachers can teach
> (Harasim, 1991, p. 26).

The notion of cognitive and socio-affective interaction (Harasim, 1990, 1991; Hiltz, 1990; Mason and Kaye, 1990) suggests once a conference is constructed, participants will join it, a conference *moderator* will suggest topics, and the participants will engage in *asynchronous*, reflective interaction. However, in actual practice, these interactions do not always take place (Riel and Levin, 1990). An example of this was the Writer's Link conference within the Southern Interior Telecommunications Project (1991-1992). Participating schools joined the conferences, but in many cases, did not respond to the material placed there or add new material to the conference. Eventually, even the one or two keen schools stopped their participation and the conference activity stopped.

This thesis explores cognitive and socio-affective interaction in the WIER conference by examining the moderators' use of expert practice to encourage participant interaction. It also looks at the human factors the participants addressed in developing an on-line community of practice and a social community of individuals, many of whom became friends. This study creates a description of how participants in this particular conference were encouraged to interact. In the case of WIER, the purpose of this interaction was to promote student writing by linking expert and novice writers via telecommunication.

THE STRUCTURE OF WIER

Schools interested in joining the WIER program apply to The Writers' Development Trust. Once accepted, the Trust mails packets of information and directions of *logon* procedures.

In January 1992, when the conference I studied was opened, the participants began to logon and found that they had been automatically joined to an introductory branch that allowed them to practice and explore the conference procedures. It was in this practice area that three technical moderators (not the expert writers) began to direct the "on-line traffic" (Mason, 1991).

Participants in WIER were guided through an on-line tutorial which introduced the necessary skills and provided practice opportunities. Two basic skills were required to function effectively in WIER: the ability to *upload* text and commentary and the ability to respond to text and commentary existing in the conference. Two branches, *ICEBREAKER* and *UPLOAD*, were created to help develop an interactive, social environment. The purpose of both of these branches was to allow participants to learn and practice the necessary conferencing skills and to give them a chance to introduce themselves and develop an on-line voice. The bulk of the initial activity took place in these branches during the first couple of weeks. During that time, the three technical moderators made certain that a response was made to each participant comment. The moderators tried to *weave* comments together, linking the participants by areas of interest or experience.

Eventually, there were four levels of conference moderation occurring within WIER. Trevor Owen, the main conference moderator, determined the structure of the branches, opened the new branches for each month's writing and for specialized discussions (*Technical Questions, Success, WIER in the Classroom, WIER News, Computer Tips, etc.*). He also give technical assistance. George Murnaghan and the author of this thesis functioned as on-line trouble shooters. We shifted commentary and writing to the appropriate branches when necessary and answered technical problems. The three of us had full moderator status within the conference, so we could move branches and open and close them if necessary.

The expert writers functioned as intellectual moderators for the writing tasks (Mason, 1991). They directed the flow of the commentary and encouraged responses, but they could not move or delete work within the conference. The fourth level of moderation was actually held by the participants themselves when they opened their own branches. However, they were only aware of the fact that they could close a branch when they wished. It did not appear that anyone realized that s/he could delete notes within her/his branch. As the conference progressed, the strict roles and responsibilities of the moderators and classroom participants became less rigid as each appeared to feel more confident sharing their information and experience and answering questions when they found them.

Within the PARTI conferencing system, all new commentary and writing is listed in the *INBOX*, and participants can simply read the new material in *INBOX* order. This means that one might read a new note in one branch and then jump to a new note from another branch.

While this is positive in terms of keeping participants aware of all the new commentary, it makes it more difficult to read a branch continuously, unless one leaves the *INBOX* and enters the branch.

Work groups (Riel and Levin, 1990) were organized so that each school was given a logon identification name (IDs) and password and was assigned to one of the three conference branches based on the grade levels within the school. The three WIER conference branches were *Write with You* (for elementary students); *Word for Word* (for immediate students); and *Wired Writers* (for grade 11 and 12 students). This study looked only at the commentary from the *Wired Writers* branch.

Every month a branch was opened for each of the three groups, and teachers were encouraged to *upload* their students' original writing or conference commentary. Therefore, for the month of March, as an example, in the secondary writing branch *Wired Writers*, there were 215 notes, representing 215 separate pieces of writing. As the list below indicates, within each of the pieces of writing, *TARAS STORY* for example, there is the original piece of writing plus fourteen other notes from various conference participants. The organization of the group work was both determined by the structure of the conference, but also by the interaction of the thirty-six conference IDs, representing any number of conference participants as the schools had unlimited student involvement.

"WW FOR MARCH" (0 of 215) ==>

1: "WHOS HERE IN WW FOR MARCH" (26 notes).

2: "TARAS STORY" (14 notes).

4: "VENUS" (4 notes).

5: "CARIB" (8 notes).

6: "LOSING CONTROL" (12 notes).

7: "CAGED" (4 notes).

8: "ANGEL" (19 notes).

9: "HARPER STATION" (10 notes).

11: "REFLECTIONS" (8 notes).

The task organization (Riel and Levin, 1990) within WIER was stated in handouts and promotional materials sent to each participating school from the Writers' Development Trust. Each student was to respond to other student writing as well as to send original writing. Teachers involved in the conference were encouraged to add commentary, and the expert writers were paid to comment on the various pieces of student work and to encourage and stimulate interactive dialogue between participants.

The response opportunities (Riel and Levin, 1990) for participants within the WIER conference were numerous. They could initiate new commentary, respond to other participants' comments, or enter original poetry or prose. However, technical problems prevented unlimited access, and often schools had only one modem hook up, so students could not respond spontaneously to the on-line conference. Recognizing this constraint, WIER was advertised to the schools as being "Partly online, mostly in the classroom" (Owen, 1992, p. 3). What this meant in the actual classroom setting was that teachers or computer resource people uploaded student writing (original pieces and commentary) and *downloaded* the collected conference material (all the original writing and commentary). The students and teachers then used this downloaded material from

personal computer disks or in a computer printed format. Consequently, the responses were keyed in off-line and uploaded later to the conference. This had a positive effect as it encouraged considered, reflective responses, but it also limited direct participation in the on-line conference.

Response weeks were requested by the expert writers in WIER when they felt that more writing was coming in than they could respond to or when the moderators felt that the students were taking more commentary than they were giving. The response week idea is similar to the participant structure of response obligations suggested by Riel and Levin (1990). While the students were limited in their spontaneous, on-line responses, the stated WIER philosophy was that of give and get. Participants agreed in advance to respond and interact with the other participants.

Because conferencing allows participants to have access to past commentary, participants could situate their responses to previously written material. They could access this written material via search arguments. Within PARTI, the search arguments look like:

find /musgrave/ in "ww for march" br

This search argument sorts through the past records looking for any use of the author's name, Susan Musgrave. Because there was only one Musgrave in the conference, *musgrave* is enough to search on. The term *"ww for march"* (Wired Writers for March) indicates which branch of the conference to search, and the last two letters, *br*, indicate that within the main branch of *"ww for march"*, the search will include all the smaller sub-branches.

Other search arguments are structured in much the same fashion.

find from musgrave since 1/1/92

find /poetry/ in "ww for march" br

The *find from* argument locates all notes sent from an individual since a specified time period, January 1, 1992. The second example, *find /poetry/*, locates specific words found in any branch of a specified conference. In this case, the search would be on the word *poetry* in the Wired Writers' branch for March.

While there was no formal closure or evaluation structure within the WIER conference, students could close the discussion on their own pieces of writing. This was possible because in PARTI the ID that opens a branch can also close a branch to further commentary. It allows a student to call a halt to the commentary concerning her/his piece of writing and to maintain a sense of ownership and control in regard to the discussion surrounding her/his writing.

The organization of WIER was dictated primarily by the structure of the conferencing software, PARTICIPATE. The decisions made by the technical moderators before the conference opened established the concept of branches for each conference category (Wired Writers, Word for Word, and Write with You), sub-branches for each month's work within the category, and sub-branches within the months for each students' writing. Although this sounds confusing, the on-line tutorial clarified this branching structure for most of the participants.

Because of the structure of WIER (organization, tasks, and moderators), it seemed that principles of expert practice were

probably being used to encourage on-line social interaction among participants.

EXPERT PRACTICE

WIER invites novice learners into the community of practice of expert writers. The conference organizers instruct and encourage the experts to model, through examples and commentary, what it is like to be a professional writer. Collins et al. (1989) label this fo m of modeling "expert practice." They state that expert practice is a "... method ... aimed primarily at teaching the processes that experts use to handle complex tasks" (p. 457). The experts attempt to show the novices the problem solving strategies they actually use and offer procedures to carry out specific tasks.

Experts share their conceptual knowledge in a subject area and then situate it in a specific task relevant to the learner. They can also present factual knowledge within the same situated context and show the novices how to use this knowledge to execute a particular task.

In expert practice, the experts *weave* the concepts and the facts, connecting the information and providing scaffolding as the learner assimilates the knowledge and negotiates her/his meaning. Lave and Wenger (1991) state:

> The apprentice's [novice's] ability to understand the master's [expert's] performance depends not on their [sic] possessing the same representation of it, or of the objects it entails, but rather on their [sic] engaging in the performance in congruent ways. ... Quite simply, if learning is about increased access to performance, then the way to

maximize learning is to perform, not to talk about it (p. 21-22).

WIER attempts to follow this performance model in that the expert writers encourage the novices' performances by situating the learning within the specific task of writing. The encouragement takes the form of on-line commentary which usually generates further on-line social interaction between participants.

SOCIAL INTERACTION

Lave and Wenger (1991) explore the role of social interaction in the context of situated learning experiences, recognizing the value of a community among learners. They define social interaction as the dialogue between the expert and the novice, and situated learning as the placement of knowledge, both conceptual and factual, within a specific learning experience identified by the learner.

Lave and Wenger note that "... learners [novices] inevitably participate in communities of practitioners and the mastery of knowledge and skill requires newcomers [novices] to move toward full participation in the sociocultural practices of a community" (p. 29). They feel that learning itself is not "... merely a condition for membership, but is ... an evolving form of membership" (p. 53). This evolution in participation comes from and through the learners' active involvement in the community of practitioners.

Social interaction in the traditional educational setting has been studied by many authors (Cohen and Riel, 1989; Lave and Wenger,

1991; Newman et al., 1989; Pea, 1992). In his work, Vygotsky stated that social interaction played a role in the development of all higher mental functions (Wertsch, 1979). He felt that these functions appeared first on the social plane, and through social interaction the learners were able to understand tasks and make the transformation from the social plane to the individual plane. Social interaction allows the learners to negotiate meanings and develop personal understanding through dialogue with more experienced learners (peers, teachers, experts).

In the case of WIER, it appears that the transformation from the social plane of group understanding to the individual plane which reflects the individual's ownership of the information takes place when the novice writers interact on-line with the expert writers. The novice writers submit their writing and engage in a dialogue with the on-line audience. Student peers and expert writers enter comments about the writing, and the novice writers can agree, disagree, discuss, or ask for elaboration about the comments. From there the novice writers can make the decision to stop further dialogue about that piece of writing, extend the dialogue with questions and further comments, or move into revision or further writing. In many cases, the novice writer submits a revision of the piece of writing and extends the commentary about the revised piece.

Wertsch (1979) explores the transitional levels that a novice should experience in order to reduce the amount of scaffolding needed from an expert. He states that the first level requires a clear understanding of the task, explaining that "... how the child begins to develop a definition of the task situation ... will allow him/her to

participate in the communicative context" (p. 11). This level is the foundation for further learning. The second level concerns the experts' use of directive language. Wertsch presents six classes of directive language:

> (a) Need or desire statements, e.g. 'I need a match.'
> (b) Imperatives, e.g., "Gimme a match.' or 'You give me a match.'
> (c) Imbedded imperatives, e.g. 'Could you gimme a match?'
> (d) Permission directives, e.g., 'May I have a match?'
> (e) Question directives, e.g., 'Gotta match?'
> (f) Hints, e.g., 'The matches are gone.' (p. 12)

In the examples above, the distinguishing characteristics of each depends upon the ability of the other party to understand the differences.

> ... all [a-d] involve an explicit mention of an action and/or the object upon which an action is to be performed. In contrast, the last two ... do not involve an explicit mention of the desired actions and those cases where the desired action is *mentioned*, the interpretation of the directive depends on a shared definition of situation (p. 12).

These classes of directive speech were determined in face-to-face interactions by Wertsch and Ervin-Tripp (Wertsch, 1979), but they are relevant to on-line social interaction. Directive language has importance to experts and novices in WIER as they attempt to situate the learning and define the task on-line, using only textual dialogue.

WIER supports social interaction between expert writers and novice writers, but it also encourages it between peers. The value and practice of peer interaction within the on-line environment has been discussed by Swallow et al. (1988) and Riel and Levin (1990). Peer

interaction is important in this study as it is the basis of much of the WIER commentary and is valued in the writing process (Cohen and Riel, 1989). Cohen and Riel found that student writing improved dramatically when the students were exchanging their writing with a real audience, especially an audience of their peers. WIER offers that audience but in the on-line environment; a real audience who happens to be asynchronous and place independent.

COMPUTER-MEDIATED COMMUNICATIONS (CMC) AND SOCIAL INTERACTION

Asynchronous communications and place independence are two key features of *computer-mediated communications (CMC)*, a fairly recent technology. While the hardware and software required to facilitate CMC has been available to the educational community since the late 1970s, British Columbia Ministry of Education pilot projects such as the Southern Interior Telecommunications Project (SITP) and commercial projects such as the AT&T Learning Circle are currently working to establish curriculum ties and educational uses for this on-line communications application. As in any educational innovation, this tie to the curriculum is important if it is to become a recognized, readily used, support tool for the school population.

Over the past fifteen years, researchers such as Riel (1990, 1991), Levin (1992), Hiltz (1978, 1990) have been identifying characteristics that are unique to this new, CMC learning environment.

A Virtual Classroom (the name is copyrighted) is a teaching and learning environment located within a

computer-mediated communication system. Rather than being a building of bricks and boards, it is a set of group-communications work 'spaces' and facilities constructed in software. Some of its communication structures resemble facilities or procedures used in traditional classrooms; others support forms of interaction that would be difficult or impossible in the 'face-to-face' environment of the traditional classroom. ... All its features are accessed not by traveling to a ... [facility] but by typing into, and reading from, a personal computer which connects by telephone to a mini- or mainframe computer operating the Virtual Classroom ... software. Participation is asynchronous; this is, participants dial-in at any time from any location in the world that has a reliable telephone system (Hiltz, 1990, p. 59).

Harasim (1991) noted that there are five distinguishing attributes of computer conferencing within a CMC environment: (1) many-to-many communications, (2) place-independence, (3) asynchronous access, (4) text-based records, (5) computer-mediation. These attributes are critical to understanding CMC because they both create and limit the possibilities for participant interaction.

Many-to-many communications refers to the fact that participants can address an entire conference group as easily as they can write to one individual; the physical location of either the group or individual is unimportant. Within a conference, participants may interact in private message mode to one person or may broadcast their comments to the collective. While these options may increase the possibilities for interaction, group *messages* often have been found to be less personal and generally elicit fewer responses (Riel, 1991).

Place independence is a powerful resource of CMC. Participants can move about during their involvement in a conference and can be

anywhere there is reliable telephone service that allows for modem connection. This factor, coupled with the asynchronous nature of CMC, allows participants to *logon* at their convenience and to retrieve the stored commentary when they wish. CMC is a less intrusive form than the telephone, which gives the advantage to the person making the call, as it allows the writer to create her/his message on her/his own time. It may then be received at the convenience of the other party. A negative aspect of asynchronous communications is that the writer does not know when or if the message has been read, or whether the recipient is busy, having technical difficulties, or is simply ignoring the note when a reply has not been posted.

CMC is text-based, so all participants can access the collected, written record of all communications within a particular conference. Even private messages can be recalled and reviewed by either the originator or recipient. This is a major strength of the WIER conference as participants can search the conference commentary and locate messages by searching on arguments such as an individual's name, a particular topic, or a certain date or time.

The ability to access recorded, past commentary allows for a greater possibility of considered, reflective responses from the participants. As Riel and Levin (1990) note, participants "... soon find that computer telecommunications can facilitate group interaction in ways that are qualitatively different than that provided by other media. [There] ... is the potential to create and maintain group interaction among people separated in time and space ..." (p. 146).

There is an implicit suggestion in the literature that social interaction will automatically take place in the on-line environment

(Levinson, 1990, Mason & Kaye, 1990, and Harasim, 1990) as CMC is often cited as a vehicle for linking people across time and distance.

In the early years of CMC activity, simply getting people into the conferences was classed as interaction. Research now is beginning to look at the actual exchanges between the on-line participants and analyze the activity. Researchers such as Riel and Levin (1990) are beginning to look at how the networked communities are constructed and what is required to encourage continuing and developing social interaction. Riel and Levin found that many participants eagerly logon, give a quick introduction about themselves, and then never check back. They compared this action to a quick introduction at a cocktail party that fails to develop into any further conversation. At that level of conference participation, the participant has simply demonstrated the basic technical skills required to participate in a conference, but not necessarily the conferencing skills or interest required for continuing membership in the on-line community.

In an attempt to move beyond simply recording the number of logon times and counting the words in the messages to determine the degree of interaction in an educational computer conference, Riel and Levin adapted five participant structures which they feel are required to encourage interactive responses. These structures include: (1) organization of the work group, (2) task organization, (3) response opportunities, (4) response obligations, (5) evaluation. All five of these structures are present within the WIER conference [see WIER STRUCTURE in this chapter].

WIER, like many other on-line conferences, supports and extends aspects of the traditional classroom curriculum. "The WIER program

connects English and Language Arts students in Canada with writers, teachers and one another in an often animated exchange of original writing and commentary" (Owen, 1992, p. 1). These exchanges take the form of a textual dialogue between conference participants. In the case of WIER, the textual dialogue is between novice and expert writers, novice and novice writers, and expert and expert writers. Within these exchanges, the writers share their opinions, suggestions, reflections, and experiences.

WIER situates the learning opportunities within the context of novice writing. Situating the learning in this way builds on the theories of Lave and Wenger (1991, p. 33) which suggest that placing new knowledge within the context of familiar skills and activities allows the learner to work through the new problems or tasks at her/his own pace and use her/his own strategies.

Pea (1992) states that the act of negotiating meaning via interaction within a community of learners is what encourages and stimulates individuals to find a common ground of belief within the group. While it is not essential that the individuals reach consensus on each and every belief, it is essential that the particular community negotiate meanings that afford the members a common understanding from which to interact. Pea feels that this understanding allows individuals to develop their own practices by building on the knowledge of others within the community. He states that technology (CMC especially) has a role to play in this networking of community interaction. Technology has the potential to enhance learning conversations between members, to be a vehicle for presenting

dynamic concepts, and to provide a communicative medium for anchoring learning conversations for a large community.

Learners functioning in this wider, virtual community of practice may appropriate the information they need, negotiate their own meaning, and communicate within a community of learners. They may assimilate knowledge that is relevant and topical to them and have an audience with whom to communicate and negotiate further meaning. Lave and Wenger (1991) suggest that learning increases as participants gradually begin to feel like full members of their learning communities.

Within the WIER community, the expert writers are not expected to give a definitive solution to a writing problem or to repair structural errors in a particular piece of novice writing. Instead the expert writers attempt to engage the novices in a dialogue that begins to negotiate a common understanding about the meaning and structure of the situated learning activity - the novice's piece of writing. This dialogue offers a form of scaffolding that allows the novice to write to improve her/his own writing.

The CMC environment is no different in this notion of situated learning than the traditional classroom. Simply joining people to a conference and/or allowing them into a classroom cannot develop knowledge or encourage participation. Participants need to continually engage in interactive dialogue with others in the community, especially with the more knowledgeable members. Participants need to feel part of the community and must be clear as to why they are there and what is expected.

Current research (Riel and Levin, 1990) is finding that many conferences have started out with great numbers of participants and large amounts of initial conversation, but they "... have fallen silent, as electronic ghost towns" (p. 145). Riel and Levin and Mason (1991) suggest that one cause for this might be poor conference moderation.

MODERATORS

The role of on-line moderators is recognized within the literature (Mason, 1991; Riel and Levin, 1990) on computer conferencing, but only recently have researchers expressed the necessity of looking at how conference moderation works and what is essential for encouraging participant interaction. Within the virtual environment, participants try to establish their social, individual selves and attempt to communicate with the other individuals with whom they interact. However, like the quick cocktail party introduction metaphor mentioned earlier, often this informal, chit chat commentary does not lead to sustained, reflective dialogue. Riel (1991) noted that "Groups need some form of leadership. The group needs one or more people who take on the responsibility of monitoring and facilitating the group interaction" (p. 5).

"Since the early educational uses of computer conferencing, there has been a strong notion that moderating a conference requires special skills, techniques and even particular characteristics ..." (Mason, 1991, p. 3). Mason goes on to explain that "At a technical level, the moderator can delete or alter any message in the conference and is responsible for removing irrelevant or offensive material. At an

educational level, the moderator guides the discussion, stimulates participation and often offers intellectual leadership" (p. 3) - a mix of teacher, chairperson, party host, group organizer, traffic director, community leader, comedian, confessor, and general know-it-all. Therefore, there appears to be three general roles for conference moderators: organizer, social director, and intellectual mentor.

Mason (1991) states that an essential duty for an on-line moderator is to "... 'set the agenda' for the conference: the objectives of the discussion, the timetable, procedural rules and decision-making norms" (p. 4). In WIER, these functions were done by the *Writers' Development Trust*. Hiltz and Turoff (1978) state that unless moderators are actively engaged in directing the traffic of conversation in a conference by summarizing, clarifying, inviting, encouraging, suggesting, and prompting elaboration of ideas, "... a conference is not apt to get off the ground ..." (p.24).

The role of social director within a conference is complex. Unlike a face-to-face meeting, there are no physical gestures, changes in tone of voice or inflection, graphics, etc., so the social interaction relies totally on the participants' abilities to communicate in text-based exchanges. The skills required by a moderator to create a warm, supportive, safe social environment which encourages interactive communication have been termed "nurturing skills" (Mason, 1991).

The expert writers, in WIER, functioned as the intellectual mentors as suggested by Mason. Although all conference participants were encouraged to respond to the students' writing and commentary, the expert writers were actually employed to do the task. It is the basic argument of this thesis that the expert writers utilized aspects of

expert practice to encourage on-line social interaction between conference participants.

The Webster's New World Dictionary refers to moderating as bringing within bounds; this is particularly comical if one knows of Susan Musgrave or has read her on-line commentary. Moderators in WIER, especially the intellectual mentors, set out to do exactly the opposite of the Webster notion. If there are boundaries within WIER, they exist only to be extended, especially the boundaries that possibly could confine the novices' writing.

NOVICE WRITING

As mentioned earlier, Cohen and Riel (1989) found that student writing improved dramatically when the students shared their writings with a real audience of their peers.

> Writing is a communicative act, a way of sharing observations, information, thoughts, or ideas with ourselves and others. Writing is usually directed to others for a specific purpose. An exception to this is the writing that children routinely do in classrooms (p. 143).

WIER offers an alternative to this traditional classroom routine by not only providing a real audience, both of novice peers and expert writers, but by offering and encouraging interactive, considered, reflective responses.

Writing in a CMC environment is quite different from traditional classroom writing. Commentary on-line tends to be a hybrid of composition, prepared speech, and spontaneous talk. While being a

hybrid, however, the end product of *on-line interaction* is still text. Feenberg (1990) reminds us of the cultural place of writing in our society when he states:

> Plato initiated our traditional negative view of the written word. He argued that writing was no more than an imitation of speech, while speech itself was an imitation of thought. Thus writing would be an imitation of an imitation and low indeed in the Platonic hierarchy of being, based on the superiority of the original over the copy. For Plato, writing detaches the message from its author and transforms it into a dead thing, a text (p. 22).

It would appear that conferencing in the CMC environment can revive writing by blurring the distinctions between talking and writing. Andrew Feenberg suggests that "... we may no longer assume that writing is more formal or less personal than speech ..." (p. 23). It is actually a hybrid of the two.

Roulet (1990) suggests that writing often takes two dimensions: a content component and/or a task component. The content component consists of what actually is in the writing after the writing task is completed. The task component consists of the interpretation of ideas (value judgments on ideas), the substantiation of the ideas (supporting explanations and/or arguments), the clarification of ideas (restating ideas), and the modification of ideas (amending or altering previous statements or thoughts). These two dimensions reflect the process that is involved in writing. The task component is an evolutionary one, requiring the writer to assess the development of an idea or argument, but as Hayes and Flowers (1980a) found, the assessing and reviewing of writing "... is not a spur-of-the-moment

activity but rather one in which the writer decides to devote a period of time to systematic examination and improvement of the text" (p. 18).

This systematic examination and revision is supported and encouraged in WIER through expert and novice commentary directed at individual pieces of writing. Hayes and Flowers also suggest that comments directed toward the improvement of writing can fall into three categories: metacomments (comments that writers generally make about the writing process), task-oriented content statements (statements that reflect the application of the general writing process to a specific writing task), and interjections (casual, light comments specific to the piece but not necessarily offering directives on the writing process).

As a writing experience, WIER is an interesting mixture of writing styles and on-line, textual voices. There are the students' original texts (stories or poems) as well as the participants' written commentary. The original text is presented as work-in-progress, a draft open to suggestion and revision, while the commentary falls into the categories suggested by Hayes and Flowers.

CONCLUSION

As educational computer conferencing continues to develop, finding appropriate tasks to mesh with the existing and developing technology will be an on-going process. The task of writing is well suited to the CMC environment, which is itself currently text based, and the use of expert practice is an effective moderating strategy. The

subsequent chapters give examples of on-line writing which attempt to illustrate the use of expert practice as a method of encouraging on-line social interaction.

Chapter Two describes the methodology employed in this study and discusses the use of on-line data collection and the software analysis program, *HyperRESEARCH*. Chapter Three is an analysis of the data, identifying the aspects of expert practice in the on-line commentary. Chapter Four explores the virtual environment in which the WIER conference was located. It identifies some of the human factors that affect the social interaction carried on without the benefit of physical gestures, varying tones of voice, and other characteristics people rely on in face-to-face communication. Chapter Five attempts to address the concerns that arose during the writing of this thesis. It looks at the wonderful, rich additional topics that should be addressed eventually, but would have turned this thesis into a volume resembling the size of the Vancouver phone book.

This thesis looks at the cognitive and socio-affective interaction in one computer conference, WIER. The participants' commentary was examined, and concern for human factors in the CMC environment was explored.

CHAPTER TWO

CONDUCTING THE RESEARCH

"Nothing is as invisible as the obvious."
Dr. Richard Farson, moderator of the
computer conference: Management of the Absurd

THE STUDY

This study is an investigation of the use of expert practice by the conference moderators in WIER to encourage on-line participant social interaction. As stated in Chapter One, the goal of this study was to create a description of how participants in this particular conference were encouraged to interaction, not to create a prescriptive list of moderating strategies. In the case of WIER, the purpose of this interaction was to promote student writing by linking expert and novice writers via telecommunications.

MY ROLE IN THE STUDY

I was a moderator in the WIER conference five months before I started collecting on-line commentary and conducting interviews for this study. As noted in Chapter One. a colleague and I were hired to develop an on-line tutorial that would guide the WIER participants through a series of exercises written to teach them necessary conferencing skills. These skills included an understanding of the WIER branching structure, techniques for transferring text, classroom uses for WIER, and basic PARTI commands. Once WIER opened in

January, I assisted the conference members as they learned these skills.

As a member of WIER, I noticed that a warm, supportive relationship was developing among the on-line participants as they exchanged comments and ideas, and that the social interaction described by both Vygotsky and Wertsch (1979) was taking place. It became clear that three of the expert writers (Brian Brett, Katherine Govier, and Susan Musgrave) had overcome the technical problems often associated with CMC and had developed a strong presence within the conference. Technical problems concerning software compatibility, modem configurations, and *DATAPAC* logon procedures had limited the early participation of some of the expert writers and schools.

THE PARTICIPANTS

I contacted these three expert writers and asked permission to *download* and study their WIER conference commentary. After reading this material, I received permission from three teachers (Sandra Hawkins, John McCluskey, and Peter Marmorek) and five of their students (Thuy Bui, John Huff, Tara McFarlane, Hiren Mistry, and Shine) to collect their on-line writing. The basis for selection of these participants was that either the three expert writers had been actively involved on-line in the students' branches, or the student had initiated a branch which encouraged commentary on a specific topic (an aspect of poetry for example), or a combination of these two activities.

Thuy Bui, John Huff, and Shine (John McCluskey's students) and Hiren Mistry (Peter Marmorek's student) all interacted with the three

authors in their branches, exchanging comments and asking questions. Tara McFarlane (Sandra Hawkins' former student) initiated a branch called KATHERINE AND US, in which Tara and her student colleagues discussed Katherine Govier's novel <u>Between Men</u>. John Huff also initiated discussions concerning the state of contemporary poetry, the role of women, the placing of individuals on pedestals, and the right to individual opinion.

THE METHOD

In January, as I started drafting the proposal for this thesis, my understanding of research methods was confined primarily to the information presented in a Research Design course, which focused on quantitative analysis. As I first began to develop a theory about what was happening within the WIER conference, I worked on a series of grids that would help me quantify the data and allow for conclusions that might support my hypothesis that the moderators in WIER were utilizing aspects of expert practice to encourage social interaction. Upon reflection, I realized that while this initial research strategy helped establish some of the necessary criteria for defining my problem and identifying related terminology, it tended to remove my personal experience from the research design. The criteria grids had the potential to distance me from my personal involvement with the participants in WIER and to value only the aspects I knew to look for; reinforcing the notion presented in a research designs course, *If I hadn't believed it I never would have seen it.* I was concerned that

the interactions going on between participants would not fall into neat categories that could be checked off on a grid and totaled.

It was this tension between placing value on the quantitative results that the grid structure facilitated, and the value that personal experiences from being a participant within the WIER conference already offered, that led me to consult with Dr. Celia Haig-Brown. Her patience in showing me the rigor and value of ethnography and qualitative analysis encouraged me to shift my research design, rewrite my thesis proposal, and allow my "personal experiences ... [to] provide [the] motive and opportunity..." (Hammersley & Atkinson, 1991, p. 32) for this research project.

The revision of my proposal allowed for qualitative analysis of the on-line WIER commentary and interviews and followed Hammersley and Atkinson's (1991) suggestions for the development of research problems.

> The aim in the pre-fieldwork phase and in the early stages of data collection is to turn the foreshadowed problems into a set of questions to which a theoretical answer can be given, whether this be a narrative description of a sequence of events, a generalized account of the perspectives and practices of a particular group of actors, or a more abstract theoretical formulation. Sometimes in this process the original problems are transformed or even completely abandoned in favour of others ... (pp. 32-33).

By utilizing qualitative research principles, I was able to draw on the work I had already done as a moderator in WIER and refine a research problem based on experiences and observations I had

already made. My previous social interaction with the conference participants as a conference moderator became a basis for my understanding of the WIER experience. I had an understanding of the purpose, organization, and workings of WIER, so I knew how and from whom to start collecting the on-line data. From my previous experience, I knew that some of the expert writers were not very actively involved with the students, and I had noticed that some of the teachers simply sent their students' writing but were not involved in the on-line commentary themselves. Based on this information, I started my data collection.

I began to feel more like the researcher Hammersley and Atkinson (1983) describe. They define an ethnographer as an individual who:

> ... participates, overtly or covertly, in people's daily lives for an extended period of time, watching what happens, listening to what is said, asking questions; in fact collecting whatever data are available to throw light on the issues with which he or she is concerned (1:2).

Early on in the development of a research structure to consider the WIER commentary, I realized the wisdom of the statement that "... finding the right question to ask is more difficult than answering it" (Hammersley and Atkinson, 1991, p. 34). Hammersley and Atkinson go on to explain that "Much of the effort that goes into theory construction is concerned with formulating and reformulating the research problem in ways that make it more amenable to theoretical

solution" (p. 34). WIER presented so many questions and issues that narrowing the scope of this thesis was difficult.

As I was redefining my question, I was influenced by a variety of literature suggested by professors in a range of fields. From these readings I compiled a list of criteria and topics which I consolidated into subject headings such as steps or procedures for expert practice, interaction, modeling, communities of learners, and the writing process. At this point I began to realize that "One may begin with some normal analytic notion and seek to extend or refine its range of application in the context of a particular new substantive application ... to derive a sort of 'shopping list' of issues" (Hammersley and Atkinson, 1983, p.35). It was this "shopping list" that I eventually extended into a framework for commentary analysis.

Because I had been an active participant in the WIER conference, I already had read all the existing on-line commentary. Consequently, once I had refined my research problem, I knew which participants I wanted to include in my study. The individuals I identified were all active participants in the conference who had exhibited confidence with the technology, an understanding of the conference structure, and had interacted at some point with each other. I asked Trevor Owen, the main conference organizer and a moderator in WIER, if he would approach the participants I had selected and see if they would consider being part of my research. I felt that this was necessary in that the expert writers were paid participants in the WIER program and already had commitments which restricted their availability. The other individuals were busy with final exams and school year end activities. I did not want any of them to feel pressured into

participation. Fortunately all the participants were eager to contribute to the body of information that supported WIER and any other future programs in the WIER format.

ON-LINE DATA COLLECTION

Once my research proposal had been identified and accepted by the participants, I wrote to each of them. Messages from both Trevor and myself were sent using the private message function of the *PARTI* conference. This function allowed us to communicate with the individuals without the rest of the WIER participants having access to the messages. All eleven participants gave their permission for me both to download the commentary and to interview them on-line.

I was able to collect their commentary, which was stored on-line, by searching on three *search arguments*: (1) the individual's name within the conference commentary (e.g.: find /musgrave/ in "ww for march" branches), (2) *notes* originating from the individual's name since a particular date and time (e.g.: find from musgrave since 1/1/92 9:00), and (3) the name of a branch originated by the individual (e.g.: find /between men/ in "ww for march" branches). The word *find* initiated the search while the descriptor that was confined within diagonal lines limited the search. The name within quotation marks indicated the branch of WIER to search in, and the date determined the starting point for the search. Even though these *search arguments* periodically overlapped, it was necessary to use the three to ensure all the commentary was captured in the search.

The search function of the PARTI software compiled the specific notes which I could then *batch read* into individual files. At that point I had the option of either printing out all the notes from the 33 files or opening each file as a *text file* within my word processor. As I had access to the high speed laser printer at the university which printed two columns on a page, on both sides of the paper, I did not feel too environmentally irresponsible about the amount of paper consumed in printing the volume of text. This printing function is called *mpage* and allows for the equivalent of four pages of text to be printed on one piece of paper. Printing the commentary helped me analyze it in order to develop the questions for the on-line interview. I found that I could use the *find command* within my word processor (*Word 5*) to locate keywords in the text files and then refer to the printed commentary and highlight portions of it for future reference. The find command in the software also functioned as an index for the printed commentary. The files for each individual varied in size from four to five pages for one of the novices to almost a hundred pages for one of the expert writers.

By the time I started my research, the participants had begun to master the PARTI software commands and understand the structure of the WIER conference, so I decided to approach each of the individuals about interviewing them on-line. There were many reasons for this decision: (1) distance, (2) the possibility for considered, reflective responses, (3) the potential for participant interaction within interview branches, and (4) a text-based exchange.

Distance is an interesting aspect of the CMC environment. Until I started thinking about the participants I wanted to involve in this

study, I had not given any consideration to where they were located. In the case of this study, the locations ranged from the Toronto area to the Gulf Islands in British Columbia. CMC allowed me to include the participants I wanted regardless of their locations. As CMC had brought us together for the WIER conference, it seemed that it would be used also to facilitate a private research branch within WIER.

The possibility for considered, reflective responses and the potential for participant interaction made the on-line interview concept attractive. As I would not have the opportunity to physically meet these individuals and because the students and teachers were starting examinations, the asynchronous nature of the CMC environment seemed the best way to be the least intrusive in these people's lives, to encourage them to respond to the questions of the other participants, and to give them additional opportunities to respond to the questions I had posed.

The notion of a text-based exchange really appealed to me after working with the participants' commentary. As WIER is CMC-based, all the exchanges were easily located and downloaded in ASCII format. This meant that I did not need to transcribe or retype any of the commentary, a time-consuming, laborious process with interview tapes. The participants keyed in their responses at their computers and I downloaded them at my end. I could reformat the information and use it as I needed.

I started calling this technique armchair research when I first explained it to my participants. I had not realized there was already a history of the use of that name. John VanMaanen (1988) presented a variety of anthropological / ethnographic techniques, dating from the

1920's. Among the classifications was armchair anthropologists. It seemed then that the CMC environment could lend itself to a new brand of virtual ethnography, ironically accessed from an armchair in front of a computer screen.

ON-LINE INTERVIEWS

Once the participants had agreed to be interviewed, I began to develop the structure of the interview branch itself within the existing WIER conference. Cautionary words such as "... too much can be inferred from answers taken at face value to questions of dubious merit; ... all answers depend upon the way a question is formulated; Language is not a clean logical tool like mathematics that we can use with precision ..." (Mishler, 1986, pg. 2) played heavily in my mind as I started developing the questions for the participants. My reason for conducting interviews was to allow the participants to validate or refute the conclusions I was drawing from analyzing their on-line commentary. Because I was not going to have an actual face-to-face meeting with these participants, I was concerned that an on-line interview might not be able to get beyond being simply a direct textual question / response experience. I wanted each participant to be comfortable in establishing his/her own voice and to freely express his/her own thoughts about the questions.

Kanh and Cannell (1957), in Mishler (1986), define the type of interview climate I was seeking to develop.

> We use the term interview to refer to a
> specialized pattern of verbal interaction - initiated
> for a specific purpose, and focused on some specific
> content area, with consequent elimination of
> extraneous material. Moreover, the interview is a
> pattern of interaction in which the role relationship
> of interviewer and respondent is highly specialized,
> its specific characteristics depending somewhat on
> the purpose and character of the interview (pg. 9).

The interview structure I came to envisage was one in which each of the eleven participants were asked different combinations of questions but also had access to the questions and responses of the other ten individuals. I felt that the previous WIER experience of responding to other people's commentary placed within a variety of *branches* was a model of practice that could be used in the interview branch. Since joining WIER in January, the participants had been encouraged to move through all the branches in WIER and to comment on anything placed there. All the participants knew how to move through the conference structure and add comments. Consequently, I structured my interview branch along the existing WIER protocols.

After re-reading all of the participants' on-line commentary, I developed interview questions that were specific to each participants' involvement in WIER. The questions fell into three main topic headings: Regarding the Technology, Community of Writers, and Revision Through Reflection. I opened a branch within WIER and named it CRICHTONS RESEARCH (one cannot use apostrophes within PARTI topic headings). To keep this branch exclusive to my research participants, I joined only the logon IDs of the eleven participants, otherwise all the WIER participants would have had access to this

branch and could have responded. For the scope of this research, the additional responses would have been unmanageable, but the potential of an interview that is open to any interested respondents could be interesting to explore in further research.

I created a separate branch within CRICHTONS RESEARCH for each person's interview questions. I felt that this was important as it paralleled the structure of the existing WIER conference where each unit of discussion (an individual's poem or story) has its own branch. The discussion in a branch is then focused on one item or an exploration of themes arising from that item. Because the respondents in this study were familiar with the structure and knew how to move from one branch to another and add comments where they wished, I felt they would be comfortable with the interview branch.

Each individual's branch in CRICHTONS RESEARCH had an introductory welcome to the research study, encouragement to respond, question, add or modify the questions, and an invitation to enter the other participants' branches and comment there. I also opened a branch named THE APPLE TREE. This branch was to be an opportunity for informal discussions and a place to allow the research participants to get to know one another further.

Before I added the respondents to CRICHTONS RESEARCH, two of the expert writers expressed concern about the on-line interview process. Brian Brett sent me a private message on-line stating that he wanted to talk with me before he agreed to participate in the research.

> Hi. Can you phone me about the permission
> form. I want to talk to you before I sign it. Nothing
> serious. It's just that I don't think we should be

anonymous (the format is too personal), and I think
if I talk to you I will know you enough to feel easy
about signing this thing [the release form]. I am such
a formal writer in so many odd ways that I am
nervous about releasing off-handed and sometimes
off-the-wall commentaries to print. I want to hear
your voice as you tell me what you are planning.

I did phone Brian, and we discussed the research plan and got to know
each other a bit better. Shortly after the phone call I received the
signed release form in the mail.

Katherine Govier indicated on the release form that she
preferred the interview to be conducted on the telephone. This was
the only interview not conducted on-line. We arranged the time and
format for the interview using *email*. Her questions were on-line in
her branch, so she had access to them before the phone interview. I
received permission to tape the interview, so after transcribing it, I
emailed the text for her approval. The corrections and additions were
made to this interview via further email messages. It is interesting to
note that Katherine added three additional notes to the original phone
interview. I had conducted the interview with Katherine at 6:00 AM,
transcribed the interview that morning, sent it to her in Toronto
before lunch, and by 6:00 PM I had clarification from her on a
question arising from the transcription. Each of us had sent and
received three notes during that time period. She sent additional
comments concerning points arising from the interview periodically
during the weeks that followed. All the comments were email
messages.

ANALYSIS OF ON-LINE COMMENTARY AND INTERVIEWS

I analyzed the on-line commentary and interviews, using the previously identified criteria, looking for examples of expert practice which the moderators had utilized to encourage participant on-line interaction. Because of the search capabilities within the *PARTI* conferencing system, I was able to locate the expert writers' comments within the students' work and examine the relationship between the expert and novice writers' written commentary. I could also locate an individual's comments within the interview branch.

As I was preparing to start my data analysis, the Faculty of Education at SFU sponsored a workshop on HyperRESEARCH, a software tool that facilitates qualitative text analysis. My data was suited for this tool as it was already in ASCII format and organized in individual files for each person's three search arguments and interview responses. It only needed to be re-organized with the page breaks required for HyperRESEARCH.

HyperRESEARCH is "... a HyperCard-based application that ... performs the following tasks: (1) The coding of text (of any length: a word, phrase, sentence, paragraph, etc.) ... . (2) Retrieval of coded materials ... enabling the researcher to array all similarly coded materials together ... " (Hesse-Biber, 1991, pg. 289). I was able to categorize all the data files by assigning a code name that reflected the criteria I had already identified. "Organizing and reorganizing the data in terms of categories can be done in a number of different ways. The simplest is 'coding the record.' Here data is coded, that is assigned to a category ..." (Hammersley & Atkinson, 1991). Throughout the coding

process, categories were added, modified, or deleted as I considered Van Maanen's (1988) caution:

> While classification can scarcely be avoided when one is faced with empirical variation, there are perennial dangers that lie in the application of any classification scheme. Always there is the uneasy feeling that the categories are too broad, too encompassing, indeed, too categorical (p. 8).

The codes and the process involved in the actual data analysis will be discussed further in Chapters Three and Four.

Once all the files were coded, I printed out reports which included the specific information I needed. For my data analysis, I modified the report format in the software to include the code name, the actual text extract, and the source material reference numbers (ASCII character numbers from the text files).

From these reports I was able to analyze the on-line commentary, compiling and categorizing examples of expert practice from the participants' commentary and interview responses. This allowed me to generalize the findings that are presented in Chapters Three and Four.

The quotations from the participants that appear in the following chapters are all from the 1992 WIER conference. This was a private conference and is not available to non-conference participants without permission from the Writers Development Trust; therefore, dates and other reference citations have not been given. Also, all the quotations have been edited for spelling and re-adjusted in terms of formatting. This was done as some participants stated that editing and re-

formatting was a condition for the commentary appearing in this thesis. I felt that all commentary should then be adjusted so all the material appeared polished. Intentional formatting, done for a special effect by the writer, was not changed.

CHAPTER THREE

EXPERT PRACTICE IN ACTION

"To know the meaning of empiricism we need
to understand what experience is."

John Dewey

BACKGROUND TO THE STUDY

Before collecting data from WIER, I had previous experience
with on-line conferences. During those experiences I discovered that
many of the claims presented in the literature about participant
interaction were over-stated [see Chapter One - CMC]. Most
significantly, conference participants interacted minimally and rarely
elaborated on or extended their commentary. Often the participants
treated the conference as nothing more than a textual database.
During one on-line conference in which I was a participant, my
colleagues agreed that they had no sense of the "many-to-many"
communications described in the literature (Harasim, 1991). They
often felt that they were sending information into the "void."

When I joined WIER, I was expecting a similar situation.
However, I was proven wrong. As the participants joined WIER, the
sense of community, to be described in Chapter Four, gradually
developed. Participants were given written tasks to do, and textual
interactions stemming from the writings started between conference
members. Comments were directed to individuals, first names were
used, and asides and jokes were made. There was a blending of the

formal task and informal conversation which was different from other conferences I had observed.

Based on a combination of my readings and past on-line experiences, I began to identify traits unique to the WIER conference and to develop the hypothesis that the professional writers were utilizing principles of expert practice in their commentary to encourage social interaction.

EXPERT PRACTICE

The principles of expert practice which I found in WIER are described in the literature on cognitive apprenticeship (Collins et al., 1989). The expert writers, although not familiar with the term cognitive apprenticeship or trained in the process of expert practice, used similar principles to encourage on-line social interaction. For this thesis, evidence of social interaction is shown in the exchanges between conference members which encourage participants to send more of their writing, revise pieces previously written, reflect on ideas presented within the conference, ask questions, and elaborate on personal points of view.

Collins et al. state that cognitive apprenticeship emphasizes a "... method ... aimed primarily at teaching the process that experts use to handle complex tasks" (p. 457). This method consists of the strategies necessary to solve problems and to carry out complex tasks. It also breaks knowledge domains into two parts: conceptual knowledge (general understanding of the writing process, in the WIER experience)

and factual knowledge (specific competence for undertaking a particular writing task).

The two knowledge domains then lie within the contexts of use (application) and task (situated learning activity). By situating knowledge in a specific context, the learner can develop a deeper understanding of the meaning of the concepts and facts, establishing a web of association between concepts and facts within real problem solving contexts. In WIER the expert writers can personalize the learning experience for the novice in the context of the novice's own work by either referring to work previously completed or by suggesting activities to extend or develop an idea. The web connects the conceptual components of writing with the factual aspects of a particular problem or task.

An interesting note about expert practice in WIER is that while members of the academic community such as Collins et al. (1989), Lave and Wenger (1991), and Scardamalia (1992) have written of it, the expert writers had not been trained in the process. However, the WIER data indicated that the characteristics of expert practice are evident, as conceptualized in the literature, and in the practice of experts in their on-line tasks, as is shown in this chapter.

DATA ANALYSIS

I began the data analysis for this project by assigning codes to the criteria I had compiled from the literature on cognitive apprenticeship, expert practice, situated learning, social interaction,

and the writing process. Assigning the codes involved breaking the criteria into small units that could be identified by a code.

This process resulted in 24 codes which were developed in the context of the WIER experience. Because these codes were assigned to the units compiled from the literature, they were too general for the purposes of analyzing the data, so I redefined them, making clear distinctions between each code.

Once I started analyzing the data, I found that I needed six additional codes to reflect the content. These additional codes were necessary to identify the strategies the participants had used to bring the human factors, as discussed in Chapter Four, into the CMC environment. These strategies were used to help personalize the commentary and to indicate satire and other verbal clues not easily expressed on-line.

I dropped 14 of the 29 original codes developed from the literature as I discovered that they were either repetitive or did not apply to this data. The codes were dropped after I had analyzed the commentary and interviews and realized that I had not used them. Terms such as developing authentic tasks, decontextualizing knowledge, learners appropriate knowledge, model expert strategies, partition problems, problem-based learning, reciprocal teaching, ownership of material, and structure learning experiences proved repetitive as aspects of them were incorporated into other codes. Conventional frame; plans to do, to say, to compose; practice in diverse settings; setting priorities; and expert impact simply did not reflect any of the content in the conference. While they were found in the

literature concerning cognitive apprenticeship, they were not present in the on-line data.

On the other hand, abstracted replay, community of practice, dynamic criteria, expert process, interaction among writers, interaction with writers, learning environment, interaction among peers, use of experts' writing, and reference to literature are the code names chosen to reflect specific aspects of expert practice. ASCII faces, social conditions, text based negotiations, tech trouble, the WIER process, and writing as expression reflect the techniques participants demonstrated when communicating on-line [see Chapter Four]. These latter codes did not come from the literature on expert practice, but rather from the data itself. Once I began the analysis process, these aspects of communications and expressions were too important to over-look, and codes had to be developed.

The subsequent sections of this chapter demonstrate the appropriateness of the codes used to analyze the data. Each section contains the code name, definition, and examples from the data.

ABSTRACTED REPLAY

Abstracted replay is the ability to determine features of one's own writing and/or the writing of others by revisiting a selected portion of text, analyzing the content, structure, and word choice. It was used in WIER to encourage the novice writers to reflect on the differences between expert and novice practice and to help the novice writers begin to determine specific aspects of their commentary and original writing. The experts used abstracted replay to identify

features of their own writing process and experiences and to suggest that the novice writers reflect on smaller components of their own writing. Often the expert writers selected a stanza or paragraph of the novice's work and discussed aspects of the abstracted material. This strategy focused the commentary that followed and often encouraged further interaction about a particular piece of work.

Katherine Govier incorporated a personal experience into her comments concerning a story about dreams. In the example below, she identified a specific issue in a story and asked questions to draw the novice writer (Eva) back to her story.

> I like the way, Eva, this follows the logic of the dream so deliberately, and precisely. It makes fascinating reading because it recreates a dream story, just as you say. That sense of screaming but not being heard, trying to move but being paralyzed. How I remember my recurrent nightmares with the same predicaments. I am not so sure about the way you ended this story. Do you think you need to tell readers what you learned? Or do you think the dream already does that?

Tara McFarlane and Katherine Govier engaged in abstracted replay in the branch KATHERINE AND US, a branch which Tara initiated to discuss Katherine's novel Between Men. In this branch Tara and her classmates posed questions about the development of the novel. Tara asked Katherine about a detail from the novel.

> Katherine, is this put in to say that Fisk may be the wrong man? That Murphy's view is highly subjective, and this is just to make the reader

cautious of what evidence he provides us? Or just a mistake on yours or the printer's part?

Katherine re-read the passage and responded:

> Gak! You are such close readers! This is indeed a mistake. Yes, Fisk is missing a digit from his left hand. And yes, in the trial this missing finger has magically changed to his right hand - 'a blind stump, an obscene pygmy.' This is my mistake. I simply changed it half way through. It is the kind of thing a copy editor should have caught, but didn't. I commend you for your attentiveness. In the next edition it shall be fixed.

Brian Brett used abstracted replay to direct a novice writer to both the good points and the weak points in her poem.

> This could be a very good poem, but you make a few attempts to bungle it. 'perfectly partnered!' Yeccchhh. ' Until suddenly and infinitely gone?' I can tell you have more skill than those lines. Cut them. Cut them. Cut them.
> I love the way you pair up the blue balloons; it was that nuance that got me hooked.
> At the end 'That wondrous final flight' really brought me down. Don't you think all of that you want to say and more could be put as:
> ' That final flight
> towards the sun.'
> This would make the poem so much more powerful.
> Take the old pruning knife to the piece and you've got a winner. As Leon [an expert writer] would say: Prune. Prune. Prune.
> When you prune a fruit tree, you get the best fruit if you cut back a third for each season. Maybe that would make a good rule with poems. Look for ways to cut a third from every piece.

By taking the novice writer back to specific portions of her/his text, Brian was able to personalize the learning experience. However, using the novice's work as an example has the potential to be ego damaging. While abstracted replay is a powerful tool for reflection, I asked Brian, in the on-line interview, if he was ever concerned that his comments might have been misunderstood or been too harsh, shutting down the intended interaction. He replied, concerning a particular poem,

> I liked the poem, I considered its verve and
> daring (and the replies) an invitation; I couldn't
> resist pushing its envelope further, and I fear that
> was taken as personal insult by some readers.

Peter Marmorek responded in Brian's interview branch by stating:

> I noticed, and identified with, your habit of
> being rougher on the talented than the hopeless.
> Many are chilled but few are frozen.

Brian continued his discussion about the purpose of referring to the novice's writing and stated some reasons and methods for his responses.

> Mostly, I was trying to make the students think
> about what they were saying. It is amazing how
> many people write, without considering the meaning
> and format of the words they are using. Secondly, I
> was trying to get them excited about words, and
> show what adventures and disasters words can lead
> us into. Third, I was trying to inspire them to read,
> which is why I made it a habit to quote as many
> authors as possible. Without reading, and reading a
> lot, most potential writers are doomed. There are the

odd few that can reinvent the world off the top of
their head, but they are few.

When I questioned Brian further about his style of on-line
commentary, particularly about his comments referring to the fact
that he saw himself as being against the grain of regular teaching
practice, he responded:

> I don't believe in lies. I don't believe in lavish
> praise where it isn't deserved. I believe in
> encouragement, certainly, but the reader can tell
> who's pretending, and the students obviously can. I
> tried to question accepted thoughts. I wanted to look
> at everything from different angles, to find out the
> 'truth in the thing' rather than 'the truth we believe.'

Brian regularly attempted to take the novice writers back to their own
writing with clear, direct comments. Numerous times he expressed
concern about false praise or lavish praise that was not tied to specific
issues arising from the novice's work. It was his sense that abstracted
replay could be used to look at a writing concern from various points
and could guide the novice to her/his own conclusions.

Susan Musgrave's comments on the poem "Feel the Wind" also
draw the novice writer to a specific problem. She makes suggestions
for improvement and then tells the novice of her own experience with
that solution.

> Why do you use 'n' instead of 'and'? Just
> curious? it looks like fast-food advertising - 'Big 'n'
> Juicy' - that kind of thing. If you're worried about us
> reading the word as 'and' when you want a quicker
> line - well most of us read it as 'n' anyway. For that
> reason I suggest not dropping 'g's' either - as in

takin', carin', givin'. Starts sounding like a country
and western song. What I'm trying to say is that our
internal voices can be sloppy ones and that we
probably, as we read, pronounce 'reading' as 'readin'.'
I try not to speak that way but I'm sure at times I
do. But I don't drop letters when I write (only in
extremely special and much agonized-over
instances). Same thing with 'til here.
 I'm looking back through my message and see
one line that looks confusing. 'Same thing with 'til
here'. I mean the dropping of the 'un' from 'til' and
the use of the apostrophe before 'til.

A delightful aspect in the previous excerpt from Susan's commentary
is her own use of abstracted replay. Embedded within the
commentary is the revisiting of her own comments, re-reading and
revising as needed. Often she would write spontaneously, commenting
on a particular point, but rather than editing or deleting the note, she
would add further comments either as points of clarification or
correction.

A potential shortcoming of using abstracted replay on-line is the
potential for one-way communication. The expert writers read the
submitted work and then make their comments. However, in CMC, one
may never know if the comments has been received, acted on, ignored,
or not received unless there is a response. While this lack of response
might be the novice being reflective about a particular comment, it
leaves the writer of the comment without any feedback. I asked
Susan about a comment she made to one of the students. "I'm really
glad you responded Chantelle. It makes a huge difference to know that
someone is thinking about what we say as writers. Even if you

disagree, at least it's feedback. So thanks! And I'm glad my comments make you grinny." Susan explained:

> If students do not respond to my responses I don't know a) if they've read them, b) if they were upset or offended in some way c) if they benefited at all and my comments made them happy d) if I'm doing my job and being useful. Chantelle was one of the first students to respond, and I was thankful to her all year for that.

Dewey (1933) suggested reflective thinking is "(1) a state of doubt, hesitancy, perplexity, mental difficulty, in which thinking originates, and (2) an act of searching, hunting, inquiring, to find the material that will resolve the doubt, settle and dispose of the perplexity" (p. 15). Abstracted replay can be used to encourage this reflective thinking as the expert writers' comments attempted to draw the novices back to their writing and resolve the issues found there.

Susan tried to develop this reflective thought through her commentary.

> Some of my commentary includes 'tricks of the writing trade' when I feel it is applicable. I'm always harping on about 'showing not telling' for instance. Mostly, though, my gut-feeling is that something doesn't work, but I've learned, because I've taught short fiction for a few years now, that it is never enough to tell a student 'this poem doesn't work because I get a feeling it doesn't' or 'my instinct tells me something is wrong'. I try and find reasons in the technique....give them something more than my instinct (which I trust, totally)....not reasons in the technique ... I fall back on 'technique' to back up instinct is what I'm trying to say, I guess.

She also recognized that the tone she used in writing her comments had an effect on the novices receiving them. In drawing the novices back to abstracts from their work, she attempted to be humourous and light. The awareness of tone reflects Susan's concern that the novice writers are already concerned about their writing and are probably anxious and hesitant about the comments their work might generate.

> I'd love to think I am warm, supportive, honest and constructive on line. I like to think I am funny, you know...witty...at times, too. Students have often said to me they prefer to get responses that deal in a humorous way (when it's appropriate, of course). I don't know how well irony would travel the wires of electrocommunication so I try not to be too terribly ironic lest my comments be misinterpreted. I feel extremely connected to the 'voice' of the student whose work I am commenting on at the time. I feel I know them in ways I never would if I sat down in an office across a desk from them. I hope they have the feeling they have the freedom to write about whatever they want, and I think my comments suggest that. Don't censor yourselves, I say, don't be afraid of offending anyone. Just write what is in you and needs to come out.

One of the novice writers, John Huff, responded in his interview branch that he was surprised when he prompted a rather controversial discussion about contemporary poetry with his poem entitled "Nineties."

> All I did was send a poem. The responses baffled me. I never expected that much noise when I sent it. I was delighted. I was also very surprised at what people took the poem to mean. It wasn't about rhyming or ancient poetry being better. It was just that I was sick of seeing poems about pain and

death and things like that. I'm very pleased that it caused so much noise though.

Although I don't use the file [the branch commentary in Nineties] itself in a whole lot of other discussions, many of the professional authors did. Essentially anybody that tried a rhyme got referred to the file. Obviously I didn't take the anti-rhyme thoughts to heart --'Man Himself', 'Upward Venus Avenue'. ... Nineties surprised me as much as anybody else. I was disappointed when the rest of my stuff more or less went nowhere until 'One More' but ...

Abstracted replay was not confined to John's original writing but was evident in his commentary as well. While John Huff was surprised that his work attracted the amount of attention it did, he was not totally overpowered by the expert writers' comments. He engaged them in discussions about contemporary poetry and appeared to reflect on his views but did not become intimidated when the experts disagreed with him or each other. His branch was referred to by the experts when they discussed rhyming poetry.

Hiren Mistry received a great number of positive comments on his poem "Jazz." In most cases, the abstracted replay was directed to very subtle concerns about word use or phrasing. He had spent a great deal of time actually aligning the words on the page, so the textual presentation of his piece was very important to him. Because the commentary had been very specific to lines and line breaks, I asked him if the way in which the comments were presented in WIER (written rather than spoken) made it easier to reflect on them.

The text format did help me reflect on the comments, and subsequently, what I had written to

initiate the comments. For the first weeks I used
WIER I read the comments over, and over, and over
again. I felt my confidence rise each time I read the
responses. I can't stress enough what a thrill it is to
have a piece of writing (A PART OF ME!) exposed to
hundreds of people who are qualified to comment
critically. Someone could be a brilliant writer, but if
he/she doesn't have the confidence to come out of
the shadows, opportunities would be lost. So I used
the comments as a confidence booster, and obviously
as a source of ideas.

Hiren used the text format of WIER for continuous abstracted

replay. Because he had a written record of the comments, he could

refer to particular comments as he engaged in the revision of his work.

Sandra Hawkins supported Hiren's comments about re-reading

past commentary when she mentioned how her students reacted to

the commentary they received.

> ... sometimes re-reading was MOST important.
> Often students had misinterpreted what was being
> said to them on a first reading, re-reading and
> reflecting are very important. Also, most students
> save their responses, much like they would save a
> diary or letters from people who meant a lot to them.

Abstracted replay was a strategy employed by the participants

in WIER to draw the writers, both novice and expert, back to their own

work and look again at the process they had employed. It was a step

in the learning process to encourage revision or reflection on a piece of

writing by focusing commentary on a single aspect of a piece of

writing.

The code "community of practice" was assigned to commentary from the expert writers that shared what it was like to be a professional writer. In order for expert practice to be effective in learning experiences, the experts must find a way to create a culture of expert practice for the novices to participate in and aspire to, as well as devise meaningful benchmarks and incentives for progress. The expert writers in WIER attempted to create this community by sharing personal insights into the process of writing, as well as glimpses into their everyday experiences.

Commentary assigned this code helped develop an on-line community of expert practice in writing. Lave and Wenger (1991) state that learning with assistance from more expert practitioners is "... not merely a condition for membership, but is itself an evolving form of membership" (p. 53) in that community of practice. They define "A community of practice ... [as] a set of relations among persons, activity, and world, over time ..." (p. 98). Newman (1992) adds to this and states that learners could only begin to join a community of practice once they had begun to appropriate things they could use in their actual practice.

An example of experts sharing the community of practice with learners is shown in the exchange between Katherine Govier and Tara McFarlane and Tara's classmates. The students opened the branch *KATHERINE AND US* to focus on the process that Katherine has used to write her novel, <u>Between Men</u>. Katherine explained to the students how she developed the idea for the novel.

When I decided to write about the historical case of Rosalie New Grass, which I had read a little about in the Calgary Public Library Local History Room, it was a tough decision. Basically I hate violence. I run out of gory movies. So I had to try to face up to this murder, and try to understand it. I am not sure that, in writing the book, I did come to understand it, or other hideous crimes. The phrase 'the banality of evil' still comes to mind. In fact perhaps there is no major 'explanation' for man's inhumanity to man - or more precisely, to woman, which is what I was interested in. What I ended up doing, in writing this book, is describing the events and the people, the atmosphere, even, AROUND Rosalie's tragedy. Sort of exploding the closed casket of this, which is very much a social event, and not only, not entirely, the action of one crazed individual.

I asked Katherine what she thought she was able to show them about the community of practice of writers in Canada. She replied:

... I let them into my life and show them what it is like to be a writer in Canada - that there were such creatures.

I think that you show them by your little comments and your offsides about whether you're having trouble writing that day or whether you have poor sales of your last novel or nasty reviews or good reviews or whatever. You show them what the life of a writer is like.

One of the main satisfactions of this program, for me, has always been the way I demonstrate that a writer lives in a community. To work in WIER is to obtain that sense of community that writers have in this country and to extend it to the high schools and to the kids who are reading us.

Susan Musgrave shared quite a glimpse of what being a writer can be like in the branch that was opened to discuss the review of her

new book. The review had appeared in the <u>Vancouver Sun</u> (not across Canada), so a copy of it was placed in the conference branch so all WIER participants could read it. Susan shared her thoughts on this review with a novice writer who had sent a poem entitled "My Life at Sixteen."

> I strongly identify with this [the novice's poem] as I just got a review in the Vancouver SUN, a review of my life, not my writing. At sixteen I was supposed to be a 'sea-witch', ... and have turned into a 'sea-hag'. Still happens that when you're a woman your looks and your life get reviewed. Well, at least I have all my teeth and most of my wits (joke). Quite a lot of 'Medusa-like hair' (another male reviewer who didn't approve of my life or my 'torrential hairstyle'). I have only one thing to say to them, and I can't say it on line!!!
> My Life at 40 is much like you describe in My Life at Sixteen. Not a lot changes. I'm still in the vice-grip of parents - and now my own children as well. 'Mum...turn that music DOWN...' etc. Oh, where did I go wrong?

A very rich interaction continued in this branch supporting the distinction between the author and her work. Eventually the reviewer was approached about submitting a piece to the branch. Through his essay to the students, the reviewer gave an insight into the community of reviewers.

Brian Brett shared experiences from his personal life when one of the poems on-line prompted a recollection. This piece of personal commentary generated several responses from the novice writers and gave them a glimpse of the person behind the comments.

> I enjoyed the feeling in this poem. It reminds
> me of the many days I used to dream about real
> freedom, lying in the back of my father's truck, going
> down the highways, watching the clouds rush.

The expert writers offered the participants in WIER many glimpses into the community of professional writers, integrating personal experiences into their on-line commentary. They created opportunities for the novice writers to engage in discussions concerning personal aspects of the writing process such as where they found their poem and story ideas and how they felt about reviews and rejection. Possibly because WIER was asynchronous, commentary was written at various times of the day and night, reflecting the mood, work schedule, frustrations of expert writers. Katherine's comments about letting the novices into her life, letting them see that she was human and a writer, was reiterated by the other experts who sprinkled their commentary with everyday personal woes ranging from trouble with baby sitters, to leaking roofs and writer's block. These glimpses of the writers behind the words allowed the novices to see the relationship between the professional writer and her/his personal life.

DYNAMIC CRITERIA

Dynamic criteria are comments that are learner focused, allowing the expert to respond to particular issues identified by the novice. In these comments the novice writers question and extend on-line dialogue. The literature on cognitive apprenticeship often refers to

this type of learner focused inquiry as just-in-time learning, which allows the novice to request information when it is needed and on a subject that s/he has identified. Goldman (1992) referred to learner focused inquiry as a process used by novices to gradually join a particular community of practice. Through regular inquiry the novice is not just a junior member of the community, but an individual who is developing her/his own identity which is reflected in her/his questions, concerns, interests, and skills.

The results of learning with comments that are learner focused are that the learners begin to form their own questions, choose when and why to revise their work, and begin to adopt the vocabulary specific to the community of practice. As the learners begin to formulate their own learning agenda, the expert writers are able to sequence their comments in an increasingly complex and diverse manner, situating the learning in cooperation with the learner's inquiries and needs.

Scardamalia (1992) refers to a similar process as the establishing of knowledge-building communities. Dynamic criteria allow the novice to find and establish her/his own place within the community of practice. Specific characteristics of these communities are a sustained study on one task, the focus on problems rather than categories, an inquiry driven by the students, an expectation of student response and interaction in the learning, and a shift in the role of the expert practitioners from lecturer to guide.

Lave and Wenger (1991) support the inquiry method and state that " ... talk is a central medium of transformation [learning]. ... the important point concerning learning is one of access to practice as

resource for learning, rather than to instruction" (p. 85). Levin (1992) suggests that telecommunications could host the type of talk that Lave and Wenger write about, and teleapprenticeships with experts could facilitate reflective practice using real tasks (such as student writing) and learner focused inquiry - on-line commentary originating from the novice <u>not</u> the expert.

John McClusky shared his students' view on the impact of the expert writers' comments.

> Students in a few cases disagreed with Brian Brett's comments, which he makes strongly, maybe dogmatically. This made for good conversation in class, and let students feel that the experts are not always right or helpful and that they themselves have their own expertise.
>
> Almost everyone (with the possible exception of John Huff) found Susan Musgrave's comments like an offer of friendship. She offers glimpses of herself and correspondences with her own life in her replies.

One of Tara's classmates in the *KATHERINE AND US* branch discovered that her perspective on an issue had changed as a result of reflection on the commentary presented in the branch. The novice wrote Katherine about this change of thought, directing her inquiry toward her concerns. Learner focused commentary encouraged Katherine to respond to the novice as an individual rather than just one of Tara's classmates, although the response was part of the general branch discussion which all the participants could read. The novice, Angela, wrote:

> Just a few questions and comments. First, I have decided to reread the novel with a much

different perspective than I initially started with. Most students, particularly female students, are given but one example of writing - that of traditionally patriarchal view points. Consequently, we tend to approach all literature with this bias. Your novel was unusual reading at first because it did not follow the 'typical format' and I couldn't quite absorb or even identify some of the themes in it because I kept expecting a major climax and definite resolution. However, I feel now that I understand that you are not writing in a standard male form, and with this I am very excited.

About the text itself, is Suzanne attempting to reconstruct or even deconstruct history? We are all too aware that history as it has been written by men, records the most 'important' occurrences. What is missing is the texture of ordinary life - why were people the way they were? What motivated them? Is it safe to say that the dialogue with Asp regarding the race is a declaration of our need to explore the more intimate and implicit aspects of our history? ...

Thank you so much for being at the receiving end of this wonderful transmission. I would deeply appreciate your feedback and look forward to another Govier novel. Angela

Katherine responded to each of the questions, addressing her remarks to Angela but also acknowledging the participants reading the branch.

Dynamic criteria are learner driven. Expert writers learn what interests the novice writers and direct their comments to those areas of interest. This process encourages the novice writers to begin to function as peers in the community of writers and take charge of their own learning.

EXPERT PROCESS

Expert process involves sharing the process that experts use to handle complex tasks. The expert writers in WIER demonstrated the process of completing a task, emphasizing that each process is specific and may be amended or replaced when addressing a different task. Expert process involves establishing benchmarks and incentives for progress and presenting the conditions required for membership in a particular community of practice.

Expert practitioners, within the community of practice, help the novices make the connections between necessary skills such as word choice, punctuation, phrasing, etc. and the piece of writing. They do not assume that the learners can or will make the connections between conceptual and factual knowledge for themselves. The experts show that the actual community of practice consists of people, activities, knowledge, the real world, and the time they share together.

Expert process is continually presented to the learner through guided experiences (Lave and Wenger, 1991). The expert makes obvious the relevant processes and methods so that the learner can recognize and diagnosis his/her own errors. Expert writers are able to show the novices how to "partition a problem ... into semi-independent subproblems..." (Hayes, J.R. & Flower, L.S., 1980b, p. 41) and isolate and set certain priorities on which to work.

As Lave and Wenger (1991) point out, experts model the strategies required to solve complex problems. They

> ... take a decentered view of master-apprentice relations [which] leads to an understanding that

mastery resides not in the master (sic) but in the organization of the community of practice of which the master is part ... [this view] moves the focus of analysis away from teaching and onto the intricate structuring of a community's learning resources (p. 94).

Hiren, a student, explained the impact that expert writers' comments had on him.

> Everyone's comments, especially the writers, built up my confidence as a writer. They verified what I thought my strengths were, and they pointed out some flaws. These comments gave me a greater sense of my ability as a 'budding writer' (I USE THAT TERM LOOSELY).

He explained how their comments directed him to revise a specific piece of writing.

> ... the comments initiated by Leon Rooke, and endorsed by Darlene were the sources of my revision process. Leon asked me to prune down a few lines, get rid of some repetition, while Darlene stressed the 'nitty gritty' of the jazz club. So, I did prune a few lines down to create a smoother rhythm in the poem, and I altered a complete stanza to achieve the 'nitty gritty'. These comments were short, sweet, and most helpful.

The comments from the two expert writers encouraged Hiren to engage in the process of revision and gave him clear suggestions of how to go about it. Also in the excerpt above one can see that Hiren had begun to develop his own writing process which he referred to a number of times in his interview branch.

Susan Musgrave shared many insights into her writing process and the process of the other writers she knew. In the following excerpt she replied to a student's question about how she worked.

> ... yes. I feel like a conduit most of the time. Especially when I'm in a novel. I get obsessed and withdraw from the rest of the world to a certain extent. It's like being a child again with an 'imaginary world'. You're in for a good (and intense) time this summer if you allow yourself to enter your fictional dream!

In another comment, Susan encouraged the novice writer by stating:

> This is a brilliant idea. I love it! A woman feeding herself to a voice! I do it every time I sit down to write. Can we, will we, see more???

Katherine Govier shared how she found the source of some of her material. In the same comment she suggested a story idea to the novice writer.

> I'm so glad you mentioned the race. This is one of my favorite bits of found fiction. (It comes straight out of the archives.) Yes, this is a good example of re- or de-constructing history. The story of winners is the history we usually get. The losers often tell a great deal more. What I really liked in the Deerfoot/Stokes race was the way Stokes said he was running 'without reference to the other man'. These people didn't even have enough basic agreement on the rules to compete-- Maybe that's a particularly Canadian phenomenon. I think you could write something very interesting about this.

Often Katherine suggested story ideas or elaborated on the ideas of the novice writers through her commentary. She continually attempted to share her vision of a writing community in Canada and the process that directed their work.

Brian Brett discussed the process of revision in Hiren's branch "JAZZ."

> About the idea of 'jazz like a conversation between instruments.' The important thing to remember is that there must also, always be a listener, otherwise it will never be heard, and thereby, not performed. A bit of a mind-number if you think about it. I'm sure Peter will have fun giving me the old 'philosophical what-for' on this. I'm back to a variation on the tree falling in the forest routine again. If no-one hears it fall or finds it, does it actually fall. I'm always inclined to think yes, but a lot of brilliant people have suggested otherwise. But it seems even more critical to me that unheard music cannot exist, so it seems all instruments, if they are of any concern to us, must also play to a listener, and not just another instrument. This is just another way of saying, keep your mind on your reader as well as the conversation.

Brian tried to remind the novice writers of their audience and the connection between what was being expressed and what was being received. Often he wrote of the need to be precise with words and phrasing, stressing the need to revise and prune as well as draft new work. Possibly more than the other two expert writers, Brian wrote more about the polishing and publishing phase of the expert process.

For all three of the expert writers, expert process encouraged an interaction among the participants in WIER about the actual mechanics of the writing craft. The experts presented their actual process for

revision or creation of original works while the novices had the opportunity to question the process and begin to use relevant aspects of it in their own work.

INTERACTION AMONG EXPERT WRITERS

This code refers to the interplay among the expert writers. It often took the form of informal banter or general conversation on a particular point. The interplay did not always result in agreement, and it allowed the novice writers to observe the experts in action with their peers.

Brian Brett commented about the "sideways comments he and the other expert writers often exchanged. Periodically in WIER the discussions between the expert writers continued from one branch into another branch; almost as if the other conference participants were overhearing bits of the conversations. These overheard bits were what Brian referred to as "sideways" comments. I believe these connected comments happened because the expert writers were downloading the same *INBOX* material at approximately the same time. Therefore, their reading and responding tended to follow similar patterns.

> As for Chantelle, whose section we are in, judging from her spectacular metaphors and lust for literary visions, I suspect she can handle all these sideways dialogues just fine. Besides, I've never believed that we can 'teach' real writing, we can only run and whisper and shout and laugh alongside those who are willing to run.

I asked Brian Brett whether he sensed his on-line relationship with the other writers to be a combination of voices and shared ideas or a source of conflict or confusion to the novice writers.

> I actually came to know Susan [Musgrave] a lot, typing back and forth with her, much more than in the odd and semi-formal conversations we have had through the years. I loved her personal honesty and sense of responsibility.
>
> All of them [the expert writers], strange relationships. Writers are an odd bunch (me included). We run in so many different directions. I relished everybody coming on-line and wandering where their desires and their visions took them. Of course that led to shared ideas and conflict and confusion. There should have been more of it if we were to give the students a good idea of the 'reality' that occurs when words start flying.

When I interviewed Katherine, I asked her about the differences between the expert writers' style and approach to the commentary of the novices' work, wanting to know if the differences affected the way in which the expert writers tended to interact with one another.

> KATHERINE: ... I ... didn't want to get myself in reaction to Brian all the time. Really I was reacting to the student work. Sometimes I would leave the work if Brian had responded to something. I would just stay out of it. But if I had a different point of view on a piece of work and I felt strongly that it was necessary to express that, I would jump in. And with Susan. Sometimes Susan and I were in disagreement on things. She had some really good points.
>
> ... there is one [branch] called 'Whose Fur Coat', which is Delacy's, which Brian and I both really liked, and Susan came on and said I don't like this piece. I thought that Susan is dead on. I don't like poetry that

looks down on people. She changed my mind on certain things. But Susan is much more wonky and off the wall than I am. I mean Susan loves a kind of insanity.

SUSAN CRICHTON: Honing it to an art form?

KATHERINE: Yes, that's right. So what we do is rather different - we bring a different perspective on things.

SUSAN CRICHTON: Which is so refreshing. You wouldn't want a great pile of the same comments.

KATHERINE: No, it wouldn't be interesting.

Katherine's interview comments explained the subtleties of on-line interaction with the other expert writers. There were times when the experts did not agree with either the comments, the suggestions, or even the tone of their colleagues on-line. These disagreements were no different from disagreements that might take place in a face-to-face setting, but all the moderators agreed that written disagreements appeared more serious, harsh, and potentially hurtful. Consequently, Katherine often tried not to react to Brian but to focus on the work of the novice writers.

Two amusing examples of Susan's on-line interaction with the expert writers are given below.

To Brian's last response, Hear hear! Or, as Pierre, my French chef-friend would pronounce it, 'Hair hair' !
Katherine - I thought I did agree with you, though I started out thinking I didn't. Isn't there a kind of shampoo called AGREE?

Susan Musgrave commented on the value of the interplay between the expert writers for the expert writer themselves.

> I love it when another writer jumps in and disagrees with me or agrees or supports or questions. I feel then I am linked to something great and bountiful. The opposite happens when writers don't respond. I start feeling cranky: I've picked up on something they've said and they are ignoring me, why bother? etc. Except then a writer like Brian will come along and respond instead, and it gets a dialogue going. This is one of the things I like best about WIER. It makes you feel less alone in the world.

Interaction among the writers allowed the novices to watch the experts in action and to see that a community of practice is made up of individuals who are not bound by agreement. The novices could see that within the community of writing there are different views, processes, and opinions.

INTERACTION WITH EXPERT WRITERS

Interaction with writers refers to the interplay with the expert writers from the novice writers' point of view. In some senses it is similar to dynamic criteria in that the novices gradually direct the commentary and become the expert writers' peers in the textual exchange. This code was added during the analysis of the commentary as I came to realize that for some novice writers this was a very important part of their WIER experience. Judging from the dates of the interaction with the writers' commentary, the students who

engaged in this did so after they became comfortable with the WIER environment and began to develop an on-line voice.

John Huff, a student, initiated a number of conversations with the expert writers and came to realize that on-line relationships can be as tenuous as face-to-face ones.

> I developed a sort of relationship with Susan Musgrave (which now appears to be rapidly deteriorating). I loved the discussion, walking into class thinking, 'What is on-line today?' I looked forward to reading and responding.
>
> After the discussion, I took a firmer stand on poetry being for the writer. What I mean is that if I write a poem, all that matters is that I like it. Other opinions are fine, but mine counts the most on my work. I expressed this in my 'For the Man Himself' poem.

Hiren Mistry, a student, was surprised by the degree of the expert writers' involvement in the novices' writing.

> When I sent JAZZ I didn't know what to expect. I was willing to accept the worst, because I knew the poem was long, a bit suggestive, and it was based on a type of music not everyone likes or appreciates. I knew that professional writers were going to be part of my audience, but I never realized how actively involved they really become with the student's writing.

John McClusky commented on the reaction his students had to the exchanges they had with the expert writers.

> They began to refer to Susan, Brian & Leon particularly with familiarity. At first students had to be urged to comment, but as we got going, they

became more interested and involved. They came to recognize different voices: Leon's incisiveness, Brian's encyclopedism, Susan's personal, direct & often funny style.

Peter Marmorek also commented on the value of the exchanges with the expert writers for the students in his class. I asked him if the students took the comments from the expert writers more seriously than comments from classroom teachers.

> Well, of course not. How could they take any comments more seriously than a teacher's? That's getting perilously close to blasphemy, don't you think? Oh, seriously? Okay. Of course. These are professional writers - there is a sense of, 'These are the ones who really do it.' It's like the difference between a high school hockey coach saying you're good, and Wayne Gretzky saying you're good. (I trust that this incredibly hackneyed and superficial simile will remove any lingering questions about why I'm not a writer?)

Sandra Hawkins related a humorous experience that happened in her class regarding an exchange with one of her students and one of the expert writers.

> ... students are especially impressed when an author takes them seriously, but it doesn't take too long before students began feeling like 'equals'--in fact, we have had some amusing experiences when a student didn't realize he was responding to an author--in this case Lorna Crozier. The young man patronized her by calling her a 'good girl' and encouraged her to keep writing! Students and other writers came down on him. Then Lorna, being the neat person she is, told him his response to the poem valid, but she didn't like being called a 'good girl' and

didn't imagine he would find 'good boy' much of a compliment or helpful response. We all learned a lot from that exchange--especially my student!

Katherine Govier compared the exchanges she had on-line with the exchanges she has had with students in the traditional classroom.

> I've taught creative writing in the normal way and had lots of discussions with writers face to face about their work and I didn't find that saying the response to them had the immediacy of the writing it on-line. The computer actually draws out something really valuable. If I was going to quantify what it was, it would be combination of being spontaneous but also being quite considered and as I say coming from the written or literary side rather than the conversational side.

Shine found that the interplay with the expert was beneficial as she revised her work.

> I was comfortable with staying with my own decisions when I had conflicting advice. It was great being able to access such a pool of different opinions; you can see how others see the piece. It is not a 'collaborating' feeling -- it's more of a council. It was very easy to accept advice.
> The comments of the authors gave me ideas for my revisions, and once I got one idea it was like dominoes & I got tonnes more every word I changed. I didn't find they offered a place to start too much, although on one of my stories someone suggested I begin halfway through the plot & backtrack.
> [The comments] helped in reflection & on deciding what to say next. I didn't refer to them much but they were useful in detecting flaws it would have taken me a long time to see. You see, when you write a story it'll take longer to see the

wrongs because to you everything makes sense when to others it doesn't.

I asked Shine if there was a difference in seeing the comments on-line and responding to the expert writers from a face-to-face encounter with her classroom teacher. She responded:

> Where I may have been angry at a comment at first & responded verbally in anger, a chance to make myself calm down to write back worked wonders to let me swallow my pride & realize they were right. I can do that with my own work now -- see faults objectively -- which I couldn't do before.

Thuy, a student, was amazed by the amount of expert participation in the branches. He felt he was able to develop a rapport with the experts and get to know them.

> There was amazing participation on-line. My interaction with these professional writers (Susan Musgrave, Brian Brett, Cecil Foster, and Peter M.) was brief, but intense. These people got right to the matter (in most cases) and in brief notes, try to get their advice across. Also, these people ... would not hesitate to criticize if they see to do so.
> Susan Musgrave is a wonderful person. Through reading some of her poems and works, I got a sense of her personality. She shows through her responses to the students, a sense of optimism that is at the same time critical and therefore helpful. On one occasion Brian Brett stated that he understands me. About the Hat story, Brian wrote that he could relate to the narrator's intense emotion for his younger brother.

The interaction with the expert writers allowed the novices to discuss what was important to them. Over time these exchanges

became less formal as the novices became more comfortable with both the on-line environment and the expert writers.

LEARNING ENVIRONMENT

The code "learning environment" was assigned to commentary written by the expert writers which combined aspects of expert practice to address the specific needs of a novice writer. A specific learning environment was often developed for each piece of writing, reflecting awareness of the particular concern the expert was addressing. The experts employed a variety of heuristic strategies (abstracted replay, community of practice, interaction among participants) and presented a process (expert process) for dealing with a specific situation. The expert writers attempted to increase the complexity of specific tasks slowly, reflecting the changing demands and abilities of the learner (directed by dynamic criteria). This could result in the "... learners ... [having] a space of 'benign community neglect' in which to configure their own learning relationship with other apprentices [novice writers]" (Lave and Wenger, 1991, p. 93).

This code encompasses aspects of other codes, but specifically identifies instances of the experts addressing their commentary to both a specific piece of writing and the needs of an individual novice writer. An example of commentary excluded from this code would be the mini-lectures which were initially prompted by a specific concern but then were referred to later as a general suggestion for similar concerns from other novice writers.

The three teachers interviewed for this thesis commented that the variety of approaches with which the experts addressed the issues was able to meet the needs of the majority of their students. Some students identified more closely with one particular expert writer than another or with one style of response. Because the experts changed their approaches and tone regularly, the novices appeared to shift allegiances, responding to one expert for awhile then shifting to another.

Susan Musgrave incorporated personal notes and experiences in her comments as she attempted to personalize her comments. In the example below, she points out an area of concern and then gives a direct reason for her concern about it.

> Sarah, I'd leave out the line 'Our garden of life' in both instances. It's a line that seems to draw attention to itself, saying 'Hey! Look! There's a metaphor going on here!' What about the word 'serene'? Can you think of something else. Maybe it's a personal prejudice I have against the word. I know a very troubled lawyer (he was far from serene - he died of a heart attack) who used to drive to work playing Simon and Garfunkel's 'Bridge Over Troubled Water' because, he said, it made him feel serene. The word sounds like one used often - too often - on postcards. I like many of the images you use here - 'burly earth', 'twirl of hollowness' and so on. I love to hear specific images in poetry: your line 'on the infinite stages of nature' for instance...couldn't you find something particular to name rather than the over-all word 'nature'. A particular kind of flower, leaf, bush???

In addressing specific concerns, the expert writers can zero in on a particular issue and make clear suggestions for improvement. In the

example below, Katherine Govier is direct in her comments. She is responding to a novice's concern about chapters in a piece of writing. Katherine made a suggestion about that question and then pointed out the spelling problems in the piece that made understanding difficult.

> I wouldn't worry about chapters- this can be all of a piece. A switch in place like that can be handled by just leaving a larger break between paragraphs. At least you USE paragraphs, thank goodness. Your spelling, by the way, is pretty terrible. "approxamitly" and other errors abound. I have sympathy as I am a bad speller. But you must clean it up. "absolutly nessacary" as you would write - as you did write!

Katherine addresses not only the general issue of chapters, but also the specific problem of spelling errors.

Each expert writer established learning environments that attempted to support the needs of the students but also reflected the expert writer's personality and teaching style. In most cases the comments about an original piece of writing were specific, but often the experts referred to comments that had been made previously in a branch.

Brian Brett discussed what he intended in some of his commentary.

> BRIAN: ... I like to hope they [the comments] had an underground impact, a kind of bomb behind the brain. They were little traps, hopefully, thoughts that would stick when the writers worked on their next piece.

> SUSAN CRICHTON: At one point, you discussed the difference between stealing and hiding. I might

refer to this as sharing tricks of the writing trade. Is that true? What was your intent?

BRIAN: Exactly. Just tricks of the trade. Most of them work. If you believe in writing, what it means, where it goes, you want to help everyone who writes. If I could save would-be writers any kinds of hassles or misguided runs up the wrong road, all the better.

Brian's comments were often very direct and sarcastic. In the example below he identifies a good point in the piece and then suggests two other areas for revision.

> Congratulation: You get this month's award for the use of the deadly, nefarious 'soul' in an original manner. This is why all laws of poetry can never be total. Someone always comes along and does the deed well. The 'soul' stanza is the best in the poem. It all reminds me of the native 'spirit catcher.' There's a bit of ponderous diction in the second from last stanza. 'a pond of stillness deepest,' and 'are silent of its symmetry.' Otherwise, an interesting and fresh piece.

John McClusky commented on how specific comments were received by his students.

> The mini-lectures provoked wide-ranging class discussion. Comments on the piece of work provoke a range of responses -- bafflement to teacher-student discussion to eager revision to outraged disagreement.
> Students generally were pleased to be taken seriously. Initially they were sometimes puzzled or flattered or intrigued by the comments, often provoking discussion with teacher or classmates. Over time they came to take some comments more seriously than others. For example, students found Leon Rooke's comments often difficult but rewarding.

Some author comments were not particularly helpful.

Peter Marmorek (teacher) commented on the range of comments from the expert writers. While the experts were working toward developing a specific learning environment for each piece of original work, they often used different methods. Peter explains:

> Methods ranged from VOICE FROM ABOVE!!!
> (Brian's great 10 commandments of Poetry, which
> are pinned to the wall of both our library and my
> classroom) to gentle suggestion, to a number of
> marvelous debates about the nature of language.

The expert writers used a variety of approaches and styles to modify their commentary so it would fit a specific learning environment for a particular novice writer. While there were a few mini-lectures which touched on general concerns that reoccurred in the novice writing, most of the comments were directed at an issue arising in one piece of writing.

INTERACTION AMONG PEERS

Interaction among peers refers to the interplay between novice participants within the WIER conference. This interplay was crucial for the social interaction that kept the conference engaging and lively.

In terms of expert practice, peer interaction can be seen as a form of dynamic criteria. The novice peers can elaborate on their thoughts and ideas with their peers who provide an audience for the learner-focused inquiry.

Participants often commented how much they enjoyed hearing from one another, and they regularly expressed their frustrations with either technological problems, access problems, or lack of time that hindered their activity in WIER.

> Dear Hiren,
> Chantelle and I were both happy to hear from you.
> We didn't respond to responses because our class
> involvement / class time for Wired Writers ended at
> the beginning of May; your comments didn't seem to
> need a response; and (if I remember rightly) the
> comments were not attached to a branch (and I don't
> know how to attach a reply to a note which isn't part
> of a branch). This last point I'm not sure about, but
> it applies to a lot of work which we didn't bother
> with. If it wasn't entered properly, it was too much
> hassle to mess with.

Tara, a student, commented on the search for peers with whom to interact. Participants in WIER only have their words with which to attract peers, so often they feel they are searching for someone on-line.

> I do take into consideration that other people
> are reading, and I like to know who I am talking to.
> But there are lots of people who only read the
> discussions and never respond, so you don't know
> how you have affected their life. That audience
> doesn't exist. I suppose that I am getting into
> philosophy now, right? All in all, I knew that people
> who were interested were reading and being an
> audience, so perhaps at times I directed, or have
> directed my comments at Katherine, but it is only
> because I felt that she was the only one that was
> going to respond. It is the same with a conversation.
> You don't include an entire room full of people into
> your conversation. If people are interested they will

join in the nearby space, ask questions and join in
the conversation. I remember in the beginning of the
discussion I spoke to everyone, but then later on
narrowed my comments to Katherine. I think that is
normal. You still know that people are 'listening' in
though.

Active peer interaction was stated by many participants to be a
weak point in WIER. The teachers I interviewed seemed to think that
was due more to access difficulties rather than a lack of commitment
or interest on the students' parts. Each school handled the access issue
to WIER differently, but most of the teachers in WIER stated that their
students did the majority of their work off-line and that a school-
based expert handled the technical on-line work. If this were the
case, the students had very little chance for spontaneous interaction
with their peers which would explain why it was a weakness of the
program [see Chapter Five - Accessibility].

USE OF EXPERTS' WRITING

This code refers to the use of the experts' own writing to
illustrate a particular point. Either the experts referred to their own
writing or the writing of other on-line experts. This allowed the
experts to show, not tell, a particular point, and to further share the
process of expert practice with the novice writers.

Brian Brett wrote two dogmatic pieces about aspects of the
writing process: *THE RHYME DISCUSSION* and *TEN COMMANDMENTS OF
POETRY.* These selections were referred to quite often and were

probably laminated and hung in the majority of the WIER classrooms across Canada.

The branch *KATHERINE AND US* was a discussion about Katherine's novel <u>Between Men</u>. The participants in this branch discussed everything from word use to musical references. Commentary from this branch revealed much of the process that Katherine went through to write this novel. Tara and her classmates asked Katherine specifically about the word BETWEEN from the title.

> I started this book with the idea of a woman being 'between men' as one is 'between jobs', for instance. Temporarily without occupation. I intended to play on the other meaning of Between Men, I.E. 'this is a subject which is between men' or 'between us'- meaning, don't bother your little heads about it, we'll do it.
> The murder of Rosalie, then, was 'between men'. They all knew how and why it had happened but this was not information meant to be out to the public.
> After setting up this extended pun, if you like, I,like you, began to find 'between' references everywhere. A lot of this is unconscious.

By using references to their own writing, the expert writers were able to illustrate the point they were making with a clear example, and the novices could see how the particular looked in actual practice.

REFERENCE TO LITERATURE

The expert writers made numerous references to the writings of authors who were not associated with WIER. Sometimes they used references to present examples of a particular writing technique or illustrate a point. The three expert writers stated that they also used these references to introduce the novice writers to the larger community of writers.

Susan Musgrave used references from both fiction and non-fictional sources. In the examples below, she refers to the sources to strengthen her own comment about a specific point of concern.

> This story is a revisionist's dream (or should that be 'reviser's dream'?) Take a look at your first sentence: Rita Mae Brown, in her writer's manual *Starting from Scratch* says that if you load your work up with the verb 'to be' you will win a black belt in boredom. That first sentence would move faster, I think, if it read, 'The white moon shone in through....' or even simply 'The moon shone in...' I love the Ivory soap image, particularly following the line about the moon. And I think the word 'squiggish' works well. I can feel the squishiness of it all.
>
> More on Katherine's comment. There's a poet from Washington State called Alice Derry. Lorna Crozier uses a line from one of her poems as an epigraph in her new book. 'This is the walled city, family. Within, all the love and hate a body needs.' Scary, and good, eh?

Brian Brett explained why he referred to the writing of other authors.

I just wanted the students to read. Roughly paraphrasing what Rexroth once said, and I think I quoted: 'One of the joys of being a writer is discovering all the others who've been in the same mess.' Writers should read. For a very very few, reading can be death, an inhibition and crushing of joyous freedom, but for most, it is the only way to learn what makes good writing.

In an interaction among writers, Susan Musgrave referred to Chekhov when asking Thuy a question about his story "The Red Hat."

A lot of fascinating comments here. I'd agree with what everyone else - Peter and Brian - have to say? But I, too, wanted to know what became of the roast beef in the end. Keep in mind what Chekhov says: if you have a gun hanging on the wall on page 1, it had better go off before the end of the story, or else there was no point in mentioning it in the first place.

Brian Brett responded with:

Susan: About that roast beef. Just because Chekhov was trigger happy and wanted to let guns fire in the theatre if they're on a wall or in someone's hand, doesn't mean it's always necessary. A gun not firing can be just as, or more, meaningful. And if nothing else, a gun on a wall can create a hell of a mood. Sorry, as much as I love Chekhov, I think that comment of his is part of the Dick Tracy school of theatre.

As for the roast beef, though it shot nothing in Thuy's piece, I found it a nice counterpoint, a mood, rather than an action, and as such, redolent with meaning.

Thuy responded to both expert writers' comments:

> Dear Susan Musgrave,
> Interesting piece of fact about Chekhov, it makes real
> sense. Brian Brett is sensible in realizing that there
> are situations where it's not essential to fire a gun
> just because it's there (I am not saying my story is
> such a situation). As for what happened next? My
> other brother (a year older than me) rushed into my
> room and immediately slammed me against the wall.
> I would have retaliated if my wrist wasn't broken.
> Thanks.   Thuy Bui.

Katherine Govier introduced the writings of many international authors. In one comment Katherine presents an idea of hers by building on a reference from another author.

> This is an extremely interesting story which
> reminds me of a great book by the New Zealand
> writer Janet Frame. 'State of Siege', it's called. In it,
> the narrator is shut up tight in her cottage while a
> wild storm rages outside. She imagines the blows of
> the banshee winds as being each of her loved ones, in
> turn, and wonders if she would let them in.... the
> answer is always no. In the morning she's dead. I
> like the idea of exploding the standard emotions to
> find their opposites.

John McClusky explained the value of the reference to literature in his classroom experience.

> It made them [his students] aware of
> contemporary Canadian writers. A number of them
> read Susan Musgrave, Leon Rooke, Brian Brett, Lorna
> Crozier for the first time. Because of discussions
> initiated by Wired Writers, some of them have read
> some Elmore Leonard, Carl Jung, Al Purdy, Kurt

Vonneghut, Margaret Laurence, Di Brandt, ee
cummings, Ted Hughes, etc.

Both the teachers and expert writers found that references to
literature helped introduce the novice writers to the larger community
of practice, especially the Canadian writing community.

CONCLUSIONS

The expert writers in WIER shared their vision of the writing
process and the community of practice of writers in Canada. They
were not trained in the academically defined protocols of expert
practice or cognitive apprenticeship, yet they demonstrated many of
the criteria of this practice that were identified in the literature.

The experts' comments could be categorized as metacomments,
task-oriented or content statements, and interjections. These
categories were described by Hayes and Flower (1980a).
Metacomments included those in which the expert writers made
general statements about the writing process, not necessarily tying
their comments to a particular piece of novice writing. Task-oriented
comments were those that linked the relevant portions of the writing
process to a particular problem in an actual piece of original writing.
Interjections were those comments that were informal and shared
either personal experiences or encouraged conversational, on-line
social interaction.

The interaction in WIER centered around the task of writing, and
the participants were aware of their obligations. The need for
awareness of participant purpose may seem obvious, but Park (1992)

and Riel and Levin (1990) stated that a lack of specific purpose and/or participant obligations contribute to the failure of many computer conferences. Awareness of the context for interaction has been identified as being essential to assist on-line participants overcome barriers created by asynchronous interaction (Ahern, 1992).

Pea (1992) described a general set of components and activities for on-line conferences that coincide with the WIER experience. He identified visible and invisible components within a computer conference. The visible components consisted of the actual hardware, software, and print material available to the participants, and the invisible components as the thoughts and the experiences of the participants. With these components, the participants then begin to negotiate meanings in the situated activity of the conference. Ideally, the negotiations start with participants stating their common knowledge and develop it through on-line interaction.

Within the situated activity of WIER participants learned from both their own practice and from the practice of others. In the WIER experience, the computer provided a medium for augmenting the learning conversations (social interaction), representing the dynamic concepts (storing the commentary in an accessible database), and providing a communicative medium for anchoring further learning conversations (Pea, 1992). These negotiations allowed the participants to appropriate and communicate their negotiated meaning and to establish a community of practice in the on-line environment of WIER.

CHAPTER FOUR

HUMAN FACTORS IN TELECOMMUNICATIONS

Armchair Journeys Into
A Virtual Field

AN INTRODUCTION

One early Sunday morning a fellow graduate student walked past the office I was working in and paused to ask, "So where are you conducting your research?" As I attempted to answer her, she interrupted stating that my approach was probably cheating - no travel, tape transcriptions, canceled interviews, ever changing school schedules ... no fair!

However, after she applauded my cleverness and good fortune, I began to question a few things about my methodology: *where* had I conducted my research; had I been able to collect as much and as rich information using technology as I would have using face-to-face interviews; were the people I had gotten to know in the APPLE TREE branch as they presented themselves and did it even matter?

This chapter is an exploration of my answers to these questions. It looks at the warm, rich, human factors that came into play as the on-line participants worked to establish discrete on-line personalities but found themselves without the familiar visual clues, physical gestures, or other tangible trappings of traditional face-to-face encounters.

In exploring these issues I found it necessary to question Hiltz's (1990) definition of the virtual classroom (Chapter One - COMPUTER-

MEDIATED COMMUNICATIONS). She describes it as a "...teaching and learning environment ... constructed in software. ... All its features are accessed not by traveling to a ... [facility] but by typing into, and reading from, a personal computer" (p. 59). This definition may be confusing to individuals who might visualize the CMC environment as a form of virtual reality.

Currently, virtual reality (Helsel, 1991) is recognized as a software simulation of an actual environment, designed to stimulate a variety of senses (visual, auditory, olfactory, tactile). Designers of these virtual environments recognize that environments exist in the software, not in a specific place or site that participants enter. In comparing the CMC environment with virtual reality, it would seem that the CMC environment is almost the opposite - a place of sensory deprivation rather than stimulation. Participants joining electronic conferences do not see or hear or feel real classroom experiences. Participants and moderators appear to help each other share intellectual and emotional stimulation by triggering images that exist in the participants' minds. This chapter explores how the participants in WIER responded to the lack of sensory input (physical gestures, realistic graphics, sound, touch), and worked together to add human factors, attempting to re-create the ambiance of a collaborative workspace where all the participants could work and share their writing.

This chapter also looks at the codes that emerged from the analysis of the on-line commentary and interviews and from starting to write Chapter Three. Prior to the analysis of the data, this thesis focused on the use of expert practice to encourage on-line social

interaction. However, in looking at expert practice, the issue of social interaction had to be addressed. Initially, I felt that social interaction was a straight forward phenomenon that needed little definition or attention, but the human factors that encouraged or hindered the interaction became increasingly important. As I spent more time with the participants in CRICHTONS RESEARCH (apostrophe not possible within PARTI) and with the on-line commentary, I realized that my focus needed to shift and include anthropological and other human factors with the technology and expert practice. It became necessary to integrate theorists such as Goffman and Blumer with Riel, Mason, et al. to begin to make sense of data.

The categories presented in this chapter are those that were additional to the explanation of expert practice (Chapter Three). I was aware of and collected information about the codes "ASCII Faces", "Text-based negotiations", and "Tech Trouble" prior to writing Chapter Three, but the codes "Sense of Virtual Community", "Social Conditions", "Virtual Sense", and "WIER Process" were developed in order to analyze the commentary and the interviews. Midway through writing Chapter Three it became apparent that an additional chapter would be necessary to accommodate the new information, and it seemed logical to present the codes not directly supporting expert practice there.

HUMAN FACTORS

Seven years ago, Cahn (1985) stated the need to study technology's effect on human factors. "If telecommunications is to retain its importance and popularity, it must incorporate a view ... that

treats *persons as persons* and it must study human communication as a process going on between *people*" (Chesebro and Bonsall, 1989, p. 117). While the above statement was made years ago, participants in on-line activities still express the need for a friendlier *user interface* and the capability to personalize their text; calling for the efficiency of technology to mesh with human considerations. People using CMC recognize that "Simply connecting two locations is not enough - we must also ensure that the technology can be used easily ... " (Fish et al., 1990, p.9), facilitating rather than limiting social interactions.

Ishii (1990), Fish et al. (1990), and Chesebro and Bonsall (1989) all recognize that research into the social consequences of computer use is lacking. They call for research that looks into the effect of computer use on human communication and the changes present in human communication once it moves into a computer environment.

In part, this thesis looks at the WIER commentary to analyze the ways in which participants began to work with their colleagues to establish an on-line community; a community which developed from the communication or interaction among participants, concerning issues of writing. Blumer (1969) sheds light on the establishing of a specific community and the culture that develops in it by stating that human groups "... exist in action and must be seen in terms of action" (p. 6). He adds, "Culture as a conception, whether defined as custom, tradition, norm, value, rules, or such like, is clearly derived from what people do" (p. 6).

Within the WIER conference, participants appear to create "... 'worlds' that ... are composed of 'objects' ... that ... are the product of ... interaction" (p. 10). Blumer identifies three categories of objects: "...

(a) physical objects, such as chairs, trees, or bicycles; (b) social objects, such as students, priests, a president ...; and (c) abstract objects, such as moral principles, philosophical doctrines, or ideas ..." (pp. 10-11). The WIER experience suggests that the conference participants used physical objects (computers and software) to create and share social and abstract objects. The meanings of these objects were defined for individuals by and through their interactions with each other in the conference. Examples of this will be discussed later in this chapter.

ESTABLISHING "NORMAL" ON-LINE

> The strangest thing about CMC is not its purported inhumanity, but rather its lively, rapid iterations, almost rapid enough to recall spoken conversation. The speed with which messages are exchanged makes it possible to use computer communications to manage a project, say teach a class, or meet new people. With practice, the computerized mediation of such pursuits comes to seem a normal part of life (Feenberg, 1990, p. 22).

As discussed in Chapter One, simply being on-line does not seem to encourage continued participant involvement or develop a sense of community. Consequently, it would seem that it is necessary to identify skills conference members need to practice to make CMC experiences viable and part of everyday life, or as Riel and Levin (1990, p. 145) suggest, there will be more electronic ghost towns springing up in electronic networks.

Mason (1990) states that CMC is "... essentially [a] literary medium, it places a premium on the skills of analysis and written

expression ..." (p. 7). Fish et al. (1990) add that it is not a medium conducive for informal communications. They suggest that on-line interactions tend to be fairly rigidly planned and rarely support unexpected activities.

Attempting to situate the WIER experience in the context of the existing literature on CMC is difficult. Participants in WIER worked to establish "normal" relationships with their on-line counterparts. In analyzing the on-line interactions, I gradually began to recognize repeated characteristics common in the communications. Moran and Anderson (1990, p. 384) identify these same characteristics as three aspects necessary for computer supported interaction: (1) sociality, (2) work practice, and (3)technology. They define sociality as the relationships people establish among the group which help create experiences the group can share. This relates to Blumer's (1969) explanation of the development of a culture; a group sharing and defining of common meanings and experiences. The second, work practice, is defined as group understanding of the task to be accomplished. The shared understanding of "... the knowledge, skills, and routines for accomplishing specific tasks ..." (Moran and Anderson, 1990, p. 384) allows the participants to develop a work practice through shared, common activities. The third characteristic, technology, refers to the hardware and software that the participants use.

Moran and Anderson (1990), Ishii (1990), and Feenberg (1990) all state that while technology supports electronic conferences, it also has the potential to create seams that can break the continuity of the participants' on-line experiences. Ishii (1990) uses the term "seam"

synonymously with cognitive discontinuity. In the WIER experience, a seam relates to obstacles presented by either the hardware or software that hinder the user from completing her/his task. Seams such as problems encountered while connecting to the WIER conference or uploading work from the word processor to telecommunications software can limit both social interaction and productive work practice.

POTENTIAL SEAMS FOR USERS

The metaphor of the seam is an interesting one; however, to a beginning member of a CMC conference the seam may feel more like a gorge. The image of a seam is powerful as it suggests that the gap can be bridged by connecting the two sides. Ishii (1990) defined the sides of the gap as being a cognitive discontinuity between the individual and the task. Generally, he felt that any tool (technology) needed to be transparent, almost intuitive, so as not to obstruct the individual from the task.

In the case of computer supported work, such as the writing process within the WIER conference, cognitive discontinuity could prevent participants from interacting or even participating in the conference. In the WIER experience, the on-line tutorial and the moderators attempted to overcome the potential discontinuity by offering tips and assistance to reduce the impact of technology. It was felt by the WIER organizers that once an individual could cope with the technical difficulties and trust that s/he would encounter support and assistance when it was needed, that individual would more

readily join into the group work and contribute to the WIER conference.

Ishii identified the three potential seams for computer supported group work:

> (1) The seam between individual work modes and cooperative work modes.
>
> (2) The seam between the computer-supported work (e.g. word processing) and non-computer-supported work (e.g. writing with pen on paper).
>
> (3) The seam between asynchronous communications (e.g. E-mail), and real-time communications (e.g. telephone, video conference). (p. 14).

Organizers and moderators in WIER attempt to address these seams by focusing on the group task of writing rather than the use of technology in the CMC environment. This reinforces Moran and Anderson's (1990) suggestions that the focus of on-line interactions needs to be human-to-human interaction not human-to-computer (p. 382). Nevertheless, at times, participants in WIER were thwarted by the cognitive discontinuity presented by technology, but they worked together to overcome it.

THE WIER EXPERIENCE - TAILORING THE SEAMS

Even though WIER is promoted primarily as an off-line activity, participants had to use technology to be part of the program. The seams described by Ishii (1990) had the potential to limit or discourage participation. Initially the schools that were the most

active on-line were those that had a school-based computer support person assisting the writing classes.

In January, when the WIER conference was to begin, a multitude of technical problems arose. Many of the schools had not received their logon IDs, so they could not electronically join the conference. Some schools experienced software compatibility difficulties and needed assistance in configuring their software. Many participants had difficulty accessing SFU through DATAPAC, and all participants experienced minor aggravations such as not getting their backspace keys to work so they could correct typing errors. Consequently, seams two and three, described above, limited WIER participation to the degree that the official opening of the conference was re-scheduled to February. In writing of these problems now, they seem trivial - simply a list of problems that were overcome; however, it is difficult to assess the degree of frustration they produced in the participants who were alone at their computer terminals across Canada. Teachers who were competent in the *real* world of the traditional classroom were sitting with disks full of student writing, not able to connect electronically with the conference. They were not able even to ask a technical question face-to-face as their link with the conference was via CMC or a long distance phone call or FAX. The interesting thing to note about the phone or FAX support was that in order to contact the technical moderators for assistance, most teachers had to disconnect their modems to use the phone line for voice communication. This meant that they could not be talked through the solution to the problem as the phone, FAX, and/or modem used the same line.

Regardless of the early technical hurdles, all the registered participants and expert writers did join the conference and began to work through the on-line tutorial. This tutorial was designed to allow the participants to practice the skills they would need to function in WIER. In this tutorial were two writing opportunities in which individuals were asked to describe a favorite location near their homes and to write of a favorite restaurant in their area. The technical moderators did these writing exercises along with the other participants and modeled the response process.

During these written exchanges, the conference members gradually began comparing informal information, exchanging experiences, and generally finding each other on-line, mirroring Blumer's (1969, pp. 10-11) sense of deriving meaning and developing common experiences from social interaction. The people on-line were beginning to interpret the environment they found themselves in and began to bond with the other participants through shared experiences or commiserations about technical difficulties. Blumer (1969) describes this process as symbolic interactionism through interpretations of meanings derived from and developed with others in a group.

THE FORMATION OF A VIRTUAL COMMUNITY

When I started to analyze the on-line commentary using the criteria I had compiled from my readings, I was looking for instances of expert practice. However, I was also discovering a variety of techniques that the participants were utilizing to communicate with

one another. Prior to this initial analysis of the data, I had not considered the impact of the individuals' need to express themselves on-line. While the task of interacting between the novice and expert writers was proceeding, a sense of community or group was also developing.

This on-line community was different from the code "community of practice" presented in Chapter Three. The community developed by the participants was not confined solely to the process of writing; it was formed by the need for individuals to express themselves without being able to draw on the traditional physical gestures or visual clues of face-to-face meetings. The participants were creating a working definition of WIER on-line, and each month the on-line conference commentary reflected that the majority of participants felt they were actually coming to a place (WIER) and sharing experiences. This sense of place and community encouraged me to believe that I could conduct my research *there* by creating a smaller subset of the WIER community (my research branch and participants) and get to know this subset in an informal location (THE APPLE TREE branch).

CRICHTONS RESEARCH and THE APPLE TREE BRANCH

The decision to attempt an on-line interactive interview was spontaneous. It simply seemed like it should work because the participants I had selected for the interview had months of on-line experience and *knew* each other within the existing WIER community. My major concern, however, was timing. I initiated the branch CRICHTONS RESEARCH on May 21 after receiving email confirmation

from each participant stating they would be willing to join the research project. By that time in the academic year, school participation in WIER was slowing down as the teachers and students were preparing for final exams and the expert writers were exhausted. However, I went ahead and opened a branch for each of my eleven participants within the main branch CRICHTONS RESEARCH. At the same time, I opened a branch which I named THE APPLE TREE and included the following introductory note:

> THE APPLE TREE - about AN INFORMAL PLACE TO INTERACT
>
> This branch is named after a great little sandwich shop, cappuccino bar, and general gathering spot for locals in New Denver, my little home of 400 people in the West Kootenays.
> If anyone has the time to drop in and generally chat about the nature of interviews, the sense of community on-line, the purpose of WIER, or life in general, please do!

The branch CRICHTONS RESEARCH opened at 18:05 on May 21 and by 21:32 the first note had been entered. Four of the original eleven members of this branch remained active on-line until early September when I finally closed the branch, but the bulk of the interaction took place May through June. Through the duration of the branch, 274 notes were exchanged. This is a remarkable number of interactions considering that three of the students, Thuy, Shine, and Hiren, finished with WIER at the end of May when their exam preparation started; Katherine was traveling during much of May and June and then left for her summer cottage shortly after her June 22 telephone interview; Susan went to Toronto for several weeks on a

book tour; and Brian spent June re-roofing his studio which had started to leak. Regardless, the group converging in CRICHTONS RESEARCH evolved and developed.

Blumer (1969) describes group life as being "... necessarily a formative process not a mere arena for the expression of pre-existing factors" (pg. 10). CRICHTONS RESEARCH reflects that. Participants in WIER, and again in CRICHTONS RESEARCH, formulated expressions of themselves, gestures they needed to convey richer meanings for their words, and a definition of the shared community they found themselves in.

Many of the expressions developed within this group were formulated during the general WIER conference. The participants used EMOTICONS (Meikle, 1992; Hiltz, 1978) and other textual symbols to replace the phatic functions (Feenberg, 1990) that are not possible on-line. EMOTICONS (faces made by combining keyboard characters) and textual symbols such as line breaks, capital letters, and asides typed in brackets are discussed later in this chapter in the section ASCII Faces.

> Engaging in face-to-face conversation involves complex forms of behavior called 'phatic' functions by semiologists. When we say 'Hey, how's it going?' we signify our availability for communication. We usually close with another set of rituals, such as, 'I've gotta go. See you later.' Throughout our talk, we are continually sending phatic signs back and forth to keep the line open and to make sure the messages are getting through. ... Looks and facial expressions tacitly reassure interlocutors that they are still in touch, or on the contrary carry a warning if the communication link is threatened by ... improprieties. (Feenberg, 1990, pp. 23-24).

Continually the WIER participants made efforts to express themselves, attempting to move beyond simple responses and comments and to show more of their personalities and opinions. Because the nature of the commentary dealt with individual's writing, the comments could have evolved no further than a nice, encouraging statement. However, this was not the case, and participants expressed likes and dislikes as well as suggestions for improvement. In order to express this constructive criticism and opinion, participants seemed to go further with their comments, situating them in their own experiences or softening them with additional words. As Peter Marmorek, a teacher, suggested:

> McLuhan says that every new medium starts off by imitating the content of its predecessors (TV imitating radio and movies, for example) ... .
> ... [conferencing] is a new medium ... .

The participants in WIER wrote their comments in a style that at times imitated speech and included replacements for phatic functions that encourage response in a face-to-face setting. Together they developed and shared a form of on-line dialectic jargon to help express more than words alone could [see ASCII Faces].

In CRICHTONS RESEARCH the branch participants came together and formed a social group that originated in the APPLE TREE branch. Even though the interview questions were placed in separate branches at the same time the APPLE TREE branch opened, all the participants started writing in the APPLE TREE first. This seemed to set the social tone, with the individuals stating that they should leave the APPLE

TREE and get to work in their own branches. There is a rather ironic parallel to the real Apple Tree in New Denver, as a regular, small group of individuals start every working day with coffee there and eventually drag themselves off to their work.

In reflecting on why a social group might have formed, I can only hypothesize that the smaller group in this research branch became like a closer circle of friends who had met previously in a common activity. The parallel that I would draw is to acquaintances who you meet in a large group activity from which you invite a select group to a smaller, more intimate dinner party at your home. The large group activity brought you together because of a common interest, but there was something that each individual projected in that larger group that caused you to invite them home. Consequently, upon reflection on the data, I am not surprised how personal, chatty, concerned, and open the participants became. One of the participants, Sandra Hawkins, noted in the APPLE TREE branch:

> One thought I have before even responding to any questions here is the way in which some of us really bare our souls here--I told many things about my life in 'The Apple Tree' that many people I have known for years don't know--maybe we find soul mates here--or get beyond small talk much faster because there is no interference by physical presences. I also find that when I meet people with whom I have corresponded for a long time on-line, no matter what the person looks like, I feel I know that person well and we are kindred spirits.

Peter Marmorek agreed with Sandra and suggested:

> Part is the anonymity: you can't see me, so I
> feel safer revealing that secretly I like to cover
> myself with maple syrup, and pretend to be a tree.
> And because I can't see you it becomes easier to
> create an image of you onto which I can project those
> qualities I'd want you to embody. (This is -of course-
> a general 'you.') I think it has to do with safety, and
> being hidden.

Somehow, despite the limitations of CMC, the on-line participants searched for and developed on-line personalities (presentations of themselves) and *gestures* to express and cope with complex feelings and ideas. For example, Susan Musgrave often signed her notes with the words "Woof, woof" and Tara usually included an ASCII face or two.

Blumer (1969) states "A gesture is any part or aspect of an ongoing action that signifies the larger act of which it is part - for example, the shaking of a fist as an indication of a possible attack ..." (p. 9). The on-line participants used keyboard symbols such as EMOTICONS to personalize their commentary (examples will be given later in this chapter). All these efforts to express more with their words parallel what Blumer calls interlinkages which he explains are attempts to "... extend the connection of actions that make up so much of human group life" (p. 19). These efforts indicate the participants' desires to be part of a community and to extend the community concept, to go beyond the polite answering of direct questions. They went beyond basic responses and attempted to extend interactions, giving a clearer vision of themselves and encouraging others to do the

same. "Joint action not only represents a horizontal linkage ... of the activities of the participants, but also a vertical linkage with previous joint action" (Blumer, p. 20).

One could conclude that a strong sense of community developed within a smaller subgroup of WIER. The participants initially all came together, sharing the horizontal linkage of common interest (writing), and set about doing a common task (creating commentary). Eventually they were invited to join a smaller group to discuss what they had done and discovered that they had many shared experiences (Blumer's vertical linkages).

This study did not set out to look at the presentation of self in the on-line setting. Consequently, I have no way of evaluating whether the personalities presented within WIER or CRICHTONS RESEARCH were representations family and off-line friends would recognize. It never seemed necessary to ask Hiren, for example, about her/his gender or if Hiren Mistry was a pseudonym. I simply took these individuals as they presented themselves, taking Blumer's definition of self as being "... an object of his [her] own action" (p. 12). The personas presented on-line were the personas I *met* and got to know.

DATA ANALYSIS: CRICHTONS RESEARCH and THE APPLE TREE BRANCH

Once I started to analyze the WIER commentary, including the commentary in CRICHTONS RESEARCH, I realized I had to add criteria that would reflect the communication techniques that the conference participants were using. The code names I assigned these criteria

were ASCII faces, text-based negotiations, tech trouble, sense of virtual community, social conditions, virtual senses, and WIER process. Each of these terms is defined in the following sections and examples are given.

The addition of these codes is supported by much of the literature concerning on-line interactions (Fish et al., 1990; Hiltz, 1978; Mason, 1989; Riel & Levin, 1990). Often the literature suggests that informal, unprompted interactions are rare and difficult to sustain in a CMC environment. Fish et al. (1990) explain that a distinction between formal and informal communications is the "... distinction between impoverished and rich communication" (p. 2). However, CRICHTONS RESEARCH, and WIER in general, contains numerous examples of rich, informal communications. A value of this type of interaction is the sense of community it can build and the sharing that can flow from the participants. Fish et al. described this as interaction that is unplanned and contains unanticipated episodes; interactions in which "... participants all engaged in more or less useful conversation but did not know they would be having them even seconds before they occurred" (p. 3). They contrast this form with formal communications that have a pre-set agenda or have been scheduled in advance.

ASCII FACES

This code refers to the symbols and characters that the participants in WIER developed or borrowed to express their own voices or personalities. They were used to enrich the commentary and to create an informal, expressive tone. These symbols or characters

were usually faces created using keyboard characters, invented words, highlighted or accented words, or a combination of the three.

> Users [of electronic conferences] have
> attempted to introduce a nonverbal mode into ...
> computer exchanges by developing a set of visual
> signs intended to simulate the nonverbal facial
> reactions, emotions, and vocalistic patterns that
> characterize face-to-face communication (Chesebro,
> 1989, p. 59).

The following sample of ASCII faces, which are to be read sideways, was collected by Chesebro (p. 59):

:)	=	I'm happy
: (	=	I'm sad
: s	=	I have mixed feelings
8)	=	I'm wide awake
:0	=	I'm surprised
(:0	=	I'm very surprised
:p	=	Pffft! (Sticking out the tongue)
:9	=	Yummy
:/	=	Humm
:v	=	I'm chatting
B)	=	I'm wearing my shades

Another name given to these ASCII symbols is EMOTICONS [see Appendix for additional EMOTICONS]. Chesebro (1989) suggests that visual signs or "... nonverbal communication accounts for 93% of social meanings conveyed in face-to-face communications" (p. 59). Consequently, it is not surprising that conference participants need to find an alternative for visual signs.

Many WIER participants used these ASCII symbols periodically, but a few people such as Tara McFarlane and Susan Musgrave included a symbol or two in most of their notes.

> About the Diamond club...I *LOVE* being able to drop that I have been in there more than once ;-). I didn't think that it was such a big deal until some one told me that very few people, other than grad students and profs get to see the inside of the place. B^) We will definitely have to talk all about our travels :-)

In this message from Tara, *LOVE*, winking face ;-) , smiling face with glasses B^) , and the smiling face :-) are examples of the code ASCII faces. In the interview with Tara I asked her a question about her use of the B^ symbol.

> So with all the B and 8 signs --- do you wear glasses for correction or shades just to be cool?

Her reply was:

> I wear sunglasses to be cool B^) but I wear 8's to see 8 -)

Susan Musgrave used an ASCII face to respond humourously to a discussion:

> Trevor suggests this sideways version of a happy face :) ...is that face-tious enough?

Susan also commented on the effect of typing errors and the potential tone keyboard symbols can convey:

TARA, NEXT WEEK I'LL BE HERE. WRITING. I
WRITE FROM...whoops...better go into lower case or I
look too authoritarian.....i...I....argggh..

As a general on-line convention, capitals are used to convey shouting, so Susan was concerned that her capitalized words would do that. Her use of *argggh* expresses frustration with her typing errors.

Other members of WIER used parentheses to enclose asides or casual remarks. Katherine often set her expressions aside by using < > symbols: <sigh> or accented her expressions with words such as Gak! or Phew!. Asterisks were often used to set off expressions such as: *sigh* *LOVE* *Hum*.

Brian Brett expressed the need for nonverbal clues and further on-line gestures. He explained:

> The problem with conversations in print is that you can't see the smile behind them. [A] ... case with Susan is a classic. We were arguing at cross-purposes. I was teasing her a bit, but the smile was hidden by the words.
> ... I often found the act of near-immediate conversation with only words on paper a challenge. Many times I felt like I was a mute, one who could only type responses; things that I could say easily with a few words and a lifted eyebrow suddenly demanded endless extensions and qualifications. It was fascinating.

The use of ASCII faces and other keyword characters allowed the participants to personalize the commentary and partially make up for the physical gestures lacking in on-line communications. They are

an attempt to address the human factors often overlooked in the CMC environment.

TEXT-BASED NEGOTIATIONS

The code text-based negotiations identifies the strategies the participants employed to negotiate meanings and find common ground through on-line notes. While it is relatively simple to make a statement of fact on-line, it is much more difficult to suggest that an idea is open to negotiation or interpretation. In a face-to-face discussion, individuals give a variety of physical and verbal clues that suggest and encourage constructive, critical discourse. However, as Feenberg (1990) suggests, "... writing detaches the message from its author and transforms it into a dead thing; a text" (p. 22). Commentary identified as text-based negotiations, therefore, are notes made to help the on-line, written word come alive, re-connecting the words with an author who is prepared to discuss the context, share ideas, and find a common ground of understanding with the reader.

Text-based negotiations were most often found in the APPLE TREE branch where efforts were made to get to know each other better. Within hours of this branch being opened, the participants were sharing insights into their personal and professional lives and finding the common ground of travel tales which united the group. One of the participants suggested that writing personal information was easier than speaking it.

> Have any of you noticed how easy it is to 'tell all' when being on-line? I have a theory about this. It may sound a bit strange and somewhat silly, but I go by it. I think part of it is due to the fact that touch is involved. Susan Musgrave really got me latched onto touch :)

Susan's initial comment about writing and touching the keys to tell the news prompted the other writer to reflect on the act of writing and the physical effort it took to communicate with the other participants - the actual placing of words onto a page or a computer screen.

Trevor Owen, the conference organizer, continued the discussion concerning touch:

> VERY interesting notion, Tara. That idea of touch hadn't occurred to me at all! Hmmm... I certainly agree that being seen in text-only does have a strong impact on the nature of communication for people. I also believe that making this a positive experience is, or can be, at least partly the result of how the interactions are designed.
>   The conferences in WIER, for instance, are all created with this in mind. Lots of response & on-line presence. Lots of encouragement, esp. in the early stages of one's on-line experience. And (not that these are a listing, really - just highlight, I think) a 'handing off' to those who reveal their interest is important too. Shared 'ownership,' if you like, of the experiences.

The second part of Trevor's note is a reference to the creation of the KATHERINE AND US branch and the fact that this branch is to be copied in the fall for other expert writers' books.

Within the APPLE TREE branch, much of the commentary shared travel adventures and memorable experiences. Initially some of the

participants needed encouragement to continue with their stories. In one case the encouragement took the form of a note that suggested:

> You are a good story teller - I was captured
> and wanted to stay to the end - this is a true because
> with this technology, logout is pretty easy to type.

This note referred to the fact that the readers could easily quit reading at any point without the writer knowing they had left the branch. Leaving an electronic conversation is far easier than physically excusing oneself from a face-to-face conversation. But, it is also reflective of the problem that in an asynchronous environment the writer has no sense of the reader's reaction until some sort of a response is received.

Text-based negotiations seems a good descriptor for the negotiated, sustained interaction among on-line participants. It is similar to rich, informal conversations that individuals encourage by asking further questions, responding or reacting to comments, and making physical gestures that give the other person support to continue.

TECH TROUBLE

While it might seem odd that the technical problems that had cut off lines of communications might actually open communication between participants, they did in fact encourage interaction and develop a shared commiseration toward the on-line experience. It seemed also that a certain amount of trust and a feeling of mutual

respect was necessary before people confessed to making technical mistakes and asked for assistance.

Because all the participants, technical moderators included, suffered through technical problems in the early stages of the conference, the struggles with these problems seemed to unite the WIER community through adversity.

Often commentary between participants started by mentioning successes or failures with computer software or hardware. In a response to one novice writer, Brian Brett commented:

> So spell check makes you happy does, it? I wish I could say the same. I keep having arguments with mine. It either doesn't know a lot of words I know, or wants to make me look like an idiot by pointing out embarrassing typos, or it sneaks in Americanisms when I'm not looking. I'm waiting for a computer hacker to come up with a 'brain check' program. That might help me.

The issue of spelling came up many times with the expert writers suggesting that while WIER was work in progress, often the spelling errors got in the way of meanings and disrupted the flow of the writing. However, an interesting note from Katherine Govier explores of the fun side of typographical errors:

> I was riveted by your typos. "shit" must be shirt. "prying" must be praying, "rotted" must be rooted, as my esteemed colleagues have pointed out. And yet-- the mistakes are in each case somewhat appropriate- and that's what's fascinating. KG

While spelling checkers or the lack of spelling checkers reflected a certain form of technical problem, the bigger concern about tech trouble stemmed from the participants' inability to participate in the conference. Often this was the result of software incompatibility or hardware configuration issues, but sometimes it was bigger - incorrect logon identification codes and procedures and or technical problems connecting to DATAPAC. For quite a while, participants could not use their backspace keys to correct errors they made while writing spontaneously on-line. However, this problem (editing on-line) worked to frustrate everyone and tended to encourage a more casual form of writing that laughed with the humourous spelling variations and encouraged quick, chatty notes that seemed more like handwritten memos might.

Katherine Govier's note to a novice writer reflects the concern the moderators felt about participants' frustration levels.

> Great to see you on-line at last. I was afraid our endless tech problems this year defeated you. You'll have to make maximum use of the program for the next month...

When I interviewed Brian Brett, I asked him if he felt that the technology had gotten in the way of interacting with the participants. At the end of my on-line message was attached a collection of computer garble (combinations of letters and symbols that I had not included in my message). Brian's response noted this:

> After the confusion of the start died down, I didn't have any major problem with technology

except for the delete key that made gibberish of
immediat%!aEdponses'/70/,,I.&KK
            R
*%5have some problems with submissions that were
garbled,,,,"

Someone is being very funny, either you, or the gods
of the wires.

This note is indicative of some of the transmission problems (tech

trouble) encountered by the WIER participants. It seemed timely that

they would also occur while we discussed them!

I asked Hiren Mistry if technical problems had any effect on his

on-line writing. His teacher, Peter Marmorek, had encountered some

difficulty in uploading "Jazz" into the conference.

Hiren explained:

> Yes, the technical problems did bother me
> somewhat. I was very proud of the poem [Jazz], and
> to see it misrepresented on-line was disturbing. It
> was the first piece of writing I sent on WIER, and I
> hated to think the WIER professional writers would
> get the impression that I did not know what I was
> doing. (... first impressions are lasting
> impressions?...)

Hiren had other difficulties; he lost his disk containing all his

commentary and he had difficulty connecting with Darlene Quaiffe, the

expert writer who was helping him to publish "Jazz." However, none

of these other problems seemed as frustrating as the formatting errors

that caused his first draft of "Jazz" to look wrong on-line. When the

second draft was uploaded, the conference participants shifted their

commentary to the second version, and the discussion continued.

Sandra Hawkins, a teacher, touched on a number of issues when she responded to my interview question concerning technical trouble and WIER. A problem often associated with classroom use of telecommunications is modem bottle-neck; the situation where a teacher has 30 students and one modem with which to connect them to the conference. In her note, Sandra explains an additional technical concern in the classroom but also points out an on-line technical problem:

> Never mind the modem bottle-neck--I have computer access problems first. When I finally find a free one, it is connected to a modem because I did everything short of holding our administration hostage to get some access. In my situation I can get only a few students at a time on-line, but those who are motivated ensure they get there. Tara is the best example of that.
>
> She instantly (sorry getting way ahead of the cursor and the only hope sometimes is going to the next line--don't know how that appears at your end, but seems to work o.k. here).

Sandra's note continues to discuss the classroom work she did with Tara, but the note indicates the frustration of spontaneous, on-line typing when one's thoughts move faster than the cursor on the screen. In another note Sandra expressed the shared sense of community created in WIER and the whimsical nature of spontaneous notes to people within the WIER conference.

> Well, time to quit--just sent my final comment to "WW for April" as comment 200 [note 200] in error--how embarrassing, but in WIER it's o.k. to do embarrassing stuff! I was a bit scared when I first typed the send command to Sandra Hawkins [her

> interview branch] for fear of what I would do if the
> screen told me "Sandra Hawkins doesn't exist."
> I'll be back...

Susan Musgrave explained how strange the conferencing system was at first. Her analogy to travel fit in well in the APPLE TREE branch, and her mention of Trevor refers to Trevor Owen, a WIER conference moderator.

> It's [conferencing] like getting used to a new
> computer. Once you understand the commands there
> is no problem. Until that happens you feel as if you
> are in a foreign land, and no one around (except
> Trevor, who's always there) speaks English!

Tech trouble is an important concern of computer conferencing. In the case of WIER the negative impacts were almost mitigated through collective commiserations which seemed to unite the users.

SENSE OF VIRTUAL COMMUNITY

This code, "sense of virtual community", reflects the transformation, over time, in the participants' feelings towards WIER, both the conference itself and the participants. Initially, many of the individuals came into the conference and treated it as if it were simply another commercial educational experience. Over time, the interactions began to reflect the feeling of WIER as a family. The tone of the commentary and the interaction among the participants became less formal and more open and personal. Participants used each other's first names and began to elaborate on their comments, adding

personal notes or comments to the task of responding to a piece of writing.

Susan Musgrave's note to one novice writer reflects this personal warmth.

> My computer seems to leap a beat when your
> name comes up on the screen.

Brian Brett expressed concern that things that happened within the WIER community should stay within the WIER community. This concern is supported by Goffman (1959, p. 111-112) who identifies backstage behaviors that only insiders were privileged to see (commentary for the WIER community) and front stage behaviors that were prepared and polished for an actual audience (writing prepared for general publication). This concern surfaced when I asked Brian if he would join my research project and allow his commentary to be used for this thesis.

> I am more fond of this program than I
> imagined I would be. Maybe that's why I have some
> concerns about your doing a thesis on it. Yet at the
> same time I recognize that your work could enhance
> the program or bring enough awareness to people to
> allow the creation of more programs like this.
> My problem, basically, is that I decided, I had
> to, to work through this program in a conversational
> approach, run and fly and laugh and sink. So I
> became many things to many different branches,
> devil's advocate (as in Inborn Consent), preacher (as
> in my ten commandments), jokester, advisor,
> encyclopedia, friend. Each approach was a decision,
> sometimes hurried, on how to deal with a particular
> encounter. That's one of the things that makes the
> program so exciting, but to take that excitement and

reduce it to thesis format engenders all kinds of other decisions, none of which, I'm afraid, I would be part of.

So, my basic fear is that the context of these discussions will be lost, and I do not want to become the potential animal that the victim of a thesis can be.   I know this sounds harsh. It's not meant to be. But, basically, it means, I have trusted my judgment throughout these proceedings, but because of the nature of the offhanded, often ungrammatical, eccentric, off-the-wall, jocular, harsh, playful replies that I have made, I do have concerns about how they would appear outside of that context. They were meant to exist and work within the program. They were not meant to be part of an extended document on the merits/values of that program.

Basically, I am torn here. The only solution that I can come up with is that, yes, I will give you approval, but only if I can approve the final version of any texts I may have spun off, as well as insert a commentary into those texts.

Myself, I would find that insufferable if I were writing the thesis. It could, on the other hand, have some rather interesting results, and certainly would make for some wild and interactive texts. The decisions is yours. I am just unwilling to give any kind of carte blanche to these meanderings, many of which I probably disagreed with or denied on the next morning, depending on my mood.

The reason I like the program so much is its lively qualities, and the danger of dealing with unknowns while typing the words that come. This, I'm afraid, doesn't agree with being executed in a permanent format.

Brian's concern of how his commentary would read outside the community of WIER relates to Goffman's (1959) explanation of backstage behaviour. In the front region Goffman states that "... some aspects are expressively accentuated and other aspects, which might discredit the fostered impression, are suppressed" (p. 111). However,

backstage those suppressed aspects are shared with one's colleagues, the backstage crowd, and any sense of pretense is dropped. Since the opening of the conference in January, Brian had been writing to the backstage crowd - a community that over time had developed trust and familiarity. Months later, when I approached him concerning this thesis, I was in effect asking him to take his work out of context and share it with an unfamiliar crowd. I was already concerned about removing the commentary from its context and had mentioned to all the participants that I hoped they would read their commentary in this thesis prior to my submitting it, but Brian expressed additional concern about the issue.

The APPLE TREE branch developed its own backstage community through notes sharing travel tales. At one point Susan Musgrave added a note requesting that Tara and I do her a little favour - much as one would ask a friend to pick up some eggs while at the store.

> If you go to New Mexico, Susan, maybe you
> could do me a favour. I've heard that Billy the Kid
> was buried in leg irons well, I think he should be dug
> up and let go free. I've planned to do this for years
> but have never got that far south or else I've just
> flown over that part of the world.
> Best, Susan
> P.S. I'm really enjoying all the travel stories in
> the branch. Tara, I need Muslim names for my novel.
> Can you give me any.

Peter Marmorek, who was a regular contributor to the APPLE TREE, furthered this notion of group by noting a moment for celebration in CRICHTONS RESEARCH branch.

Hey! Note 100! We've reached our first
century! Waiter, a flagon of your finest Rhenish for
everyone in the house....

While we never discussed the idea of *place*, the individuals in the

APPLE TREE branch often wrote as though they were in a restaurant,

speaking of sipping coffee, ordering something stronger, being hungry.

Usually the responses to these notes extended the restaurant

metaphor, chatting as one would over a coffee with a friend.

Chesebro and Bonsall (1989) question the notion of on-line

friends.

> The definition of friendship itself becomes an
> issue. What must friends know about each other
> before they can say that they are friends? What do
> friends have to disclose? Regarding the physical
> nature of another, is there a minimum of information
> that we must know if we are to call another a friend?
> According to communication specialists James C.
> McCroskey and Thomas A. McCain (1974), an
> interpersonal relationship must always involve some
> kind of judgment about the physical attractiveness of
> the other. For others, this physical dimension is
> apparently not a [concern] ... Joseph A. DeVito (1983)
> ... defines a friendship only in terms of the kind of
> psychological support the relationship provides:
> 'Friendship may be defined as an interpersonal
> relationship between two persons that is mutually
> productive, established and maintained through
> perceived mutual free choice, and characterized by
> mutual positive regard.' If we take his definition
> literally, friendships can exist without a response to -
> or even an awareness of - the physical characteristics
> of the other (pp. 102-103).

During the most active times of CRICHTONS RESEARCH I very much felt

part of a community and was eager to logon and see what my new

friends had added to the conversation. I found myself telling my other friends about on-line conversations and feeling that I was missing something while I was off-line.

John McCluskey commented that his students began to feel that WIER was a community of writers and to recognize individuals within that community. Peter Marmorek added to this by relating his classroom experience.

> My students did get a sense of community. There is a major Chantelle Oliver fan club in this school. Interestingly, my students were less awed than I was at the names on the board.
> Being an English teacher, I have a totally skewed sense of reverence for writers. I mean the people on this board .. Susan, Brian, Katherine, Leon, Rick.(et al)..they're Gods! (Goddesses). Students who participated regularly quickly got a sense of the different styles of the authors. (Leon is gnomic and terse, Susan amazingly gentle and supportive, etc.).

Katherine Govier developed a sense of community within her branch KATHERINE AND US. When she had to stop participating in this branch because she was leaving for a book tour in Australia, the novice writers indicated their mixture of happiness for her trip but sorrow in the branch closing. Katherine closed the branch by stating:

> Well I had a great time chatting with you all and I think we could do a lot with this kind of exchange. Trevor and I have been talking about next year, and how we could set it up with various books/authors- then arrange to have a 10 day exchange on-line.
> Anyway, the Great Barrier Reef is the largest living organism in the world, 1250 miles long. It feeds on itself and it reproduces itself. I will go

snorkeling and reef-walking. Plus talking to writers and publishers in *Sydney*. So I'm excited and if I had an extra ticket (mine came free) I'd take you along too.
Cheers, Katherine - enjoy the rest of term and good luck.

Katherine explained in her interview that the WIER participants had really become part of her life. Her responses were to individuals about specific pieces of writing. She stated that she often generated her remarks in an "off-guard persona." I suggested that the people she was responding to were really in her life during the time she was writing to them and she commented, "Well, they are in my study, that's for sure."

The fact that her computer and modem were in her house, in the room where she works, made her feel that the individuals were there as well. Katherine explained this situation further:

> I think the people on-line [WIER] see a side of me that not many people see. It's not particularly public. It's closer to the private me. I mean after all I'm doing this at any odd hour in the day and in my own home.
> The on-line connection can be very personal and intimate. Sometimes you have to remind yourself of that, hold back on spontaneous expressions, because after all these are students and many other people have access to the conferences. That's something I can forget when I'm focusing on one student's very personal piece of writing.

There is no way of knowing how much of the commentary might have been sent via email rather than conference notes, but Katherine's point about addressing personal concerns of one student while hundreds of

other students have access to the commentary certainly made the expert writers think about their comments and wrestle with aspects of familiarity, individual responses, and group participation.

Sandra Hawkins added to the issue of familiarity on-line:

> ... the friendliness and wit seem to be contagious on-line. We are here when we want to be ... so I suppose we are more receptive to the mood et al. If I get on-line and I'm not enjoying it, I sign off. I can't do that as easily at a staff meeting, a social engagement--even at home! Personalities such as Trevor's are infectious--I have a mind set for a good time, some hilarity, sometimes some profound moments when I come into WIER.

Tara commented on how essential responses were in establishing the full sense of the on-line community.

> I mean I knew that people were reading what I was saying/ typing, but it wasn't until someone 'in the living' commented on something that I had said on-line. Don't get me wrong, I don't see telecom as being so impersonal that I feel that everyone I come into contact with on-line is not real, but you don't realize that people exist until they respond to you. So I know that you are reading my messages because you respond.
>
> I do take into consideration that other people are reading, and I like to know who I am talking to. But there are lots of people who only read the discussions and never respond, so you don't know how you have affected their life. That audience doesn't exist. I suppose that I am getting into philosophy now, right? All in all, I knew that people who were interested were reading and being an audience ... .
>
> It is the same with a conversation. You don't include an entire room full of people into your

conversation. If people are interested they will join in the nearby space, ask questions and join in the conversation. I remember in the beginning of the discussion [in WIER] I spoke [wrote] to everyone, but then later on narrowed my comments to Katherine. I think that is normal. You still know that people are "listening" in though. Did I explain myself well? I hope so :)

Needless to say, I responded to her question so that she knew that I had understood her comments and had read them.

The community aspect of WIER is one of the things that makes it special within on-line conferences. Because of the large amount of social interaction among participants, friendships are formed and a virtual community is established within the CMC environment. Never in the WIER conference was this more apparent than during the final week of the program. In the exchange below, three of the expert writers attempt to wean themselves from the ritual of logging on to WIER everyday.

Note 262 (Of 280) by KATHERINE GOVIER (govier) on 16 June 1992, 07:24 Pacific (688 characters)
Dear everyone
   Good-bye for this year. I may check in on a summer day. ... Despite all the tech problems I think it was a great year. ... This thing [WIER] has become a problem for me - I do it early in the morning when I should be writing. Also they tell me computers do your eyes more damage in the a.m. So my resolution (pun, ha ha) is to do it late in the afternoon so I can write another novel. Or I'll be an ex-novelist ... Have a great summer, all. kg

Note 263 (Of 280) by SUSAN MUSGRAVE (musgrave) on 16 June 1992, 09:36 Pacific (533 characters)

Katherine, that was my problem last year. I went on-line first thing in the am instead of working on my own stuff....this year I did that again at first and then thought not, I'll put in my three hours on a novel and *then* go on-line. It seemed to work, although I'm not doing that this morning. Writers, as you know, look for any excuse not to get down to it, and I can't think of a better excuse than WIER - it's got everything. It's a seductress. Seductor. Now that it's over I feel I've lost my family, almost. Best to all, Susan

Note 264 (Of 280) by KATHYSTINSON (stinson) on 17 June 1992, 06:31 Pacific (695 characters)

Boy, are you right, Susan, about WIER the seductress/or. I should have known I'm not the only one so easily swayed away from my own writing. I'm usually not, but WIER does have a power, like having an affair, is it? or is it more like being unable to stop scratching an itchy mosquito bite? Some difference, maybe?

I too am feeling a certain reluctance to see it all end. Guess that's why I'm writing this message. Nothing earth-shattering to say, that's for sure, but there's an unwillingness to let go of these electronic connections. Guess all the technology doesn't really get in the way too badly of the 'human' stuff that happens here, eh?

Note 265 (Of 280) by KATHERINE GOVIER (govier) on 17 June 1992, 07:08 Pacific (351 characters)

Here I am again, in the morning, and I promised I wouldn't do it. I think I need addiction counseling for this thing. The problem is going into your study/office and no one being there. I know that you're all lurking in my computer which is why I keep plugging in the modem... gotta write this summer. Or all these smart kids will out publish us!

Note 266(Of 280) by SUSAN MUSGRAVE (musgrave) on 17 June 1992, 09:28 Pacific (693 characters)

Kathy/Katherine: here I am again, too. Early morning, and I should be writing my novel. My

office feels empty without WIER. I always tell
people (who want to be writers) what a lonely
occupation writing is, but when WIER is there it
doesn't feel that lonely. It's like coming to my office
and finding all my friends there, waiting to have
coffee, manuscripts under their arms. Maybe we all
need counseling, now that it's over. I can see myself
going to the Addiction Centre saying WIER is my
drug of choice and I can't get any more of it for the
whole summer, and I'm going through
withdrawal...badly. Do you have any morphine to
help me over the hump? Woof woof woof!
Love to all. Susan

SOCIAL CONDITIONS

Social conditions are the issues that participants in an on-line

environment must address into order to function with a computer in

order to connect with other people. They are the human factors

presented earlier in this chapter that researchers are just beginning to

explore. Pea (1992) reminds us that computers share data but people

collaborate. The conditions for collaboration that the on-line

environment presents were identified by this code name.

Hiren Mistry explained some of the positive and negative aspects

of the on-line environment.

I believe WIER provides an excellent
opportunity for writers to interact with each other on
an intense level. We critique each others works by
writing to each other, rather than talking. I believe
we are much more honest, direct, and thoughtful
when we WRITE our critiques because we generally
must actively formulate our ideas, opposed to when
we TALK, when our thoughts are more random. In

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this way, I believe WIER holds an advantage over
interaction with a classroom teacher.

In WIER we face a computer screen, and not a
coffee-breathed, red-faced teacher who will badger
us, and interact with us everyday. The computer will
not yell, nor initiate a conversation, so we must have
the extra time and discipline that would normally not
be required in a classroom setting. Another time
related problem is the speed at which ideas are
shared. A conversation that may take 10 minutes,
would require 2 days on WIER for a similar
interaction.

The issue of access to the computer and conference is a major concern. While only Sandra wrote of the modem bottle-neck and the computer access problem, it was a concern for every school in the program. The other concern Hiren presented was the negative side of asynchronous communications - the time lag he perceived between comments and responses. Because he did not use WIER directly on-line, his vision of telecommunications was that a user gave her/his commentary to a lab person who uploaded it on a given day. Responses to his commentary were then downloaded the following day, creating a two day response time.

Katherine Govier suggested some of the limits in the social interactions supported on-line. After months of participating on-line and being comfortable with the conferencing system, she still suggested that we conduct our interview on the telephone.

I'm very happy to talk with you, and I just feel
like it is good to actually talk.

After the telephone interview, we continued our discussion via email, but I feel that my interaction with her was somehow more personal, just having heard her voice. An interesting aside is that after reading her voice through reams of on-line commentary, I was initially taken aback by her actual speaking voice. Her words in print had been so forceful that I was not prepared for a soft voice, possibly made weaker by the long distance phone connection, that did not boom out the words as her textual voice had.

Social conditions or human factors, regardless of the term, reflect the issues that participants on-line must address. Within a community, individuals collaborate on ways to overcome or ignore the negative aspects and build on the positive ones. However, the social conditions can have a major impact on the success of an on-line conference, allowing and encouraging social interaction or limiting it.

VIRTUAL SENSES

"Virtual senses" is a code assigned to the actual steps taken by the participants to address how they are communicating when they are on-line. Virtual senses is a subgroup of the code "Sense of Virtual Community" in that they reflect the effect that the technology associated with CMC has on the actual written words. A continuing debate within the CMC literature (Harasim, 1990; Owen, 1992) focuses on the issue of whether on-line commentary is writing or textual talking. Regardless of the side taken in this debate, participants on-line are affected by the technology and alter their commentary to reflect the impact of the CMC environment.

Susan Musgrave illustrates the multiple meanings that the words reflecting our senses can convey. Her highlighting around the word hear is an example.

It's wonderful the way you involve the reader so the reader knows the writer's/character's secret at the end. I felt as if I were part of a conspiracy. I wrote a novel (*The Dancing Chicken*) where an old woman unplugs her husband from a life support system because all his life he'd unplugged everything at home, so as not to (he believed) waste electricity.

You handle your dialogue most professionally. You've sent only the end section, but I'd certainly like to read what came before. I can *hear* this as a radio play. It has so much potential...it's a situation we all fear.

Thanks for sending this. Susan

Sandra Hawkins shared the senses she wanted expressed when she joined the APPLE TREE branch one afternoon.

Oh, I'm sorry--I've just jumped in and dominated the conversation--haven't even ordered my cappuccino yet.

Well, I'll have mine with a bit of cinnamon-- feels good to hold that steamy cup in my hands as it's getting a bit cool now that the sun is down--and two gin and tonics were really plenty in that sun--they were doubles, you know--wasn't that first sip great- -the pungent smell of lime, the tonic so bubbly--and, of course, the pine smell of the gin...so glad you invited me!

Sandra's apology was prompted by the fact that she sent a note to the APPLE TREE branch before had she read through all the new notes in her INBOX. Once her note had been added, she went back into the branch and read all the notes in sequence. At that point she realized

that her note had interrupted an exchange between Peter Marmorek and Tara McFarlane and sent her apology. The sense of community and friendship was stronger than the virtual sense of smell, so no one corrected Sandra to suggest it was the smell of juniper not pine she was enjoying. Continually, the group's lack of corrections seemed similar to chatting between friends when one lets errors go uncorrected, preferring to understand the context rather than correct it. The lack of correction during some commentary seems to reflect the talk form of some on-line writing.

Many references to "being in the house," "I'm here now," "I'm glad to be here," "If anyone can join me here," "Glad to see you on-line again," "Who's here?" suggest that as people participated more on-line they came to think of going on-line as going somewhere - to a place. The writing reflected a sense that the individuals could be heard or seen through their words. Phrases such as "See you soon," "Talk with you soon" reflected the casual tone in which the interactions were constructed.

The code "Virtual Senses" identifies distinctions the participants made between writing and talking, however blurry at times. An interesting issue to investigate in a further study would be if spontaneous, on-line writing were more like talk while edited, word processed text uploaded to the conference were more like writing. Trevor Owen suggests:

> The on-line place, the [electronic] conference
> that is, offers a real opportunity to combine the
> asynchronous nature of the medium with reflective
> tasks and considered response, especially by
> invoking writing as the means of response, more

than the talk-like style that characterizes most email use.

I suspect that this also is true, but I did not explore it thoroughly enough to make a definite statement.

WIER PROCESS

WIER process refers to the constraints and/or protocols specific to the WIER conference. It identifies the commentary that shares problems or issues concerning the actual structure of the conference both on-line and within the schools.

The WIER conference was structured to encourage interaction among participants, but there were also aspects of the organization that hindered it. For example, the screen prompts within the PARTI software default to join the user to a new branch rather than re-reading or exploring a branch further. If one were to respond to the prompts, one would join all the new branches but not see any of the actual writing or commentary. The individual would need to go back into the branches and type the command to read the notes, listing the numbers s/he wished to read.

Some other negative aspects of the conference were that it was difficult for participants to know which branch they were in and where to find past commentary or original work. It was more tempting (due to the screen prompts that suggested a linear progression through the notes) to respond spontaneously to commentary rather than to access it later after drafting responses off-

line. Also it was difficult for participants to work out a procedure (customized to accommodate the user's hardware and software constraints) to utilize WIER off-line.

An interesting point to consider about on-line, asynchronous communications is that the other participants have no way of knowing whether the commentary was written spontaneously on-line or if it had been written off-line. It would seem, through their commentary, that individuals assume that the other participants formulate their responses in the same manner that they do. In Hiren's previous note, he suggested that a two day lag time between commentary and response was common, but for an individual who is working on-line, the responses can be almost immediate.

Another point to consider is that because all notes include a logon ID in their heading, the assumption is that the person writing the note is the person in the heading. This is often incorrect in that novice writers entered their commentary under their teacher's ID. For example:

> Note 3 (of 5) by JOHN MCCLUSKY (mcclusky) on
> 21 April 1992, 17:21 Pacific (635 characters).

This note appears to be from John McCluskey (his name was spelled incorrectly when he was added to the conference in January), but it really was from Thuy, who was responding to a piece of novice writing. The novice responded to John McCluskey and it took several notes to sort out the confusion.

An additional concern was the actual structure of the branches. Notes could be added at any point, and often it was difficult to

determine the relationship of some of the responses to the original writing. Susan Musgrave questioned a novice writer about a particular piece of writing:

> This is a revised poem, isn't it Adrian? It's helpful, if anyone is sending revisions, to tell us that. We're reading hundreds of poems and stories in a week and it's not always easy to remember what's what. But I recognize the ending, and think you took my suggestions about condensing that part a little. I like it, it's very smooth now.
>
> What's Droneine? Looks like the name of a tranquilizer. ATIVAN for anxiety. DRONEINE for those high-school afternoons in June when the teacher is droning.....Hmmmmm.....I assume it's a typo? I'm pleased you took the time to give this poem some more thought and to work on it.
>
> Thanks, Susan

Susan discussed the issue of knowing what the other participants were facing in their on-line experiences. In the note given below, she expresses the necessity for responses both in terms of knowing a note has been received and in terms of understanding other's participants' situations. Susan often used an asterisk as a form of EMOTICON to emphasize certain words.

> Thanks Trevor, and John. Personally, I love reading other people's responses, and commenting upon the *responses* just as much as I love reading original work. The best part about getting a response is that the writer/student knows 'someone is out there'.
>
> It's also useful to know things like there are 3 computers in the school and 1400 students trying to use them. That helps us - who have the luxury of having a one-on-one with a computer - put things in perspective. It's not so much that people *don't

want* to get on-line, but that they can't quite often for various reasons. I really appreciated hearing people express their problems, and frustrations and know that they really *care* about being here. Susan

Near the middle of May, when WIER was most active, one of the teachers commented about a lack of response to every piece of writing submitted. At this point, most of the expert writers' inboxes must have contained up to 30 new pieces of writing each time they joined the conference. Brian responded to the comment by stating the role of the moderator:

> I didn't answer your request for a while because I didn't know how, but it bothered me, and I felt guilty, and I think I should answer it.
>
> You wanted us, the authors, to comment on content, organization, mechanics in every work.
>
> As you have noticed, sometimes we have, sometimes we haven't. We've run on word associations, memories, energies, alternate visions, and so on.
>
> I think, though I might be out-of-line in saying this, that what you are requesting is beyond us, at least as part of our job descriptions. It seems to me that those are your duties as a teacher.
>
> This is a unique program, and you have some amazing writers floating through the air waves. They are not necessarily critics or academics. They are poets and novelists, and they are an odd bunch (I speak for myself here, but knowing my compatriots, I suspect there's much truth in these words). And the unique thing about the program is not mechanical commentaries, but the interaction, the comments, the runs, the associations.
>
> We are all trying our best, but because we are, first and foremost, writers, and writers in action, we might not behave according to standard formats. For me, that is one of the graces of this program.

> Some students will be disappointed. Some will be ecstatic. Personally, I hope they all will be ecstatic, but reality tells me that will not be the case. You, the teacher, are aware of that by now, and there is some bridging for you to make in the process. But the opportunities are there as well. You have a host of writers ready to descend, leap, argue, dream, fight, worship with your students.
>
> Personally, I think, due to the nature of this program, it wouldn't be right for us to rigidly sort out the details of content/mechanics/organization.
>
> Trevor will probably kill me for saying all this, but oh well.

Brian's comments reflect the amount of writing the expert writers were expected to work with and the concern about the content of the comments. The volume of writing a school could send to the conference was not limited; however, the introductory materials informed the schools that at any time a response week could be called and no new writing could be sent to the conference during that week. This break was used to encourage responses from the novice writers and teachers and to give the expert writers a respite.

> A note from me saying I came back to 355 notes in my INBOX, and I'm chugging through them all -- I too would like to see more revision, more student response. Have we declared a 'Response Week', yet?
>
> Are we about to, Trevor? Hello dear are you there? KG

John Huff expressed one of the exciting parts of the WIER process:

> I was impressed by the way everything
> worked and fascinated by responses coming from
> places like Vancouver and Calgary. It is hard to
> believe that my stuff went out there.

Shine commented on an interesting aspect of critiquing writing on-line:

> It [computer conferencing] wasn't like face to
> face, it was different. Familiarity breeds contempt
> and its hard to remain impartial when the person
> you are critiquing ignored you during your last
> presentation.
> It's also easier to critique someone's work
> honestly when you don't know them.

Tara McFarlane suggested another positive aspect of the WIER process:

> The great thing is that you can answer in your
> own time. Sure I may sign on everyday or every
> second day, but it is at my convenience. If I don't
> want to read poems today, I don't have to (unless I
> am being paid to ;-). It is not the same as someone
> coming up to you and saying: "Here is my poem. Read
> it now and tell me what I should do with it." You are
> on your own time. This is one of the great beauties of
> working on line.

While the process tended to bury the expert writers under reams of original work and commentary, it did connect novice and expert writers from around the country, which was one of its expressed objectives.

Katherine Govier, in one of her email messages to me after the phone interview, expresses insight into the WIER process from the expert writers' point of view:

> ... I have seen some writers use the screen in WIER - that is the computer screen - as a mirror. They are ... interested in what it reveals about themselves.
> For other writers, and I include myself, the screen is a window. I see out to where the other writing is, and I aim my remarks at it.
> Of course, if you position yourself right, and the sun is at the right angle, you can see yourself in a window too. But I hope that's not what we're doing most of the time.

Katherine's thoughts on this issue are particularly interesting in that she is one of the original expert writers in the program and works directly with the Writers' Development Trust in attracting and hiring expert writers for the WIER program.

In most schools, WIER was used as a supplement to the existing writing program. Therefore, time had to be built into the existing curriculum to incorporate conference activities. Hiren Mistry expressed a draw back in the use of WIER in the classroom:

> The only draw-back is time. For WIER to be effective, one MUST devote time every week, or else the development of thoughts and ideas from writer to writer, will never progress at a healthy rate.

Peter Marmorek added to this issue of novice writers finding the time to participate in WIER. The line four bug he refers to is a technical problem that only allows a person to type four lines directly

into the PARTI software. If one were going to write more, there is a write command which opens an on-line editor for more lengthy commentary.

> My students were participating as an extracurricular activity, and were interested in feedback on their own writing. They felt they ought (GAWD I hate that line 4 bug!) to write responses but didn't.
>
> Did you download everything? I started my doing that, and got increasingly ruthless as it became clear that no one was reading student's work. ... now, I put in the binder about one third of what I download. As Bill Burroughs once said, 'Be just. And if you can't be just, be arbitrary.'

Peter Marmorek then conferred with John about some procedural strategies:

> John, how did you handle getting responses on printouts next to the original work? I gave up and did it all chronologically, but was never happy with this. I divided the binder up into two sections: work from/comments on Clarkson [his school] stuff, and other.
>
> This made it easier for kids to look up response to their material, but also easier to skip other schools. Don't know if I'd do it again.

An entire branch was created in WIER for teachers to discuss amongst themselves the most effective classroom processes for dealing with the WIER commentary. The consensus of comments from that branch indicate that the majority of teachers handled the WIER experience as an off-line activity with the novice writers accessing their comments from a binder or other print forms.

Peter explained his actual process for student participant:

> I never let the students use the modem. All material from WIER was downloaded by me and printed out, and stored in binders available in our library. To write a new piece, or a response, students used a specific WIER disk, and saved their files, which I would upload about twice a week.
> Advantage: students needed to know nothing about computers, modems ... .
> Disadvantage: time demands, lack of direct interaction.
> Overall I like the method: to use our school's modem, one has to hook up the computer to it, and the demands on my time would be greater.
> Background: I'm an English teacher with a strong computer background, so I was serving as the WIER Help Interface Person (WHIP). ... I just help by being their WHIPping boy.

The WIER process presented some challenges to the on-line participants. While the structure was organized initially to encourage interaction, it took the participants time to develop a process of their own to deal with the material. The protocols of uploading, downloading, response weeks, and branching structure were standard across the conference and among the participants. However, the classroom use and the manner in which the expert writers drafted their commentary differed as the individuals worked out a procedure compatible with their skills, equipment, and working environment.

CONCLUSIONS

After analyzing the data from CRICHTONS RESEARCH, which consisted of branches for each of the research participants, the APPLE TREE branch, and a branch, opened in the summer, named the INTERACTIVE INTERVIEW, I now have a clearer sense of how rather than where I conducted my research. The participants who contributed to this branch worked together to define the environment in which they found themselves. Never having met face-to-face, and with no real potential or reason to ever meet, these people determined a virtual relationship based on a common task and interest in writing (horizontal linkage) and developed vertical linkages built on personal experiences and social interaction.

In CRICHTONS RESEARCH branch I was able to *talk,* through the commentary, with the participants and get to know them. The interview questions were presented in their own branches, but they had the opportunity to look around at the other questions and responses. They also had the choice of writing spontaneous on-line or writing off-line and uploading their responses at a time convenient to them. Also, in this on-line interview process the respondents could read all the commentary and enter their own comments into the other participant's branches - either answering questions or commenting on the responses. In answering their own questions, the individuals had access to past commentary from other branches and could reflect upon the recorded past commentary within any branch, searching on either topics or individuals. Consequently, comments that referred to a

particular note in a specific branch indicated reflective responses to commentary previously read. This occurred on a regular basis.

ON-LINE INTERVIEWS

In answering my initial question of whether on-line interviews were better or worse than face-to-face interviews, I would have to respond that they are simply different. There was no problem with locating a convenient, mutually comfortable interview site or in finding a convenient time for all the parties to get together. On the other hand, responses were limited by the lack of nonverbal clues available to express thoughts and concepts not easily expressed through words alone.

On-line, asynchronous interviews have an added advantage of time for reflective, considered responses. An individual can answer the questions in her/his own time, edit the responses, think about them for a while, and then *upload* them when they are comfortable with the answers. After thoughts can be added to the branch and previously uploaded material can be edited. This occurred in CRICHTONS RESEARCH, and all the participants (except for two of the high school students) edited or added additional comments. The on-line research branch provides the participants with a second or third chance to revisit the answers. The interviewer can more easily reflect on both the questions and the responses and reword the questions if, after reflection, it seemed that the respondent has mis-interpreted the question. The interview process can be done asynchronously, allowing all the participants to reflect and answer in a time or place convenient

to themselves. It can encourage participants to stay more on the topic, allowing the participants to cover more ground, with fewer interruptions, than in the face-to-face format. Two of the people in CRICHTONS RESEARCH commented that the questions in their branches seemed like work, so they commented in those branches when they felt prepared to respond; however, they treated THE APPLE TREE as a play area and regularly checked in there to see what was new. Participants commented that the on-line interview seemed restful, allowing the individuals to develop a line of reasoning without interruption and to stop the interview responses when feeling fatigued or unfocused. The people being interviewed had control over their time, stopping and starting when they wished.

Tara McFarlane suggested the concern that being interviewed on-line certainly favours those who are comfortable with writing and reading as opposed to speaking and listening.

> It also depends on how comfortable one is with being on-line. I feel very comfortable on-line, and could talk forever about anything; however, I feel typing constricts my thoughts, therefore I condense what I wish to express. I think faster than I type, or write for that matter, plus I just tend to 'leave things out' as a result.

HUMAN FACTORS AND SOCIAL CONDITIONS ON-LINE

A final question that keeps nagging me is do I really know these people? I would answer this with a resounding yes! I know that Hiren Mistry signs his personal notes with the name Scamp; I know where Susan Musgrave has her hair done in Montreal when she is not

styling it gypsy-style in England, and I know that Peter Marmorek has plastic lizards in his Japanese rock garden along with a plastic garden gnome that looks rather like him. I learned many other things about these individuals, and I came to respect them as colleagues in the field of writing and friends who went out of their way to assist me with my thesis by way of thanking me for my technical assistance as a moderator in WIER and supporting anything positive that might help WIER continue and grow. I know that I felt a sense of loneliness when I closed the research branch, and that I was delighted to logon in September and read Sandra Hawkins' commentary to all the WIER participants telling about her visit to New Denver, eating at the Apple Tree, and having her picture taken in front of the restaurant.

From my armchair journeys into this virtual field, I learned many things, met some fascinating people, and began to develop an ability to communicate with other human beings without technology monopolizing the show. Ishii's (1990) seams are still there, but the WIER data would indicate that human beings can struggle together to work through the cognitive discontinuity and find solutions to the technological problems as they present themselves.

Riel and Levin (1990) write of the increasing number of electronic ghost towns within computer networks, but it would seem that continuous social interaction within a community of learners can sustain an on-line conference and cope with the human factors that at times come into conflict with technology.

CHAPTER 5

CONCLUSION

"Now turn to the computer, an area where
all the major difficulties of design can
be found in profusion. In this realm
the user is seldom considered."

Donald A. Norman

This thesis looked at one computer conference, WIER, and explored the use of expert practice as a strategy to encourage on-line social interaction. It also looked at some of the human factors that affected the participants who joined that conference. Based on the information gathered in this study, the existing literature, and my own participation in other conferences (WorldClassroom, university courses, Southern Interior Telecommunications Project), I believe that computer conferences can be engaging, interactive gatherings of individuals, databases of collected writing accessible to all the participants, or developing "electronic ghost towns" whose participants drift off into other things.

The literature suggests that the development of engaging, interactive gatherings can be the result of a variety factors, ranging from effective strategies used by conference moderators (Mason, 1991) to clear participant structures developed by the conference organizers (Riel and Levin, 1990). Regardless of the factors present, the common goal of conferencing seems to be to develop successful, interactive on-line conferences.

Mason (1988) states:

> Conferencing ... allows students to 'speak' the language of the discipline, to practice in their own words expressing the ideas, the structures and logic which have meaning in that subject (Northedge, 1987). Conferencing in this way has a place as an adjunct to a course delivered primarily by another medium" (p. 39).

Mason adds that conferencing has the added value of "de-packaging" knowledge, allowing the learner to bring to the learning what s/he already knows and to develop it. However, those of us who have experienced conferencing also know that Schwartz (1991) is correct when she cautions us to "... not confuse the possibilities of the computer medium with its realities" (p. 3).

CONFERENCING CONCERNS

Based on the literature and my experience with CMC, I would identify six areas of concern that need to be addressed before conferencing becomes more user-friendly. Each of these areas affected the participants in WIER, and I would hypothesize have affected members in other conferences. The order in which I present them here is random, not a hierarchy based on importance or degree of hindrance.

ACCESSIBILITY

The first concern is accessibility - the participants' ability to get to the hardware and software and join the conference. Within this one

concern are a variety of issues ranging from equity of access within the classroom setting to funding within the school to support conferencing costs.

I did not ask the participants in my study whether they had regular access to a computer, modem, and the conference itself. The general impression given by the WIER participants was that most of the commentary from the novices was written off-line and then uploaded by the teacher or a school-based computer support person. Whether this procedure was universal in the WIER schools, I do not know, but the novices in my study implied they had read WIER material from a binder in their classrooms and given their commentary or stories to their teachers either on disk or in hand written format.

The rationale for this procedure was stated by two of the teachers in the study - to avoid the modem bottle neck. In a further study it would be interesting to look at the various computer facilities (labs, stand alone machines in libraries, personal computers at home) and see if there was a relationship between accessibility and on-line interaction. Certainly, the novice participants did not have unlimited access in terms of computer and on-line time. Also related to the accessibility concern is the cost involved. Some schools paid long distance phone charges in addition to their expenses in WIER (hardware requirements such as computer and modem and the conference fee). I would suspect that the long distance fees affected on-line time and the ability to feel comfortable about simply logging onto the computer to read and explore. These concerns could affect the participants' ability to interact with the other participants.

It would be interesting to look at the actual number of participants within each school ID to see if generalizations could be made about the type of person who participates (gender, technical skills, interest in the conference), the degree of participation, the amount of revision, etc. in relation to access to computers, modems, and the on-line costs. Analysis of these issues was impossible with the data collected for this study, but a further study could explore these issues.

READABILITY

The second concern is the readability of the material placed on-line in relation to the on screen type size and formatting. In the case of WIER, there was a huge amount of writing that basically looked similar as writers could not use graphics, different type fonts, or much variation in line breaks or indenting.

There were some exceptions in WIER, such as Hiren's poem "JAZZ." This piece literally danced across the screen, and those of us with older, slower computers could actually read the words as they emerged from the screen. Because this poem was such an exciting exception to the normal format, I wonder about the degree to which its look initially overpowered the words [see Appendix - JAZZ].

However, the majority of the original writing and commentary looked similar - small type fonts and long lines of text. I first realized the potential impact of this concern as I listened to a nine year old explain her conferencing activities and show me her uploading procedures. As she typed in her story, the size difference between her

printing and the words on the screen was very noticeable. When I asked her about the material on the screen, she said that she didn't read it too much because it was pretty hard to follow. It would be interesting to investigate the impact of the on-screen type size on readability with students from a variety of age groups and reading ability.

Experienced users of the conferencing software, PARTI, could set the line pause to show a certain number of lines before being prompted to show more. This limited the number of lines of a particular piece that appeared on screen and allowed the reader to determine if s/he wished to read more. I wonder how many other users used the line pause function as a previewing tool, as I did, and probably missed some quality pieces of writing.

In a future study, it would be interesting to look at reactions to the commentary from those who read on-line and those who only saw WIER off-line. To those of us who read on-line, the long strings of text were rather difficult to read. In a print format, longer pieces may have been easier to follow and more enjoyable to read, but that required printing a huge amount of text, using reams of paper and loading responses back into the proper branches at a later time - potentially an organizational problem.

ORGANIZATION

A third concern is organization, keeping track of where one is in the conference. By responding only to the INBOX, which was the first item presented upon joining PARTI, one would read only the new

writing and commentary. This had the potential of isolating commentary from the original writing and of encouraging the reader to jump from branch to branch, depending on the number of new notes added since last reading the INBOX.

It is my feeling from reading the participants' comments that the INBOX put people into a reaction mode of responding. New comments were read, and it was much easier to respond right then to commentary than to draft a comment later and relocate the proper branch. Situating the comments with those that preceded it is an important as reading new commentary. As the amount of commentary in WIER increased, I believe this became more of a problem.

In the APPLE TREE branch, there was not much of a problem with INBOX. The main reason for that, I believe, was the small size of the group and the intense, but limited duration of the branch.

DISJOINTED INTERACTIONS

Disjointed interactions can result from concerns raised in conference organization, as presented above. If individuals are reacting to previous comments, there is a potential that the responses will require moderators to weave them back to the original context.

In the future, as more students become involved with conferencing, a style may need to be developed for clear, on-line writing. This style might be taught in much the same manner as we currently teach the essay format or the business letter. It should include protocols such as including references to prior notes by their

number, writing information in almost a summary format with longer notes attached (similar to the document attachments available for email software such as Eudora), and weaving new comments into the commentary previously added to the conference.

However, the issue of an on-line style will continue to fuel the debate over whether conference commentary is writing or talking or a hybrid of those two.

SOCIO-EMOTIONAL ISSUES

Along with the issue of an on-line writing format is a concern about the socio-emotional issues that arise when people communicate together. Humour, sarcasm, and other subtle aspects of communications can be difficult enough in a face-to-face setting; however, on-line, with no physical clues to suggest how commentary is being received or sent, they can become hurtful and confusing.

The use of EMOTICONS, including asterisks and other keyboard symbols, can help, but there is always the potential for misunderstandings caused by the inability to clearly express what one really wants or needs to say. While misunderstandings can certainly happen in face-to-face exchanges, on-line misunderstandings can be more difficult to correct. Possibly when conferencing technology evolves to include graphics and an on-line writing style is developed, participants will have a greater ability to express themselves.

MANAGEMENT

The final concern is about the actual management of a conference. Decisions made prior to the conference opening can encourage or limit the amount of on-line interaction. In the case of WIER, splitting the conference into three parts was essential. Had all the participants simply joined a conference called WIER and then looked for material suited to their students' grade levels, the conference would have been an exercise in chaos. As it was, with even the conference broken into sections and the sections partitioned into smaller units for each month and these broken into individual pieces of writing, the amount of material was almost overwhelming.

SUMMARY

Feenberg's (1990) concern about the need for an organizer (moderator) to weave all the comments together is valid. Mason (1991) emphasizes the role of moderators in keeping a conference running smoothly. However, with all the organization in place and the roles for moderators determined, there is still the intangible aspect of developing a sense of community.

As the moderator of the APPLE TREE branch, I found that it was a gentle balance between encouraging interaction and directing the conversation. Somehow, the branch seemed to have a life of its own and the interaction was contagious.

The six concerns presented here are certainly not the only concerns related to the CMC environment. However, they are the

major ones that affected the WIER participants. I believe they are concerns that will also affect future on-line conferences, and they have the potential to confuse and complicate teaching experiences in the CMC environment.

TEACHING IN THE CMC ENVIRONMENT

Currently, educators wishing to explore the CMC environment with their students encounter problems related to the six issues presented above, but there are additional concerns as well. These concerns are most easily presented in the chart below.

TEACHING IN A CMC ENVIRONMENT

NECESSARY PRE-SKILLS   CURRICULUM EXTENSIONS

* SOFTWARE   * ASK-AN-EXPERT
* HARDWARE   * APPRENTICESHIP
* TROUBLESHOOTING   * PEER INTERACTION
* TECHNICAL UNDERSTANDING   * CURRICULUM INTEGRATION

GREY AREAS OF CONCERN

* DESIGN OF SYSTEM
* ACCESS TO MODEM
* TECHNICAL SUPPORT
* INSTITUTIONAL SUPPORT
* LACK OF ON-LINE RESPONSES

Figure 1. Three groups of concerns that can affect classroom teaching in the CMC environment.

These concerns (Crichton, 1992) are rarely presented in the academic literature as they are just becoming identified after research into the school-based applications. Schwartz (1991) suggests that "Believing inspires us to change the desirable into the possible" (p. 3), and the increasing number of education conferencing activities would support that. However, before computer conferencing can successfully become an integrated part of the traditional school experience, the three areas presented in the chart will have to be addressed.

PRE-SKILLS

In order to connect with the conferences and assist their students' participation, teachers, or school-based support people, will have to acquire the necessary pre-skills. In WIER the technical moderators were often called upon to assist the participants in configuring their software or troubleshoot basic problems, and an entire branch was set up within the conference to discuss technical problems. I would suspect that many teachers who did not possess these pre-skills, or have the school-based technical support, would not have enrolled their students in an on-line conference. Therefore, the students' access was limited or determined by their teachers' skills.

Teaching with technology puts an additional demand on the teacher. Just having a good lesson plan is not enough. A few disk errors or disconnected wires can demand more of the teacher's time and turn the focus of the lesson onto the technical problems rather than the tasks and students.

CURRICULAR EXTENSIONS

As with many educational innovations. if clear curricular ties are not found, the innovation does not become part of the academic program. If teachers have to struggle to make a curricular tie for the conference activities, participation will be limited and may eventually stop (Crichton, 1992). I believe this may be the case with on-line conferences. However, the strength of WIER is that it does tie in with the existing writing curriculum.

GREY AREAS OF CONCERN

The grey areas of concern are equally important. Even after a teacher has gained the necessary skills and made a connection to the existing curriculum, all the grey areas come into effect. The conferencing software might be difficult to learn and might not be supported by on-line tutorials or technical moderators. In addition, there might be only one modem in a school and 36 students in the class.

Institutional support suggests that the administration values the conferencing program enough to allow the teacher release time to upload and download the commentary, explore the system, and learn to use it more effectively. Many of the teachers in WIER stated that their WIER activities were on their own time, after school or at home in the evenings.

However, potentially the most damaging concern is the chance that once the teacher gets into the conference and uploads student material, no one will respond. While WIER guarantees responses to the participants from at least the technical moderators and expert writers, other conferences do not. The lack of response not only does not encourage social interaction, it almost ensures the development of on-line ghost towns. There needs to be a stated response obligation for conference participants, similar to Riel and Levin's (1991) participant structures.

PARTICIPANT STRUCTURES

After analyzing the commentary for this thesis, I would strongly agree with Riel and Levin's (1990) participant structures. While they developed these structures as a grid to study conference interaction, I believe that the structures could be used by conference moderators to structure and organize future, on-line educational activities.

Riel and Levin list five structures: 1) organization of the work group, 2) task organization, 3) response opportunities, 4) response obligations, and 5) evaluation (p. 147). The WIER conference was discussed in relation to these structures in Chapter One (see The Structure of WIER).

Riel and Levin suggest that work groups can be any size and a mixture of experienced or inexperienced conference participants. The WIER conference started with a large group for the tutorials and general information, but it was broken into smaller subgroups once the students were involved. Nevertheless, a group that is too small

might not generate enough commentary to get a critical mass of activity going, while one that is too large might seem impersonal (making the participants feel lost in a crowd) and generate too much commentary for participants to read.

My sense is that while the group size is important, there is a need to organize the conference around specific tasks, so that members can choose tasks of interest to themselves. Katherine Govier suggested that the Wired Writers branch had become too large for the expert writers to work with, and she suggested that smaller groups focusing on poetry or prose on specific themes might be developed. Organizational moderators could determine the group size and the expert writers could modify the task, thus encouraging and sustaining interaction.

Structure two, task organization, suggests that finding the appropriate on-line task is crucial for the success of conferences. There is evidence to support the notion that pen pal conferencing does not work. It seems to start well, but the participants tire of the activity and there seems to be no logical extension than can be sustained over time and connected to the traditional curriculum. Consequently, the selection of the task and the appropriateness of it to the CMC environment is critical. Writing is a logical activity for conferencing, as CMC is presently a text-based medium. Once graphics can be transmitted easily, other tasks will be suitable.

The third structure, response opportunities, reflects the problem of access to computers and modems in the school setting. For users who have their own terminals and modems, this is not a concern, but in a school the problem regarding the modem bottle-neck is

monumental. Presently, students who are willing to work through their lunch hours or stay after school have the most access to the conferences.

However, as schools continue to network their computer labs and developers improve off-line conference readers (PARTI has developed an off-line reader for the DOS environment), teachers will be able to include more students in conference activities. It would be interesting to do case studies of the high profile participants in WIER to see if they all had similar access opportunities to the conference.

Structure four, response obligations, suggests that each member in a conference has a responsibility to contribute to the conference commentary. Even though WIER was advertised as a give and get conference activity, participants still took more commentary from the expert writers than they gave to other conference participants. Issues of access to the conference (hardware and time) probably contributed to this problem, but human nature also comes into play. One of the teachers in this study said it was difficult to get the students to respond, even though they were delighted to receive commentary about their own work.

Encouraging continued social interaction on-line is difficult. Expert practice seems to encourage it, but human factors that come into conflict with technology limit it. From this study, I feel that strategies such as expert practice should be employed, but developers of technology are going to need to recognize and address the human factors that affect on-line interaction.

The final structure is evaluation. While certain tasks may require evaluation, as suggested by Riel and Levin, most tasks would

benefit from some sort of closure activity. Upon reflection, I think some sort of official closure in WIER might have been in order as participants were left hanging once the branches were closed to new original writing. Even some of the expert writers had difficulties stopping their participation.

WIER and the APPLE TREE seemed to just drift away; there was no formal closure, the commentary simply dwindled as people needed to move onto other tasks or summer vacation. In the case of the APPLE TREE, some of the participants came back into the conference after their school commitments had been completed.

It seems as though conferences that are to be sustained over long periods of time (two months or more) need to be partitioned into a series of short term tasks that participants can complete thereby establishing a sense of closure. The organization of these tasks would certainly be dependent on the moderators, who would have the responsibility of adding additional tasks and weaving the context of one into the next.

Riel and Levin's participant structures could assist future conference moderators and participants understand the plans and goals of the conference. It is my sense that successful CMC experiences are those that meld the technology, the tasks, and the participants into an alliance that allows for creativity and sharing in an asynchronous environment.

GENDER, ACCESS, AND VOICE

One of the last articles I collected before starting my data analysis was written by Selfe and Meyer (1991). Had I discovered their study prior to collecting my data, I might have modified the focus of my study. Selfe and Meyer look at three major claims of on-line conferences:

1. *Computer-based exchanges of written discourse may encourage egalitarian patterns of individual involvement.* Individuals who do not contribute equally in face-to-face discussions (because of age, ethnicity, sex, or handicap) may participate more fully in on-line discussions because access to the 'floor' in electronic environments is afforded in an unlimited way to all participants.

2. *Computer-based conferences may support power structures that differ from those characterizing face-to-face discussions.* In on-line conferences, cues of sex, age, race, and socioeconomic status are limited in some respects, as result, so is the privilege characterizing hegemonies based on these factors.

3. *Because they mask cues about an individual's gender and status, pseudonyms may change the nature of computer-based conference.* They may encourage participants to focus more closely on ideas, to take more risks, to be increasingly egalitarian in their discourse patterns, and to participate more than in similar face-to-face discussions (p.164).

Their study states that "... women ... seemed to enjoy the option to mask their genders [using pseudonyms] more than men" (p. 186), and "... the overall power structure of the conference and the individual styles of participants were not affected by the switch to pseudonyms."

They also state that "Men and higher-status participants contributed the most to ... [the conference]. And neither men nor women, neither high-nor low-profile participants, seemed to change their styles or participation or their quantity of participation due to the pseudonym option" (p. 186).

It would be quite interesting to look at the WIER commentary in light of the same three conference claims explored by Selfe and Meyer. The following questions would be fascinating to explore:

1) How do students establish a high-profile on-line status, and is that status related to school access and teacher support?
2) What characteristics constitutes on-line dominance, in high school writing,?
3) Did any one gender dominate the WIER commentary? (compared to the participant population)
4) To what extent were pseudonyms used in WIER?

It also would be interesting to look at the impact the gender of the expert writers had on the novice writers.

CONCLUSION

A variety of claims and inferences have been made about the CMC environment. Research, including this study, supports the notion that rich, on-line social interaction does not just happen because people are joined together in a computer conference. Moderating strategies, such as expert practice, do encourage interaction, and organizational concepts, such as Riel and Levin's participant structures,

could assist participants and moderators work toward developing sustained, interactive commentary.

This thesis did not look at the use of pseudonyms; it also did not explore the issue of gender or power structures which might have been developed within the conference. Future research could be conducted in these areas.

Initially, I had not set out to investigate the impact of human factors, but once I started analyzing the data, the rich commentary in the APPLE TREE needed to be addressed and the issue of an on-line community explored.

Goffman (1959) quotes Park's notion, "We come into the world as individuals, achieve character, and become persons" (p. 20). In on-line conferences it would seem that we often come in collectively using group IDs, and we gradually find opportunities to show glimpses of our characters via writing. We become individuals, eventually finding a personal voice. By using whatever means at hand, individuals eventually become comfortable with CMC and attempt to personalize the virtual world. If education is going to use conferencing to support distance education opportunities, extend traditional curriculum, and asynchronous links with other individuals, further research must be conducted in the areas presented in this chapter as well as other areas targeted by researchers such as Riel, Levin, Selfe, and Meyer.

APPENDIX A

EMOTICONS

:-)	THE BASIC SMILEY (JUST KIDDING)
8-)	SENDER WEARS GLASSES
&-)	SENDER HAS BROKEN GLASSES
3B-)	SENDER IS CAPED CRUSADER
.-)	SENDER HAS ONE EYE
<:-)	SENDER IS A CONEHEAD
:-)	SENDER HAS A MOHAWK HAIRCUT
%-)	SENDER IS CROSS-EYES
%-(	SENDER IS HUNG OVER
#-)	SENDER PARTIED ALL NIGHT
:>)	SENDER HAS A BIG NOSE
:<)	SENDER ATTENDS AN IVY LEAGUE SCHOOL
:-(#)	SENDER IS ABOUT TO VOMIT
:-*	SENDER ATE A SOUR PICKLE (OOPS)
:-)k	SENDER WEARS STRANGE BOWTIES
:-)8	SENDER IS WELL DRESSED
:-E	SENDER IS A VAMPIRE
:-0	SENDER IS SHOCKED
:-#	SENDER IS CENSORED
;-)	SENDER IS A FLIRT (WINK)
':-)	SENDER SHAVED ONE EYEBROW OFF THIS MORNING
(B-}K	SENDER IS A NERD

O -)	SENDER IS WEARING A SCUBA MASK
$: -)	SENDER WEARS EXPENSIVE RUG
?: -)	ONLY HIS/HER HAIRDRESSER KNOWS FOR SURE
: - ?	SENDER IS CONFUSED
7: -)	SENDER IS RONALD REAGAN
(: -)#	SENDER IS ARTHUR BLACK
; - x	SENDER SENDS A KISS
; - #	SENDER IS ZIPPER MOUTHED
; - '	SENDER IS KISSING

APPENDIX B

JAZZ - by HIREN MISTRY

This set of notes from Trevor, Peter, and Hiren are given to show the difficulties in uploading a piece of formated poetry. Once Peter (Hiren's teacher) had sent "JAZZ", Hiren noticed that the formatting was completely wrong. Peter did not have the power in the conference to move or change the piece of writing, so he had to involve Trevor, a conference moderator, in the corrections.

"JAZZ" by TREVOR OWEN (towen) on 24 Feb. 1992, 21:18 Pacific (192 characters and 19 notes).

Hello everyone.
Peter Mamorek advises that the initial posting of JAZZ is not the one they wanted to send. Another has been sent & I have deleted this version at their request.

Cheers
Trevor

Note 54 (of 60) by PETER MARMOREK (marmorek) on 29 Feb. 1992, 11:00 Pacific (228 characters).

STOP! I seriously goofed up on settings when I sent Jazz, and some of the disjoint sections are due to about a third of it being lost somewhere between Toronto and SFU. Corrected version is now note 53. Mea maxima culpa.
Peter

Jazz.
zzaJ.
No. Jazz.
Can't be any other way.
Jay. Ay. Zed. Zed. (Zee if you're American)
The soundtrack to my life.

What

                    is
                              it ?

It is a flowing, bopping
soothe-exciting, heart-warming
heart-breaking, eye-closing,
eye-opening, genital-rousing
music.
But   that
                    isn't
                              all.

It's an atmosphere,
a state of mind-
smell-touch-taste
        music...
                              it's...

Gotta be dark.
                    (afternoon jazz don't do
much for me)
Gotta be small room-
Cozy.
So tight, people
can't walk around.

Gotta be serious
        But
        loose.
Serious to listen, caress, nurture and digest the jazz.
Loose to experience it   any   way   you   want:
        Eyes closed, nostrils flaring
        mouth twisted, head shaking

        hands flailing.
Gotta be smoke:
Ghosts of musicians past
dancing, swaying perfectly
        in constant time.

Comfortable?
        Now the
                fun
                    begins.

Music turns gears in
your brain.
No elevators in this club
So don't expect
             that
                   kind o' music (sin! sin! sin!)

You want to reach out and
delve right into the music.
     splash swim strip-
        down smother
        cover yourself
in   the   Conscious of every instrument:
     squeak brush squeal
        thump   and   pluck
Conscious of every murmur and shift (so shhhhhhhhhhh!)

You concentrate separately on each-
and find it a miracle.
Pianist just hitting
                          fist on keys.
Bassist just moving hands
                          up and down.
Drummer hits anything
                          he can.
Sax man blows
                          his brains out.
Yet all in unison.
Stop.
Start - the same time.
Then they go again banging
                     plucking
                        hitting
                          squeaking.

It's a miracle, so instinctively you want
to close your eyes and pray to God.
     The   God
                   of   Jazz.
        you want to stay tied down
        burned to the ground, lost
        and found, old fat and round,
        buried way down

in   this   club.

The music encompasses you
because you realize it's all live:
sultry and hot,
bebopajazzaneurotic rhythms grind-
skatta bugs rhyme
.... And sweat,
salty and flowing into
bloodshot eyes   of
Real   People
Wood   Ivory   Brass
touching you.

It's like sex:
Once you do it,
Everything else is just a
fraction
of the performance.

And
        why   not

                      sex?
hmmmmmmmmmmmmmmmm?
Not ˙ crude
              it's true.
It's a sensuous music - everything
      is
                    sexual.
Why, just listen:
The Bass is a man's voice, talking dirty
              and sweet cool seduction.
Saxophone's   the jivin' horny man
              talkin' in rhyme.
Drum's the   big performer, always
        ...and sweet piano...
        she teases and taunts
              then gives them what they want...

So now the music stops and you open your eyes.
Band's gone.   People are gone.
        Just you and your
        sweet melancholy.

Savour it.   Remember it.
Regurgitate it and chew it.

'Cause
you
never
forget.

Jazz.
zzaJ.
No. Jazz.
Can't be any other way.
Jay. Ay. Zed. Zed.
The soundtrack to my life
..And yours

'Cause
now
you
know.

PHEW! IT'S DONE DARLENE. I LOVED WRITING THIS POEM, BUT MAN, IS IT EVER A PAIN TO TYPE! WELL, MAKE WHATEVER COMMENTS YOU FEEL APPROPRIATE, AND GET BACK TO ME AS SOON AS POSSIBLE. BY THE BY, CAN YOU SEE THE SUBTLE CHANGES? THANKS AGAIN ,

HIREN(the scamp)

(if there are any weird spelling mistakes, please correct them. I typed this when I was exhausted)

APPENDIX C

SAMPLE OF LETTER OF CONSENT FOR AUTHORS

Dear

Thank you for agreeing to let me use your on-line commentary and to interview you on-line.

At any point during my research you are free to withdraw, and before I printed any of your commentary or interview statements in my final thesis I would ask your permission.

I believe that the interaction that is taking place in WIER is special and valuable, and I am anxious to look at this interaction because I believe strongly that other on-line conferences could learn and benefit for the strategies that you are developing here.

Please check the appropriate statements below, sign this copy, and return it to me in the self-addressed envelope.

Thank you again for your support in my project.

Sincerely,

_____

____ I grant permission for Susan Crichton to use my on-line commentary and to interview me regarding WIER.

____ I would like my on-line commentary and interview comment to be anonymous.

____ I would like to have my name remain on the commentary and in the interview notes.

SAMPLE OF CONSENT LETTER FOR TEACHERS

Dear John McClusky,

Thank you for agreeing to let me use your on-line commentary and to allow me to interview you on-line.

At any point during my research you are free to withdraw, and before I printed any of your commentary or interview statements in my final thesis I would ask your permission.

I believe that the interaction that is taking place in WIER is special and valuable, and I am anxious to look at this interaction because I believe strongly that other on-line conferences could learn and benefit from the strategies that you are using in WIER.

Please check the appropriate statements below, sign this copy, and return it to me in the self-addressed envelope.

Thank you again for your support in my project.

Sincerely,

Susan Crichton

____ I grant permission for Susan Crichton to use my on-line commentary and to interview me regarding WIER.

____ I would like my on-line commentary and interview comment to be anonymous.

____ I would like to have my name remain on the commentary and in the interview notes.

SAMPLE OF CONSENT LETTER FOR STUDENTS

I agree to allow _____to participate in the research project described in the letter to John McClusky from Susan Crichton. I understand that all the writings of my child will be used only in Susan Crichton's thesis and that my child's name will not appear in either the thesis or on the writing used in the thesis.

I also understand that I can stop the use of my child's written work in this project at any time.

_____

Parent /Guardian

_____

Date

GLOSSARY OF TECHNICAL TERMS

asynchronous - "... a form of computer control timing protocol ... which allows data to be sent as it is ready, without pre-arranged ordering" [Dictionary of Computing, 1991, pp. 24-25 & 468] In a computer conference, asynchronous refers to participants not having to function on a pre-arranged, rigid time schedule. Conferences are "open" 24 hours a day, so participants can use them at times convenient to themselves. The participants are not engaged in the immediate action and response interplay of face-to-face exchanges.

batch read - a computer command given to collect the identified data that has been stored and place the collected data in a file that has been created. For example, the command batch read nonstop "musgrave" would collect all the data from a *search argument* for Musgrave and place it in a file named musgrave. This file could then be printed or opened in a word processor.

branches - units within a computer conference used to organize the structure of the conference. For example, in WIER the conference was broken into a number of main branches (Wired Writers for secondary students, Word for Word for intermediate students, Write With You for elementary students). Within the main branches were sub-branches which contained the students' original writings. Each piece of writing was to have its own branch. Branches can be compared to chapters or separate sections within a larger unit.

computer-mediated communications (CMC) - synchronous or asynchronous textual dialogue between two or more individuals that is facilitated by a computer interface.

conference - an organized group of participants within a computer network who are focused on a particular area of interest or concern. Participants become members of a conference, usually with the permission of the conference moderator. For example, WIER is a conference within the computer network PARTICIPATE here at SFU.

DATAPAC - a Canadian network operated by the Trans-Canadian Telephone System that is used to connect users to other networks. Most commonly is used by participants who are outside a local dialing area for a conference. For example, participants in Toronto would use DATAPAC to connect with SFU while Vancouver users would dial directly.

download - to copy information from the computer database that stores it to a disk or a hard drive on a user's computer. This is done via software commands within the communications software package that reads and copies the information. For example, one could download portions of the WIER conference from the PARTICIPATE database.

email - the short form for electronic mail. These are messages sent to an individual or a group of individuals identified by the sender of the message. Email differs from conference notes in that conference notes are readable by the entire conference population.

find command - a search tool within word processing software that allows the user to located a word, character, phrase, etc. within a file. For example, one could use the find command to located all the uses of the term CMC. The software would then search the text file, stopping at each instance of the term CMC. Most find commands give the user the total number of uses of that term in a file.

HyperRESEARCH - a complex software program that allows researchers to analyze data by assigning keywords to particular words, sentences, paragraphs, etc. within the researcher's text files. This program also works with audio and visual files. HyperRESEARCH is built on HyperCard and runs in the Macintosh computer environment. HyperRESEARCH generates reports that can be customized to include a list of the keywords, the highlighted text, the character numbers from the original file, and frequency of a keyword occurrence. It is possible to run hypothesis testing with this program. For more details about this program, see the director of Centre for Educational Technology, Faculty of Education, SFU or contact ResearchWare, Inc., 20 Soren Street, Randolph, MA 02368-1945.

INBOX - an indexing function in PARTI that lists all the new information and personal messages that have been added to the conference since the participant was last in the conference. INBOX indexes are specific to the participant's login ID, so notes shown there are only for branches to which the ID has joined.

logon - the initial action taken by a conference participant to join a computer conference. In the case of WIER, participants received their logon identification name and password, and they were to join the conference and tell the rest of the conference participants a bit about themselves. Logon also implies the action that participants do regularly to join the conference and participate in the activities.

messages - notes written to conference participants. For this thesis, the term messages refers to private notes addressed to a specific person or persons but not sent to the entire conference.

moderator(s) - a person(s) in a conference whose assigned task can be to encourage participants and / or to provide conference discussion topics. In the case of WIER, there are three types of moderators (1) general conference organizer, (2) on-line help and technical support people, (3) expert writers.

mpage - a print command for the high speed laser printers at Academic Computing Services. This command produces double sided, two column per side printing which is the equivalent to printing four pages of text on one piece of paper.

network - a general term referring both to the technical equipment, software, and personnel required to connect various computers together for communications. Networks can be local area (linking a few computers within a room or building) or wide area (linking any number of computers over huge distances).

notes - correspondence added to a conference branch. For this thesis, the term notes refers to correspondence that is available to all conference participants.

on-line interaction - the exchange or textual dialogue that takes place between conference participants in the CMC environment.

PARTICIPATE (PARTI) - a commercial conferencing system that is installed on the SFU main computer and supports the computer conferences hosted by SFU. It allows for participants to connect asynchronously with each other via personal computers and to access the recorded communications within conferences. Commands within PARTI allow participants to access previous commentary via a variety of search arguments.

search arguments - computer commands used to locate
information in a file. These commands are algorithms or
perimeters that are used to limit the searches. One could
search on keywords, dates, participant names. For
example, one might want to find all the messages written
by Susan Mugrave in the WIER conference since October
1991. The search argument would look like:
find since 10/1/91 from musgrave in "wier" br

text file - written information that has been saved on a
computer disk, hard drive, magnetic tape, or all three. Files
can contain one story, a collection of stories, or any other
information limited by the computer user. For example,
each chapter of this thesis was saved in a separate text file.

upload - to copy information from a disk or a hard drive on a
user's computer to the main computer's database. This is
done via software commands within the communications
software package that reads and copies the information on
a personal disk and loads it to the main conference.

user interface - "The means of communication between a human
user and a computer system, referring in particular to the
use of input/output devices with supporting software"
[Dictionary of Computing, 1991, pg. 488]. For example, a
mouse, pull down windows, balloon help assistance for
software.

weave - a technique used by moderators to connect the
comments between conference conference participants.
These are textual comments written by moderator/s to
draw attention to an aspect of a conference and make
connections for the other participants.

Writers' Development Trust - a principle stakeholder of WIER located in Toronto. The Trust is an organization dedicated to promoting Canadian writers and writing in Canada and it provided the link to the writing community, funding the expert writers.

Writers In Electronic Residence Program (WIER) - A writing program in the public schools across Canada which is sponsored by the Writers Development Trust (in Toronto and coordinated by Trevor Owen, currently at York University). It is a computer conference in which novice writers (school students) and expert writers (professional writers) meet and exchange thoughts on the student writing presented in the conference. Schools joining this program pay a fee and are entitled to send student work for a period of six months. During that time, the expert writers make comments about the student work. Students also have an opportunity to respond to other students' writing and to the authors' comments which are directed to either their work or to the work of others. Within WIER are three sub-conferences. *Write With You* is for the elementary students, *Word For Word* is for the middle school, and *Wired Writers* is the secondary program. Each of these sub-conferences has expert writers. WIER is an exchange of writing and commentary. Within WIER there is the opportunity for peer exchanges both between novices and between expert writers. The stated purpose of WIER is "... to use telecommunications technology to promote student writing by linking English and Language Arts classrooms with published writers (and other classrooms) across Canada" (Owen, 1991, p. 65).

"Students use word processors to compose their works and responses to the works of others before incorporating telecommunications into the process. When the students are ready to offer their work to the program, their writing

is sent to the on-line conference, which runs on the host
[mainframe] computer at Simon Fraser University. Most
schools are able to connect with a local area call via the
services of DATAPAC, a packet-switching service in
Canada" (Owen, 1992, p.2).

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