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UNIVERSITY OF ALBERTA

INTRODUCING COMPUTERS INTO A HIGH SCHOOL WRITING
CLASS

THE STORY OF AN ACTION RESEARCH

by

Ted Anton Paszek

A thesis

submitted in partial fulfillment

of the requirements for the degree of

Master of Education

Department Secondary Education

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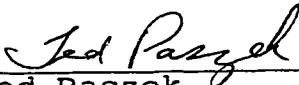
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Abstract

This thesis is the story of a teacher's attempt to implement a change into the teaching of writing at the high school level. The focus is on implementation of change through action research. The change is the introduction of computers into the writing classroom. Chapter one presents an overview of the topic and methodology. Chapter two examines recent literature on the locale and occasion of educational change. Chapter three looks at action research as a means of implementing change and chapter four reviews the use of computers in schools with an emphasis on the computer in the writing classroom. Chapter five describes the experience of implementation with the author as outside collaborator and two English teachers introducing computers into their classrooms. Chapter six describes the author's experience at a different high school. The final chapter presents reflections on experience and conclusions.

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Chapter 1

Description and Overview

This is a story of my attempt to implement a change into my teaching practice. The story spans four years; the first of which was spent at the University of Alberta and the subsequent years teaching in two Catholic high schools in Edmonton. The idea for the change had its genesis prior to my arriving at the university. As a teacher in the humanities I had perceived the incursion of the computer into our lives in many ways, some of which I was not too happy about. I observed that the computers tended to find their way into business courses and to a smaller extent into math and science courses.

But, technology tends to be regarded with suspicion by teachers in the humanities, especially English teachers. "That infernal machine is liable to turn our students into unthinking robots." A very good friend and colleague who teaches English believes that the computer will render people unable to think for themselves. I worry that he may be right; but, ignoring the issue is not the answer.

The reality is that inevitably computers have an impact on our daily lives. Computer power is power in the hands of

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a computer-literate elite. Neither education nor humanities in education can ignore micro-technology. If we wish to empower our students to have some control over the future, we must enable them to use, control, and make decisions about the computer. Running away from the technology does not help the students in our care.

My interest in the computer started as a self-appointed cynic and critic. As it happened, when the high school I was working in decided to purchase computers, I volunteered to head the committee to investigate the hardware as well as the software that was available. I did not want to leave all the decision-making in the hands of the business and math people. Eventually, I became directly involved in the purchase of computers and setting up of the computer lab. Almost by default, I was given the assignment of teaching Computer Processing 10, 20 and 30. Through some coursework but mostly by teaching myself, I became the computer enthusiast on staff.

I believe that every member of this society ought to have the knowledge and power to decide how the new technology is used. The only way to do this is to make the technology familiar so that the decision-making power is not left in the hands of a computer elite. After teaching computer processing and programming for some time my interest settled on the use of the computer in the teaching of English.

After my arrival at the university, I developed an interest in how educational change occurs. How can meaningful change that involves the teacher and students as intimate participants occur? Action research provided a possible answer to this question. What better way to investigate computers in English than through action research?

Question and Methodology

I had three major interests that hovered somewhere in my head during my study:

1) When and how does educational change take place?

2) Can action research be an agent of meaningful change in schools?

3) Can computers help students in the process of writing?

The three issues dovetailed into my question for this study:

Can action research be a means by which a classroom teacher discovers how to use computers (word processing) effectively in teaching writing.

The following is a note I made to myself in the course on research methods in March of 1987:

> If I am fortunate enough to be assigned at least one English 10 class in a school with some availability of computers, I will conduct an action research project wherein I will attempt to use computers to assist in the teaching of writing. The

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action research cycle calls for an initial plan, action, followed by observation and reflection and then a revised plan.

I intend to monitor the developments by participant observation, interviews of students and other teachers, and analysis of student writing. I will keep a detailed journal of what happens.

I hope to collaborate with colleagues in the English department and the computer processing teachers. If possible I would like to work with a university researcher as well.

Implications

The teacher as researcher hopes that discoveries will be made that will be instructive and useful to himself as well as to other teachers as indicated by the following journal entry made at about the same time as the above:

This is an opportune time to be studying the effect of computers on student writing at the high school level because we are in a transitional period. Soon students will be arriving at the high school with word processing skills as a given. Studies then will have to be different. When my study is finished, we will know a little more about action research as a possible way to effect meaningful educational change. We will know whether a classroom teacher can learn how to use computers to improve student writing. There may be further knowledge on the effects of computers on how children learn. We will know more about how students, teachers and others feel about the use of computers in English. The logistics of computer use in English will come clearer.

There may be an indication of what kind of new software is needed in this area. Some of the mystique of computer use in English will have been reduced. I will be able to talk to other teachers about my experience. I will have written materials available for others interested in similar issues. There will be a review of literature available for my colleagues.

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Assumptions

Based on my review of literature, I made the assumption that there are benefits to the use of computers in the English classroom. I also made the assumption that no matter what the views of teachers about computers are, they are a fact of life for our students.

Summary

How educational change occurs must be understood by a teacher researcher because the research is both implementation and investigation. Action research satisfies these two aspects of teacher research; but, it too must be well understood. The actual implementation of computers into a writing classroom requires preparation and planning. Action research would be both the means of introducing computers into the writing classroom and discovering the value of doing so.

My reviews of the literature are clustered around the three questions that were of interest to me as I prepared for my implementation. Reading and thinking are an essential part of the growth of all teachers, especially the teacher as researcher. Many of the ideas that I encounter in the literature float around in my head as I conduct my daily work. The focus of the review of literature is to

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collect these floating ideas into a system of understandings around the problem of my research question.

Chapter two examines recent literature on the locale and occasion of educational change. Chapter three looks at action research as a means of implementing change and chapter four reviews the use of computers in schools with an emphasis on the computer in the writing classroom.

Chapter 2

Change in Education

Change does not come easily in education. Change does not come easily in any human sphere. One is tempted to wonder whether change in nature comes easily. There seems to be a fascinating tension between change and resistance to change. Surprisingly, the resistance to change in some spheres is stronger than the need to change; yet, in some areas change occurs so rapidly that it seems to be out of control. In the human dimension, I am thinking of the incredible changes that have occurred in science and technology. On numerous fronts we face disaster if we do not develop the human capacities necessary to cope with these changes.

Human advancement in those very directions that our survival depends upon has been painfully slow. Things of the human spirit, understanding of what and who we are, and understanding of how to get along with each other resist clarification and development. Perhaps, because education is basically such a human activity, it too has been persistently resistant to change. The teaching/learning event is so subtle, incomprehensible, and mysterious that

the application of ideas and techniques from science has not only often been ineffective in producing change in education but may, in fact, have a negative effect. I will discuss later the paradigm shift in educational thinking that brings new possibilities for improvement in education.

Numerous authors bemoan the fact that schools have not changed to any significant degree in a hundred years. For instance Larry Cuban (1982) who did a study of high schools from 1900 to 1980 notes this pattern established in the first decades of the century:

* courses targeted to students whose futures after graduation varied,
* electives,
* subject-based instruction,
* schedules that permitted students to take enough courses to earn a diploma acceptable in the business community or in college admission offices,
* between 25 and 30 students in a class,
* a teaching load of five to six classes daily, with two to three different lessons to prepare for those classes. (Phi Delta Kappan, Oct., 1982)

Despite numerous attempts at reform, some very well funded, Cuban still found in 1982 that "the overall picture of high school teaching since 1900 is striking in its uniformity: persistence of whole group instruction, teacher talk outdistancing student talk, question/answer format drawn largely from textbooks, and little student movement in academic classes." (Phi Delta Kappan, Oct., 1982) We seem to be into another era of reform calling for, among other

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things, academic excellence, critical thinking skills, and
teacher effectiveness. Cuban says:

> Nonetheless, until state policy makers and national
> cheerleaders for change understand clearly the
> consequences for teachers of the reforms they
> propose, those reforms are likely to prove
> counterproductive for students and the teaching
> profession. And the would-be reformers will
> continue to thrash about blindly, seeking clear-cut
> solutions to irreconcilable dilemmas arising from
> the structural conditions within which teachers
> labor. (Phi Delta Kappan, Sept., 1986)

John I. Goodlad also has studied the make-up of schools
over a long period of time. In his book A Place Called
School (1983), Goodlad supports Cuban's position. In an
article for Educational Leadership (April, 1983), Goodlad
states: "What teachers most frequently and readily do is
lecture, quiz, and assign and monitor seatwork." (p.5)

In his investigation of the Mentor program to implement
a social studies curriculum, in a paper presented to the
Symposium of the Canadian Association for Curriculum Studies
(April, 1985), T.R. Carson points out:

> The evaluations of past implementation efforts
> have been almost unremittingly negative, as
> evidenced for example by various RAND studies
> (Berman and McLaughlin, 1976; 1977). Some other
> research has endeavored to find reasons for this by
> examining the culture of the school for the sources
> of inertia (Sarason, 1982; Goodlad, 1984). These
> studies have tended to be rather pessimistic about
> the possibilities for change.

Despite the tremendous resources of governments, the
best intentions of well-qualified education researchers, and
a variety of curriculum developers and reformers, why the

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remarkable failure of the majority of attempts at

educational change? The reasons presented by a number of

thinkers and researchers in the field of education point at

the failure of centrally-mandated innovations to

sufficiently consider the life-world of teachers and

students.

What is the meaning of change to the ultimate and final

implementers of change: the teachers and the students?

"Neglect of the phenomenology of change - that is, how

people actually experience change as distinct from how it

might have been intended - is at the heart of the

spectacular lack of success of most social reforms."

(Fullan, 1982. p.4) The big picture should not be ignored

but it seems that enough attention has been paid at the

macro level without really understanding what happens at the

micro level.

Fullan draws a clear picture of what the world of a

teacher is like:

> The picture is one of limited development of
> technical culture: teachers are uncertain about how
> to influence students, especially about
> non-cognitive goals, and even whether they are
> having an influence; they experience students as
> individuals in specific circumstances who, taken as
> a classroom of individuals, are being influenced by
> multiple and differing forces for which
> generalizations are not possible; teaching decisions
> are often made on pragmatic trial-and-error grounds
> with little chance for reflection or thinking
> through the rationale; teachers must deal with
> constant daily disruptions, within the classroom in
> managing discipline and interpersonal conflicts, and
> from outside the classroom in collecting money for

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> school events, making announcements, dealing with
> the principal, parents, central office staff, etc.;
> they must get through the daily grind; the rewards
> are having a few good days, covering the curriculum,
> getting a lesson across, having an impact on one or
> two individual students (success stories); they
> constantly feel the critical shortage of time.
> (p.27)

Under these circumstances it is easy to see why teachers are

resistant to change, particularly change they do not

understand or see as necessary.

Wise (1979) also points out that externally mandated

change often has little to do with the reality of the

classroom. When the policy aim of government is to improve

educational effectiveness and achievement and when it

extends beyond the bounds of reliable knowledge,

paradoxically, the consequences can be negative. Negative

consequences, Wise asserts, are the real effect of efforts

to apply the ideas of and techniques of economics, science

and scientific management, and the law to processes of

schooling. He calls this phenomenon "hyperrationalization".

Sarason (1982) also investigates the issue of

educational change and attests to the complexity and

difficulty of accomplishing reform, particularly federally

(U.S.) mandated reform. He quotes from a study of The

Experimental Schools Program (ESP) conducted by Cowden and

Cohen:

> The federal ESP staff's ambitious hopes for a
> comprehensive program of change in which school
> personnel worked together toward a new educational
> outcome never approached fulfillment. What change

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occurred, and the degree varied from site to site, did so in fragmented ways, and was typically modest and piecemeal. This reflected differences in practice at the federal and the local level. In the view of the federal ESP staff, past federal reform efforts had foundered through the lack of coordinated far-reaching change in each project. Comprehensive change across whole school districts thus seemed reasonable. But a school district is not a single, centrally directed, coherent system that can, upon a decision, change direction. It consists of many units and individuals with different needs, interests, and opinions. And the work of central administrators, principals, and teachers is only weakly interdependent - they by no means all pull together. Each has his or her own views of what changes should take place, and there is little incentive for concern with those of others. In this situation, comprehensive change - even had it been clearly understood - could not have taken place; and so the program failed. (p.87)

A paradigm shift is occurring in some circles of educational thought. I am referring to a move from the positivist view of curriculum and education to post-positivist views. Concomitant with this shift is the development of qualitative research methods in education where previously only quantitative methods were acceptable.

The positivist stance, otherwise named the rational-empirical or scientific, has dominated the educational scene. This position asserts that knowledge exists independent of the knower and the role of the teacher is to transmit this knowledge as effectively and as efficiently as possible. The learner is a receptacle to be filled. Science provides valid and reliable knowledge that is objective, precise, verifiable and certain. The same techniques and ideas that explore and probe and test the

physical world can be applied to human behavior. The belief
is that through science we will come to know everything
there is know about the universe. Refinement of measuring
instruments and better control of variables will help us
discover the truth. Human behavior, at present, is somewhat
unpredictable only because of the number and complexity of
variables. Social science has adopted the methods of
physical science and the belief is that control and
predictability of human behavior will be achieved.
Polkinghorne (1983) quotes Kerlinger:

> The general approach to knowledge and understanding
> of physics and psychology is the same, but the
> details of the theory and investigation are quite
> different... To measure aspects of human behavior...
> is usually more difficult than to measure properties
> of physical bodies. (p.19)

Educational research as part of social science also
remains in the grip of the positivist view to a large
extent. The view is exemplified by Ralph W. Tyler when
speaking of curriculum development.

> Hence the first step is to identify serious
> difficulties or problems within the present
> curriculum that should be given primary attention.
> The second step is to explicitly outline the
> constraints under which the new curriculum must
> operate....The construction process itself is
> outlined in four major tasks: selecting objectives,
> developing learning experiences, organizing learning
> experiences, and evaluation. This approach has been
> successful in my own experience, and I believe it
> has value for others. (Giroux, 1981, p.30)

The research methods in the positivist tradition
applied to education require quantitative data usually

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gained by scientific observation, surveys or experimentation. An hypothesis is proposed which is then verified by the scientific method. Variables are as rigorously controlled as possible. In experimentation, control groups are compared with experimental groups. Statistical significance, validity, and reliability are necessary before theories achieve acceptance. The approach is technical and objective and the knowledge gained attempts to predict the effect of certain teaching behaviors.

The shift to post-positivist views of education appears to be recent but there are strains of anti-positivism in social science beginning with the late 1800s and even earlier, as Polkinghorne states when talking about anti-positivist thinkers:

> They had considerable differences among themselves as to the nature of the human realm and how it ought to be studied; yet they believed that these studies should address the fulness of human experience, including values and meaning in addition to perception. The struggle to understand and define the human realm shows through in their writings. They attempted in various ways to define the human realm as a prelude to establishing ongoing research programs. However, their anti-positivist position did not carry the day, and the sciences of the human realm ended up with a methodology grounded in the procedures and logic of the physical sciences. (p.20)

Post-positivist views of human science and education are varied. Certainly, there are finer distinctions than I intend to make here. Polkinghorne states:

> The anti-positivist response was not unified and did not develop a coherent and systematic

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alternative to the positivist-inspired approach to the study of human phenomena. There was, however, general agreement in the anti-positivist response that what was wrong with positivism was that it neglected the unique sphere of meaningful experience that was the defining characteristic of human phenomena. (Polkinghorne, p.21)

However, post-positivist views have some similarities. They reject the notion that true knowledge consists only of scientifically verifiable certainties. Instead, knowledge and reality are socially constructed. There is a world of truth within as well as without. Meanings vary from individual to individual, insights are gained by experience, and there are multiple ways of knowing. Education should be learner-centered with the teacher acting as mediator and guide. Understanding comes with clarification of meanings that actors give to situations by interpreting events around them. Critical theorists go even further to suggest that understanding requires uncovering the underlying assumptions that guide life in the political/social spheres of human existence with an eye to improving the human condition armed with this knowledge. The new paradigm in educational research offers possibilities in effecting change in education.

Summary

Although it is relatively clear that change in education will never be accomplished easily, it is worthwhile to explore new avenues since the goal of most

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proposed change is improvement of the teaching/learning event. Any attempt at educational change must take into account the culture of the teacher's and the student's world. Ownership of the change must be the teacher's. Teachers will have to research their own classrooms and make their own decisions about instituting changes in their practice to improve learning.

Armed with a better understanding of the problem of educational change, I am better prepared to consider change in my own classroom. Action research falls into the new paradigm of educational research. In the next chapter I will explore the possibilities and pitfalls of action research.

Chapter 3

Action Research

Research methodology in education from the post-positivist position includes a variety of methods whose selection depends upon the question that the researcher is asking. Some research methods used by researchers in the qualitative approach include phenomenology, ethnography, linguistic analysis, hermeneutics, and action research. These methods generally seek to describe and understand the human situation as it is. Van Manen (1984) describes phenomenology the following way.

> Phenomenological research is the study of lived experience. To say the same thing. differently: phenomenology is the study of the lifeworld - the world as we experience it rather than as we conceptualize, categorize, or theorize about it. Phenomenology aims to come to a deeper understanding of the nature of meaning of our everyday experiences. It asks "What is this or that kind of experience like?" (p.37)

Ethnographic methods include participant-observation, interview and conversation, and journal writing; linguistic analysis explores the meaning behind words and metaphors; hermeneutics explores meaning for persons in the situation and action research has the practitioner researching his or her own practice. I will explore the possibilities that

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action research provides for education later in this chapter.

The data gathered through qualitative research methods provides us with insights often not attainable through quantitative methods. Generalizations as presented by quantitative research may not be available from qualitative research, but the deeper understandings, those recognitions of similar experience and interpretations of phenomena that qualitative research gives us, help us to make decisions in our own particular situations. As Reason (1984) points out, "the primary strength of new paradigm research, its fundamental claim to being a valid process, lies in its emphasis on personal encounter with experience and encounter with persons." (p.242) On the issue of validity Reason adds: "...validity in new paradigm research lies in the skills and sensitivities of the researcher, in how he or she uses herself as knower, as an inquirer. Validity is more personal and interpersonal, rather than methodological." (p.244)

Although I have preference for a particular line of research, this does not mean that I do not see value in a wide variety of research approaches including quantitative methods. I agree with Reason when he cites Maruyama:

> Maruyama points out that heterogenistic processes which increase differentiation may be found in all sorts of biological and social processes: they increase complexity, diversity, and structure, increase the amount of information available, and

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have enormous survival value for ecological systems. In terms of research, accepting, allowing, encouraging, and celebrating heterogenistic viewpoints will increase in our understanding. (p.242)

Ethical Considerations

At this point it might be worthwhile to mention some of the ethical questions which are encountered in any form of research, but are especially consequential in qualitative research because of the frequently personal nature of the data obtained. Some of the questions that arise are the following: Who is being researched and why? Who is the research for? How deep should the researcher dig into the personal lives of his subjects? How will anonymity be protected? Why is it that the powerless are mostly studied? Who owns the research and how is it going to be used? What if more is revealed than was intended? Responses to these questions should be on the mind of any researcher:

> Doing field work as a member of any institution, especially field work involving the study of urban education systems, can have extremely serious negative consequences if ethical issues are not carefully considered. Unfortunately, field workers, whether they be in anthropology, sociology, or education, are prone to burying their ethicality problems in unmarked graves - dead or alive. (Gary G. deVoss, Nancy Zimpher, and Deborah Nott, 1982, p.35)

Because the action researcher is a subject of the research along with others, I see action research as mitigating against some of these ethical concerns.

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Defining Action Research

Although there are various conceptions of action research, most forms of it lie in the post-positivist qualitative research mode. Action research in education, at its simplest, means teachers researching their own practice for the purpose of improving the teaching/learning event. The Ed. C.I. 598 class (Winter Session, 1986) defined action research in the following way:

> Action research is a form of research where school practitioners can consciously and systematically undertake the improvement of their own practice. This is done through a process of moving from a general to a specific idea for change, proceeding to a tryout of the plan and reflection on constant observations in order to replan according to changing circumstances.

The National Invitational Conference on Action Research held at Deakin University in May, 1981, communally defined it by saying:

> Educational action research is a term used to describe a family of activities in curriculum development, professional development, school improvement programs, and systems planning and policy development. These activities have in common the identification of strategies of planned action which are implemented, and then systematically submitted to observation, reflection and change. Participants in the action being considered are intricately involved with all of these activities. (Tripp, 1984)

Kemmis and McTaggart in Action Research Planner (1982) describe it as follows:

> The linking of the terms 'action' and 'research' highlights the essential feature of the method:

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> trying out ideas in practice as a means of improvement and as a means of increasing knowledge about curriculum, teaching and learning. The result is improvement in what happens in the classroom and school, and better articulation and justification of the educational rationale for what goes on. Action research provides a way of working which links theory and practice into one whole: ideas-in-action. (p.5)

Action research is generally regarded as having been first developed by American social psychologist Kurt Lewin who applied it to community social practice like production in factories, discrimination against minorities, and food habits. Two important features of Lewin's work were the ideas that the community designed the research and that the purpose of the research was the improvement of life.

There has not been much use of the idea of action research on the North American continent in educational circles until recently. There have been a number of projects attempted in England, but most of the activity seems to be taking place in a number of locations in Australia.

The Structure of Action Research

Like all other research methodologies, action research has an organizational structure. This structure is understood metaphorically, in terms of a growth cycle made up of moments. The four moments in the action research cycle - plan, action, observation, and reflection are something like the natural way most humans operate in their

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day-to-day activities. The difference is a higher level of consciousness and a more systematic approach in action research. These four moments are often pictorially represented by a spiral, wherein after a plan has been tried, observed and reflected upon, a revised plan is implemented and the cycle is continued always paying attention to changing circumstances and improvement of practice.

I see good potential for action research in the educational setting. The singular lack of success of curriculum change attempts may be in part attributable to the gap between research which is being conducted by outside researchers and practice as it occurs in the complicated real-life world of the schools. William R.. Torbert, writing in Human Inquiry, states

> The reason why neither current practice nor current research helps us to identify and move towards good educational practice is that both are based on a model of reality that emphasizes unilateral control for gaining information from, or having effect on others. Research in businesses, government, and educational institutions shows that administrators in all fields choose, without question, behavioral strategies which seek to maximize their unilateral control over situations. (Reason 1981 p.142)

He goes on to say that practitioners require a kind of knowledge that they can apply to their own behavior at the same time as they are in the midst of an event. The purpose of this knowledge would be to help them communicate more effectively with others about common purposes, about how to

produce outcomes congruent with such purposes, and about how to respond appropriately to interruptions.

The immediacy of action research and the direct benefit to the learner is very appealing. I often fantasize about the possibility of every teacher, as a matter of course, carrying out research on his or her own practice with the full knowledge and acceptance by students. The role model provided by the teacher would have every learner carrying out action research on his or her own learning. The focus would always remain on the positive goal of improvement. However, that kind of involvement is largely a fantasy. There remain some difficulties with action research. I will discuss these momentarily.

An important element of action research is the collaborative aspect which some action researchers believe is essential. Generally, collaboration occurs with teachers in the same school although it is possible to collaborate with teachers in other schools and with university researchers. Jon Nixon (1981) suggests:

> While a single teacher attempting to adopt a research stance within a school is likely to face at the very least a sense of isolation, a group of teachers can give one another invaluable support, both moral and practical. The temptation to go it alone is considerable, but it is a temptation which should be resisted. For the quality of the research may ultimately depend to a very large extent on the collaborative relationship which sustains it. (p.8)

The scope of an action research effort could be larger, but I believe that it is most fruitful when applied to the

classroom situation with a view to diagnosing problems and finding ways to improve practice. Although a variety of research techniques are possible, I would expect that the most manageable would be qualitative methods such as the use of informal interviews, participant-observation, open-ended questionnaires, photographs, journals, and original documents.

Overcoming Some Problems in Action Research

Even though the nature of action research helps avoid some of the ethical problems of other research methodologies, some of the ethical questions that apply to qualitative research still come into play. If the research will be written up and made public, anonymity must be protected. Also, as Mary James and Dave Ebbutt point out in Nixon's book (1981):

> A particular problem is posed for the teacher-researcher in that he has access to a constant flow of data merely by being always present in the school. Further, whilst pupils and colleagues may be aware that a teacher is engaged in research, they may divulge things to him 'as a teacher' that they would not want noted by him 'as a researcher'. (p.88)

The teacher-researcher must be extremely careful with the data obtained from research. Even though the purpose of the research is the improvement of education, ethical considerations must be kept in mind when there is the

possibility of harm being done to pupils, parents, or colleagues.

Researchers should be cautious of the flexibility that action research provides. For some people, action research has an inherent 'messyness' because it adjusts to changing circumstances as they occur and never lands on one conclusive "answer". As L. Dave Brown suggests,

> the basic social problems are intractable: they have to be 'solved' over and over again, and they are not readily subject to the researcher's control (Sarason, 1978). Participative research is a method well suited to the study of intractable social problems, like long-term organizational change. (Reason, 1981, p.310)

Of course, to some, the apparent weakness of inconclusiveness is a strength.

Some action researchers have faced skeptical and sometimes hostile colleagues who felt that their professional independence was being threatened. Many teachers feel that their practice needs no improvement and interpret the fact that colleagues are investigating themselves as an attack on the profession. The teacher-researcher must somehow explain what he or she is doing and lay to rest the fears of colleagues. But, explanation is not always easy. Our ED. C.I. 598 class (Fall Term, 1986) experienced this difficulty when talking to a group of principals about action research. Dave Ebbutt, in Burgess (1985), also points out in an experience he had.

> I feel that the documents, and especially the
> diagrams, engendered and contributed to an
> atmosphere of mystification about the process of
> educational action research. If this is a fair
> observation it is ironic, in that action research in
> all its applications is centrally concerned with the
> demystification of participants in the process.
> (p.68)

Resistance may also come from administrators in the
hierarchy who like control to be in their hands. Action
research may in time uncover constraints imposed by outside
sources that, when revealed, bring resentment and negative
reaction. Although I am sure there are no easy answers, the
politics of a situation must be understood and dealt with.

Time may be a problem. The life of a teacher is a busy
one. How does a teacher find the extra time necessary to do
the planning, collaboration, and writing. Ebbutt suggests
that

> If action research is to be considered legitimately
> as research, then participants in it must, it seems
> to me, be prepared to produce written reports of
> their activities. Moreover, these reports ought to
> be made available for some form of public critique.
> I would go as far as to say that if this condition
> is not satisfied by participants then no matter how
> personally and professionally valuable the exercise
> is in which they are engaged, it is not action
> research. (Burgess 1985 p.157)

Until the day when every teacher's timetable will include a
component for action research, the teacher-researcher will
either have to negotiate flexibility into his or her
timetable or find the time after regular hours for planning
and writing.

Summary

This chapter has explored action research as a means for teachers to introduce change into their classrooms. I reviewed the definitions and structure of action research along with some ethical considerations. Action research fits into the post-positivist paradigm of educational research. Some of the problems in action research and the means to overcome them were discussed.

In conclusion, along with the positive features of action research I see some of the possible pitfalls. However, none of them, in my opinion, are insurmountable. The strengths of this approach outweigh the weaknesses. Action research has the potential of overcoming the traditional separation of theory from practice. The goal of action research is improvement of educational practice. This goal is grounded in the real life situation of practitioners in the field. Collaboration and collegiality are essential features of the approach. It is available to every teacher and, for that matter, to every learner.

The next chapter will review the literature about the use of computers in schools and particularly the use of computers in writing.

Chapter 4

Computers in School

Computers in the World

> The new technology will force us to part, perhaps
> painfully, from some ideas we are reverent about and
> replace them with revisions, even as the printing
> press evicted Galen and Aristotle from the halls of
> science and placed them, instead, in the museum of
> charming historical curiosities. (McCorduck, 1985
> p.40)

As I observe the growth of technology in our world, I

have become interested in the possible uses of computers in

the school. I am cautious about the possibility of

embracing another fad in education, but I am also anxious to

provide students with the best tools for learning. As a

teacher of English, I am especially interested in examining

the use word of processing programs in the teaching of

writing.

A substantial amount of research supports the value of

the word processor for student writing; but, before I review

this literature, I will explore a few of the issues about

computers that bother teachers and others. Many people are

concerned about the effect of computers on our society.

Computers are viewed by some people to be dehumanizing,

alienating, and controlling entities that may at any moment

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run amok and take over their human masters. This myth is supported by some current movies such as <u>2001: A Space Odyssey</u> and <u>War Games</u> as well as novels and television shows like <u>Star Trek</u>.

The biggest fear of computers is of the increasing use of data banks that store personal, tax, medical, and financial information. Often we have no knowledge of where these data banks are and what information they contain. We wonder how to gain access to and control of personal information in data banks.

Another fear that people have is that too much dependency on computers will cause certain human functions to atrophy. Creativity, thinking, and other human skills will be lost. The machine will make humans superfluous.

Of course, there is some basis for these fears. However, it is up to us to decide how the machine will be used. An example of enlightened use of the computer is word processing because it gives anyone who uses it control. We use the machine in much the same way that we interact with pen and paper or with the typewriter.

People fear computers because of the importance placed on them. Some people are suspicious because almost everywhere they turn someone is extolling the power of the computer. Others fear that jobs will be lost as computers take over human work. Still others worry that they have been left behind by the computer age and that a computer

elite will make decisions about the use of computers in society.

All of these issues roll into a general fear of the loss of control and freedom. Many of the issues are part of general feeling of helplessness in the face of the complexity of modern living. The answers to the computer "problem" do not lie in a panic-stricken flight away from technology but in an effort to understand and then gain control of the technology. We all must continue to think about these issues and speak out about them. Teachers have a special responsibility in having a say about how computers are used in schools and how we empower students to use and control them. Peter D. Brown (1984) says: "Above all else, (the student) must be able to think in a detached manner about his technological context at the same time as he is immersed in that same context." (p. 61)

I suppose all technology can be seen as an extension of human faculties. Tools enable humans to do things on a scale that bare hands cannot do. The loader lifts heavy things; the tractor pulls big things; the automobile, airplane, and rocket transport people and things far away; the radio and telephone throw the voice over long distances. Technology changes us; computer technology may change us in a special way. Sherry Turkle in her book The Second Self (1985) suggests:

> Technology catalyzes changes not only in what we do
> but in how we think. It changes people's awareness
> of themselves, of one another, of their relationship
> with the world. The new machine that stands behind
> the flashing digital signal, unlike the clock, the
> telephone or the train, is a machine that "thinks."
> It challenges our notions not only of time and
> distance, but of mind. (p.13)

Turkle attempts to understand the "subjective computer"; how it affects social life and psychological development; how it affects the way we think. She contends that even if scientists never create artificial intelligence, computers have changed the way we think about thinking. She then goes on to document how a wide range of people relate to the computer. A very poignant statement is made by Wayne, one of the subjects of her ethnographic study, who says:

> People used to understand more about how things
> work. We live in a world where we don't understand
> how anything works. I live in an economy, and I
> don't understand how things happen in it. I watch
> the energy crisis, I don't understand why things are
> happening that way....I don't want that to happen
> with the computer. (p.174)

The computer, like any technology, affects the shape of the society that uses it. The automobile has changed us, as has the telephone or television. Jay Boyer (1987) reflects: "It is impossible to separate the technology a culture produces from the effect that technology then has on its people, particularly on its young."

Seymour Papert, co-developer of the Logo computer language and the author of Mindstorms (1980), sees the

computer as a powerful tool for changing the way children learn. "I believe that certain uses of very powerful computational technology and computational ideas can provide children with new possibilities for learning, thinking, and growing emotionally as well as cognitively." (p.17)

The other side of the coin has to be considered as well. The computer has negative effects on people. David Suzuki warns that every technology has unintended side effects. There is little evidence about the unexpected impact of computers, therefore much study and thinking has to be done. Even though she accepts the possibilities for computers in schools, Maxine Greene (1985) calls for balance in their use.

> In a time when so much time is spent watching, however, and manipulating, a time when linear forms work in strange dialectic with swirling images of video, we need to provide spaces for speech, for dialogue, for giving voice to what remains silent amid the sounds of machines. (p.17)

Peter Moss (1983) also worries about the new media technologies that are challenging the written form of communication. He sees the media as scaling down and simplifying experience whereas the written form allows for complexity and correctness. He calls for an education that will "'demystify' the various media one by one, to crack the codes that structure the particular 'language' of the media in order to extract their underlying meanings." (p. 55)

Computers in Schools

Computers have found their way into the schools in increasing numbers. Some, like Brian Carss, predict that this trend will continue. Brian Carss (1983) contends that: "It is generally agreed that the immensely powerful computers will fall in cost to a point where everyone will buy not just one, but many." The educational programs that have followed generally have been ineffective except for a few that some teachers have found useful. Educational computer program development is still in its infancy. Other than word processors, programs for information storage called data bases, and electronic ledgers called spreadsheets, the majority of educational programs fall into three types: tutorials, simulations, and games.

Tutorials provide drill and practice in skills that are acquired through repetitions. The best of these programs provide good clear instruction and allow the student to progress at his own pace. Good quality programs of this sort are difficult to construct. There are some tutorials dealing with language arts - mostly for grammar and mechanics. In 1986, the Clearinghouse at Alberta Education was unable to recommend any programs in language arts and only found nine that were of supplementary value.

Some teachers find tutorials to be limiting because the control is still mainly in the hands of the program. It

must be recognized that these programs can only accomplish a small portion of the learning outcomes in the total school program. Colette Daiute (1985) puts this in perspective for us.

> Students might want to learn such information in a drill format, but rote mastery of information is only a small part of learning and understanding. We also need process knowledge, which helps acquire and use facts. We need knowledge of how to use information to solve problems, to understand a text, or to make a prediction. Programmed drills and practice may be appropriate for building knowledge or for passing certain objective tests, but learning to write involves using information in creative ways. (p. 17)

Simulations allow students to explore events that occur in the real world without the dangers or time elements required in real experiments. Students can investigate dangerous chemical reactions or time-consuming genetic experiments. There are also simulations that deal with social issues such as world poverty or nuclear technology. In language arts, there are text adventure simulations and a limited number of simulations based on literary works.

Although there is some dispute, computer games can provide opportunities for logical thinking, vocabulary skills development, and re-enforcement of concepts of spatial relationships. Games are generally frowned upon for use in schools.

The most popular program in the language arts classroom is the word processor. Numerous studies support the value of word processing in assisting students with

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their writing. The most talked about benefit seems to be the convenience for the student. Computers increase motivation because students seem to enjoy writing on the computer. Revision is not as onerous since changes can be made without recopying the whole document. For some there is pride in the improved readability of their papers, especially for those with poor handwriting and frequent mechanical errors.

Word Processing on the Computer

The term 'word processing' is a little strange, as though it were possible to process words like one processes food. Daiute describes the computer as "a language machine." I view word processing as a way of handling language. A computer is a tool among other tools that a writer can use in the writing process.

What exactly does a word processor do? There are two main "word processing" functions: creating documents and formatting documents. Creating a document involves typing the information into the computer through a keyboard much like the keyboard on the typewriter. It also involves editing and revising the document both as one goes along and later when the first and subsequent drafts are completed. Any number of drafts are possible and these drafts may be saved to a magnetic disk in electronic form. These drafts may be saved individually or the newest version can replace

the previous version. Text saved to disk can be recalled at a later time for further work or for printing.

When editing, it is possible to delete text or insert new text. Sections of text can be moved or copied to other locations in the document. Most word processors also allow the writer to search for text and replace text. In other words, it is possible to find all the instances of a particular word automatically and replace them with another.

Formatting a document means preparing it to be printed in the shape and appearance required. Format commands are generally embedded into the document to cause certain things to happen at the appropriate places. Most word processors allow for control of horizontal spacing, density of the print, and vertical spacing. Margins can be set; text can be single, double or triple-spaced, and justified or unjustified. Quotations can be offset and layout with headers or footers can be specified. Other special feature include boldface and underlining. Pagination and numbering are also entered from the document formatter. Some word processing programs such as Bank Street Writer format text as it is created, while others, such as Appleworks, separate formatting from composing.

More recent advances in word processing have built in a spell checker and thesaurus as does the version of Appleworks that I am using to write this thesis. There are powerful word processors on MacIntosh and IBM computers that

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are very user friendly through the use of windows and prompts. Some of these programs allow a wide variety of formatting tools including numerous fonts and sizes. Desktop publishing programs like Publish It and Pagemaker enable the writer to produce documents that include all the features of word processing as well as graphics and pictures.

Computers and Writing in English: Recent Research

Computers have found their way into the writing program in English classrooms. Some programs provide drill exercises in grammar and punctuation, but the three major focal points that developers of computer use in writing have identified are: (1) in pre-writing, (2) in the act of composition, and (3) in revision.

Programs that assist in pre-writing and composing tend to be interactive by asking leading questions and throwing back ideas entered by the writer for further reflection. Although a teacher might perform this task, the benefit of a computer program is the availability of this stimulus to each student when he or she needs the help. It is difficult for the teacher in an English classroom to get to every student at every stage for every piece of writing.

Pre-writing computer programs can assist but cannot replace the teacher. Even the most sophisticated interactive writing programs are limited and research is

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continuing. Raymond J. Rodrigues (1984) describes some
pre-writing programs and sees them as useful. He also
reviews a program called Writer's Workbench that analyzes
text and judges that it has good possibilities. I will
discuss two interactive writing programs, Writer's Helper
Stage Two and Seen, later because they are the next step in
writing with computers that I would like to explore.

Programs that assist in the proofreading process range
from spell-checking and word-counting to rudimentary style
analysis. Style analysis programs require huge amounts of
memory; but, even then what is currently available is not
very satisfying. Bruce C. Appleby, Kay Gore, and Joan
Dunfey (1985) evaluate four pieces of software: (1) The
Sensible Speller IV, a spell checking program; (2) Quill, a
program that includes pre-writing exercises, word
processing, a library and mailbag; (3) Adventure Writer,
that creates text adventure games; and (4) Dialog, for
creation of lessons and texts in any subject. These
programs are teacher-tested and favorably reviewed.

There is support for the use of computers in language
arts. William Wresch (1984) comments that the "advantages
generally listed for computers are individualized
instruction, timely assistance and feedback, effective use
of student time, a sense of the fluidity of ideas, and a
freedom to produce text." (p.4) Computers in writing are
also useful because research evidence supports the idea that

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the writing process is not linear, as Gail Womble (1985) says: "Current research in composing and revising shows that writing is a recursive process, seldom a linear progression from pre-writing to composing to revising and editing." (p.76) The word processor easily allows for all three of the events to be happening simultaneously.

Gail Womble in another article (1984) makes the following observations about students who write and revise with word processors:

1. Students tend to "stay" longer with a piece of writing - adding, deleting, moving text - than they do with paper and pencil.
2. Seeing what they write as it appears on the screen seems to help students better determine what changes and corrections they need to make.
3. The physical act of effecting these changes is so much easier with the processor that students often take more time to revise than if they were working with pencil and paper.
4. Students working on the processor seem to find it easier to develop a sense of audience. (p. 37)

Some students are able to compose at the keyboard, others prefer to use the computer for later drafts only. Some still like the "feel" of pencil and paper. Cynthia Selfe (1985) says: "We cannot, therefore, even as computers become more common in the work place and in schools, expect every student to embrace the computer as a favorite composing tool." (p.64) However, John Evans (1985) finds word processing helpful in monitoring student work:

The computer also made it easy for me to monitor the whole progress of a paper. With multiple drafts on disk, I could chart the progress of a student

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writing over a whole semester. This was a helpful and readily accessible record. (p.84)

Frequently, the research shows that word processing does not substitute for good instruction in writing as Elizabeth Sommers (1985) points out:

> The message is loud and clear: word processing must be used integratively with sound composition instruction. We won't be able to place our writers in front of word processors and expect them to learn how to revise by themselves. (p.7)

Teachers will have to discover how best to integrate word processing into the writing class. It is possible that, because every situation is different, the use will have to be custom made to fit the circumstances. Lillian Bridwell and Ann Duin (1985) say: "Our studies of student writers are ongoing and despite our limited evidence that word processors alone make a difference, we're convinced that word processing combined with instruction in invention, organization and revision, can make a difference in our writing classes." (p.121)

Leo D. Geoffrion (1983) cautions that word processing jargon and syntax must be learned and effective editing must be taught; but, by focusing on idea production rather than text production, students will benefit from the use of the word processor. David Eccles (1986) used a simulation program, Flowers of Crystal, to get students working in groups and writing their responses. He wanted to "use the computer in a creative way, to provide a stimulus for

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purposeful group talk and a motivation for writing within meaningful contexts." (p. 76)

In an attempt to improvise with the word processor, Judith M. Newman (1987) had students search for forgeries that she had embedded in literary texts to develop consciousness of style. She has also devised a synonym substitution exercise and an activity where students dialog with a piece of poetry. Although it is possible to do these exercises with pencil and paper, she found that "it provides repeated access to particular passages without having to duplicate them" and "it lets students revise their decisions and have clean copies of their work easily." (p. 114)

Some studies point out drawbacks and cautions about using computers. The computer screen in the classroom is visible to all who pass by so there is a loss of privacy. A certain level of keyboarding skills is necessary for a student to use word processing effectively. In many settings access to computers is limited. Often, compatibility of machines that students have at home with what is available at school creates problems. Gerard Brooker (1984) describes an interesting problem where high school students were hiring an out-of-school "consultant editor - word processor" to revise essays before grading after teachers had made initial comments on earlier drafts.

With computers in the classroom, a teacher may face additional problems since now he/she must not only be a

writing instructor but also a technical consultant. Often a teacher is run off her/his feet in the lab with twenty questions facing him/her at once. The technology brings its own special problems when the computer "bombs." Nothing is more frustrating than the accidental loss of files, not to mention machine breakdowns; and, since a computer is a machine, it will eventually break down.

Despite some of the difficulties, computers in English are becoming a fact of life. Denise Trefle (1983) suggests that for teachers to be credible critics of computers they must be familiar with them. On the fear of computers stifling imagination, she says: "Machinery is not necessary for a bankrupt imagination nor are the two necessarily causally related." (p. 25) Sherwood C. Dees (1984) also sees problems; but, he feels that "teachers must be willing to retool. Teaching composition on microcomputers requires English teachers to expand their exposure to high technology." (p. 22)

In answering the question, how to get started, Carolyn Ann Curtice (1984) advises not to try to do everything at once. She suggests that the teacher become comfortable with the computer and should sequence activities carefully. In many classes, there are students with expertise who can be a source of help, especially as the teacher sees the classroom situation changing. "Its tough to have two, maybe three, different activities going on at once during each class, and

you must first allow time for your adjustment to what seems like a loss of control." (p. 33)

A useful book for teachers getting started is <u>Writing &</u> <u>Computers</u> by Colette Daiute. The book promotes the use of the computer as a writing tool. Daiute is a psycholinguist who has studied the effect of computers and other writing instruments on oral and written language development. She addresses such questions as "What writing activities are better done with computers than with pens or typewriters - and vice versa?" "Are the benefits of using the computer for writing and writing instruction worth the complication and the expense?" "How does the computer affect writing quality?" "How does the computer affect human thought and action?" She contends that writing tools affect the process of writing; and, with the computer as instrument, writing is more like talking.

In the first section of her book Daiute discusses the writing process. Writing is a social, physical, and cognitive process. More and more research points to the fact that the writing process must be well taught no matter what the writing tool. Therefore, Daiute's emphasis on the writing process should be very encouraging to English teachers. The computer enters the process as a tool that for many can be of assistance at the various stages of writing.

Writing as a social process can be enhanced by the computer in several ways. First, because of its interactive nature it may help the writer develop a sense of audience. Second, the computer is a more public writing tool than pencil and paper and lends itself to collaborative writing. The computer can also be networked, used as an electronic bulletin board, or used for computer conferencing.

Daiute explains that as a physical process, writing for some is aesthetically pleasing with pencil and paper; but, by using a powerful machine to do some of the tedious work involved in editing and revising, writers can be freed to spend more time on thinking and creating. She contends that the most efficient use of the computer for writers is by touch-typing.

She goes on to say that as a cognitive process, writing is a powerful human activity and language professionals must focus on how students learn to write. Because of the computer's interactive nature it can serve as a writer's alter ego. The computer can be a "small, manipulatable laboratory for the students' explorations and discoveries." (p. 64)

Summary

This chapter reviewed the use of computers in schools. Comments on the impact of computers in society generally were followed by remarks on the use of computers in

classrooms for various purposes. The main purpose of this chapter was to review the use of the computer in the writing classroom. I defined word processing and then presented some of the research about the value of the word processor as a teaching tool for student writing.

Overall, there is support for the use of the computer in the writing classroom. Researchers found value for the computer at various stages of the writing process. Particularly, the computer seems to take the drudgery out of revision and editing. Most of the research showed that the computer is a tool that does not replace good teaching. The writing process must be well taught no matter what the writing tool.

The next chapter will present an actual experience of implementation of computers in an English classroom through collaborative action research.

Chapter 5

Story of Implementation - The Archbishop MacDonald Experience

Background

I was fortunate to be able to start my investigation in the early spring of 1987. My relationship with Archbishop MacDonald High School in Edmonton, where I had been teaching just prior to my full time attendance at the University of Alberta, couldn't have worked out better. Two English teachers, Wayne and John, were interested in collaborating in a project to implement the use of computers in their English classrooms.

The two teachers and I implemented the use of the Appleworks word processor into two English 10 classrooms with the purpose of improving the teaching of writing. We were interested in the effect of the word processor on the writing of high school students, in particular on the act of revision. We also wanted to investigate the problems in logistics and the attitudes of students and teachers to the word processor in an English classroom. We chose a matriculation English 10 class with sixteen students and an honors English 10 class with 32 students. The choice of

these two classes was mainly because grade ten seemed a logical place to start and the computer lab was available at the same times.

Prior to the implementation a number of the students were already using the word processor for essay writing. In fact, in both groups over half of the students were either able to type or use the word processor. Although it was never stated that way, the expectation was that all of the students would produce their written work for English on the computer.

Archbishop MacDonald is a special district school that houses an honors program and the International Baccalaureate Program as well as a regular matriculation program. The school has a recent history of innovation and the implementation of change. The honors program was developed by the staff over a five year period starting in 1980 and the baccalaureate program was introduced in 1985. During the same time period the school has also developed a unique career exploration program. Much discussion of gifted programs and learning styles and other educational issues have been a matter of course at staff meetings.

When I approached Wayne and John, they needed little convincing to participate in this project. Wayne indicated that he has always been interested in improving the revision process and John said that he felt it was time he "got with it" in terms of becoming more familiar with the computer in

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schools. Wayne is the English department head and an experienced English teacher. John is the music and drama teacher; but, he has also been teaching English for several years. I am an English teacher with a B.A and B.Ed. in English and twenty years experience. We had the full support and cooperation of the principal, as well as the computer processing teachers, Henry and Rosemary.

Because I had been the computer processing teacher and was familiar with word processing, we decided that I would do some instructing in the use of the Appleworks word processor. Wayne had some familiarity with the word processor whereas John had less experience. Eventually, they would develop enough expertise with the word processor to provide assistance to students when necessary.

This project was a collaborative effort and the activities were discussed every step of the way. Even though John and Wayne were enthusiastic about the project, I knew that I had more at stake than they did. I was very conscious of the pressure of time on teachers and hoped that extra work for them would be kept to a minimum. Time permitting, we hoped that Wayne and John would be able to keep some notes, observations and reflections on what happened.

Since I had the time, we decided that I would assist in the planning of the project and keep a journal. I would instruct on the use of the word processor, observe classes,

interview students, interview the teachers, provide what
expertise I could, write up the proposal, negotiate with
administration and other staff when necessary, and supply
what literature we might need on action research and word
processing in English. I would write up the final report.

The Project

Although the theory of action research was mainly my
responsibility, the project was designed with the four
moments of action research described by Kemmis and McTaggart
(1982) in mind. Their Action Research Planner puts it this
way:

> To do action research one undertakes
>
> (1) to develop a plan of action to improve what is
> already happening
>
> (2) to act to implement the plan
>
> (3) to observe the effects of the action in the
> context in which it occurs
>
> (4) to reflect on these effects as a basis for
> further planning, subsequent action and so on,
> through a succession of cycles.

The preliminary plan which was used to get the project going
is included as Appendix A.

Action Taken

I visited with the principal and gained his approval
for the project before I discussed the finer details and

wrote the preliminary plan with Wayne and John. There are two computer labs at Archbishop MacDonald and the downstairs computer lab was available during John's class but it was necessary to negotiate access for Wayne's class because Rosemary was scheduled to conduct a typing class in the downstairs lab. Fortunately, the upstairs lab was available and since a new semester was starting, Rosemary offered to take her typing class upstairs. The downstairs lab is more convenient for the English classes because of proximity to the regular English classrooms and the library. Wayne arranged for the purchase of disks and computer paper. With the help of Henry, we prepared program disks and data disks for student use. I also provided Wayne and John with an article on action research and an article on word processing in English. I do not know if they read the articles because I did not ask.

I visited both classes on a number of occasions within a two week time period to teach the word processor. With Wayne's class, I spent one period with a lecture and demonstration which I do not think was particularly successful. I brought one computer into the classroom and demonstrated features of Appleworks while the students watched and listened. This was necessary because of the unavailability of the lab that day. In John's class, we worked with hands on right from the start, which was much better.

Specific Activities

As part of the early development of the project, Wayne came up with the idea of placing on disk a sentence revision exercise that has been available in print in our department. In this way we would be killing two birds with one stone. Students would be practicing the word processor and at the same time working with sentence revision. The revision exercise deals with problems of style. Wayne typed in the exercise and then we had it transferred to each student's disk. The students worked on this exercise for several class periods. The same process was used in John's class.

The next activity that we planned, again at Wayne's suggestion, was to have the students transfer an in-class hand-written essay to the computer and then to use this as a draft for revision. Could the student's strengthen a paper composed in one class period by taking some time and using the power of the word processor? We saved the originals on disk and then renamed and saved subsequent drafts. We also printed final drafts. We used the same activity in John's class. This activity also took several classes to complete.

Throughout the implementation, the teachers, including myself, were available to students to assist either with the word processor or the revision itself. We also continued to monitor the progress of the students by observations, by viewing what they had on disk, by looking at and assessing

their final drafts and by discussions with the teachers and myself. Normally, I would talk with Wayne or John after a classroom activity. We did not meet as a threesome because of the time schedule. In reviewing the study, a three-way discussion might have been useful if it had been possible.

At the end of this sequence of events, we spent a whole class period with each of the groups talking about computers and writing. We audio-taped these sessions. I also audio-taped a twenty-minute discussion with Wayne. Unfortunately, the session with John's class failed to tape because of some kind of electronic interference. Nevertheless, I was able to note some of their comments and later they provided us with some written reactions. I transcribed or summarized whatever I was able to of these conversations. I provided these transcriptions to the two teachers. At this stage I started writing up the project while the teachers continued with their regular programs.

The Nature of the Change

Before I deal with some of the teacher and student reactions to the project, I will attempt to identify as clearly as possible the nature of the change that was implemented both from the teacher's point of view and the student's point of view. Teachers talked about computers and writing to each other and to students. Students were taken out of the regular classroom to the computer lab when

it was appropriate. Teachers read articles about action research and computers in English. They talked about, planned, and provided activities to integrate the computer into the English classroom.

They allowed an outside collaborator to teach word processing to the teacher and students and allowed the outside collaborator to be present in the classroom at other times. The teachers themselves did hands-on computer activities. Some team teaching occurred. Wayne arranged for the purchase of disks and computer paper and typed the sentence revision exercise on to the disk. In the lab, the teachers circulated and dealt with student questions about word processing and writing. Teachers had to consider the time element and integrated word processing activities into regular activities.

Students, as a group, left the regular classroom and went to the computer lab where they experienced hands-on activities with the computer and word processing in an English class. Students interacted with an outside collaborator (lecture, demonstration, discussion, one-on-one). They were required to do a revision exercise on the computer. In the honors class, because of the size of the class, students doubled up and cooperated on writing assignments. In both classes, there was a significant amount of consultation between experienced and inexperienced users of the word processor. Each student had a disk, where

work was saved. Some students found it necessary to gain access to computers outside of classroom time. Final drafts of assignments were produced on hard copy. Students participated in discussions with each other and with teachers about computers and word processors in writing.

Student Response - Matriculation Class

The students in the matriculation class provided us with some valuable insights. The class met to tape a discussion session about the project; but, unfortunately the taping failed. I had to recall some of the things that were said. The group was a little hesitant to talk freely at first. I found that I had to do a bit more prompting than with the honors class. A couple of the students did not respond at all. Even when I specifically asked these students a question they gave very noncommittal answers. However, once the others in the class warmed up they were quite candid.

A couple of students felt that the sentence revision exercise was too long. They also did not care much for transferring the in-class essay to the computer. Some students said that they composed at the keyboard, but most of them were more comfortable with pen and paper for the first draft. They thought the word processor was useful as a revision tool. A couple of the students were concerned about having a choice. They want the freedom to decide

whether to use the computer or not. One student observed that typing skills were really important to the level of comfort with the computer. Some felt pressure that others were proficient and knowledgeable and they were not.

Students generally felt that having skills with the computer was important and foresaw that younger students in grade school will have the skills necessary long before high school. These people will have the same comfort with the computer that present high school students have with pen and paper. Most students in the matriculation class expect to continue to do the rough draft on paper and later drafts on the computer. One girl preferred to do the whole process the old way. She admitted that her typing skills were weak. She didn't think she would ever be comfortable with the computer.

Student Response - Honors Class

Students in the honors class generally favored the use of word processing in their writing for English, but only at later stages. Most preferred to do the first draft on paper and only later enter it into the computer for the purpose of revision and printing. Many liked the fact that the computer produced neat copy and that it was easy to delete, move, and change text without having to recopy the whole thing. The following is a partial transcript of a class discussion about the project:

T: I would like to put our conversation on the computer as well as on tape so it is important that I have people talking one at a time. I think it is also important from the point of view of hearing each other because I want this to be a sharing occasion with each other as well as Mr. S. and myself. I am looking at the whole issue of word processing in the teaching of writing. Now, some of that has to come from you - like what happens? And I have a whole bunch of questions that I was going to ask but I'd rather maybe at this point anyway to open it up and have somebody just respond about what they thought about the project we attempted when you think about using the word processing in writing - about what comes to mind that benefits students.

Linda: I find that I mostly like doing my revision on paper first and then typing it all out at once not just looking at the thing on the computer and then composing as I go. It works better for me that way.

T: So you do your composing on paper...

Linda: ...and then I just type it all out - like that.

T: Anyone else have any experiences like that.

Bill: I find it more - I find it easier to use the computer to do the whole thing then you don't have to scratch it on the paper. It's all nice and clean and neat and tidy and you read what you are writing after you have written the paper. So you don't have to go back and when you read through it on the computer it's easier to read cause there are no scratches or arrows pointing everywhere or the arrows are done for you.

T: Are you saying you compose ...

Bill: ...on the computer - yeah.

Alice: Um. I think it's good like if you're introduced to the computer and like you can just - like when you are thinking you can just write it all out but I think its better like if when you are done writing it all - like you compose it - you write it all and then get it printed up and read it on there like - when you are reading over

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it we found that after when we printed it out everything is taken out and its better.

T: Do you compose at the computer? What do you find more comfortable?

Alice: Writing it out on paper and then printing it out on computer - revising it on computer.

Sam: I was going to say I don't think its - you can't be as creative on the computer when you are trying to revise an essay - its easier for me to write on paper first and then just get my good copy on paper and then just move it to the computer for the typing.

T: You can't be as creative at the computer?

Sam: It doesn't feel right when you are just writing on the computer.

T: Any idea of why that might be?

Carol: Well because it takes time to type ...

T: All right so if you are not a good typist - thoughts are coming and ...

Carol: You can't get them down fast enough...

T: You think if you were writing long hand you would be able to capture the ideas that are in your head.

Joe: But I think if your typing is strong you would find it easier.

Sally: But if you use the computer and you start right from scratch and you put everything on there - you make a mistake you go back and you change it and if you can type, well, you can be a lot faster than writing it out and I think when you are editing you want somebody else editing your work and you shouldn't be there - they should be by themselves

The conversation continued for some time. I included the preceding excerpt as a sample of data gathering in the action research process. I summarized the remainder of the

conversation in the series of points that follow. I have
included all of them because as further cycles of
implementation occur I would like to reread these points to
remind me of some of the thoughts students had.

Summary of Student Comments

There were too many people in the lab. Someone
sitting beside you slowed you down, especially when
you disagreed. You should edit by yourself and then
have your partner edit your work when you are not
there.

A big disadvantage - After I had finished typing
the whole document, I lost it and had to do it all
over again.

It only takes a few seconds to make changes on the
computer. You don't have to rewrite the whole
thing.

I prefer to do early drafts with pencil.

I think about it more when I am writing at the
computer.

The computer is more enjoyable. When you don't like
something it is easy to delete.

But when you delete something it is gone. On paper
if you cross it out you can still see it.

The computer provides legible work.

On paper you can see the whole essay in front of
you; on the computer you can only see one screen at
a time.

Better software can overcome a lot of the problems
mentioned - for example deletions can be remembered.

This computer has memory limitations. There was no
warning that the memory was full until too late.

The sentence revision exercise was too long and
boring.

I would like more explanation of the various functions of Appleworks.

A person needs to become really comfortable with the computer to use it effectively.

At the moment it is inconvenient to get access to the computer. Pen and paper is available all the time.

You can brainstorm on the computer. Just type your ideas in without worrying about mechanics. You can organize later.

Computers are sort of cold. I am more comfortable writing by myself, in my room.

I do my whole essay first. Then, if an outline is required I do it after.

Students should be taught typing and computing skills at a younger age. Someday students who come to grade ten will be proficient on the computer and be more comfortable than we are.

Computers will free us. Enable us to do things we could not do otherwise.

Typing skills are important.

My computer at home is different than the one at school and I cannot transfer my files. I can only do my work at one place or the other.

It is easy to learn to use the computer. At the beginning of the year I could not use the computer, now I can.

Some people capture their ideas faster with the computer, others with pen and paper. Depends on their typing skills.

Teacher Response

Both teachers viewed the word processor as a tool that has value as an aid to the revision process. One teacher confirmed a belief that it was especially important to teach

the writing process and that the computer may assist but in no way replaces this step. He also found that some students revised the in-class essay to the point where the original was better than the final draft.

I have included a large part of the discussion Wayne and I had because it is instructive about the use of computers in the English classroom as well as about the process of reflection in the action research cycle. The inserted comments are my later thoughts about points in our discussion.

Discussion With Wayne

> Wayne: Somehow separate the writing process from the computer – they constantly see the computer as presenting the final product. Apart from Paul – Paul is one of the few that is able to feel very comfortable with the computer at various stages of the writing process.

> Ted: What about the boy by the window.

> Wayne: That little rascal, you know what he was doing – what he does is he doesn't do any planning at all – he just as the mood strikes him goes and composes at the computer. What this fellow is going to have to do – if he wants do it correctly he is going to have to go back and take it through the various stages – Because where he should be doing his revision knowing how he writes essays and the quality of his essays. His structure certainly has to be taken into consideration.

> Ted: He suffers from – He says he writes his outline after he has written his essay but you can tell.

> Wayne: His essays lack coherence, they lack unity. His sentences very often are tentative. They'll

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be a whole series of ideas strung together
without showing the relationship.

Note: There are issues in the teaching of writing that are

perennial. Will there always be some students who write

their essays the night before they are due? I do not think

computers will change that. Other students create outlines

after they have written their composition only because the

teacher has demanded an outline.

Ted: Now, Paul, on the other hand you think...

W: Paul, potentially he's a pretty good writer but
again I think Paul still needs a lot of extra
work in the initial stages - but they all do.
It's just that they feel more comfortable - Paul
feels more comfortable using it (computer) in the
initial stage. The other students protest a
little bit because they are not fluent with it.
See, but I fell right into that trap too when I
started this whole process out I thought somehow
we could skip the initial stages by having the
students write it in class beforehand. That's
why the revision - the actual revisions were not
that successful.

T: So what are you suggesting that you would be able
to...?

W: Start - maybe have some brainstorming in class -
have them write nothing down.

T: You mean not even their thoughts.

W: Nothing. Not a thing - just brainstorming. Then
say you have ten minutes in the lab, just write
down in point form all your ideas. Then come
back the next day and start giving it some
structure. See, what you would have to do is to
reinforce the writing process according to recent
research - you can't bypass it. And so what my
students, what they ended up doing - they felt a
strong obligation to revise even where in some
cases no revisions were necessary and so their
revisions were not always that effective. Like

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little Laurie she got 86 the first time around.
Her second one – I told them I wouldn't give them
any less if their second essay was not as good –
because she has a certain charm in the way she
writes – she has a voice of her own – excellent
writer. But she remained so conscious of trying
to revise that she was revising things that
weren't necessary. She has a really nice balance
but she took the balance out.

T: There has to be some way that this whole thing
happens naturally. Now my question is just
how...

W: That's why I asked the question about access at
the end. That really is the problem. When you
have such a large group, how do you get the
students – like for John's group that's a nice
size.

T: Now, if you had a class with one per computer,
would you go in more often.

W: You see then I could... If I had a smaller class
then I could cope with each stage in the writing
process. If I had a class of seventeen,
eighteen, then I would go in there and we could
brainstorm – do some of that original revision.
You see what I do in class, I have the whole
writing process set out.

T: Before we did this project, did you have them
writing occasionally in the class – do a
brainstorming event and then...

W: Oh yeah, most of the assignments that we are
doing over the year they will bringing them up to
me on a regular basis. They will be writing in
class and then I will say that I expect that you
have gone this far in the writing process and
expect most of you to come and see me during this
class. So they will do some revision, I'll take
a look at it and send them back and they will
revise that particular part. We start off with
the brainstorming, then just the general
structure, then with thesis statements,
introductions, main ideas. So there will be a
certain staging in all this and at each stage,
students come to see me.

Note: Wayne confirms the observations of other researchers in the use of computers in writing. There is no substitute for teaching the writing process. Computers enter only as a tool when they are appropriate.

T: So do you see an opportunity for it to happen with computers?

W: Sure, you see my problem was that I tried to bypass some of these things. You can't. You really can't. You can't throw...

T: Will the computer, how will the computer assist you in that? As opposed to doing it here, doing some brainstorming, jot your ideas down and then talk about some organization. How at that stage of the game?

W: No but... The computer's major use is once you get towards the finished product, because it doesn't really help you in the initial process that much. No, the difference between writing the ideas down on paper and putting them on the computer - there's no great advantage there. There may be some - say listing all the ideas, then eliminating some - the ones I have left those are the ones I'd like to deal with. Or once you get to the organizational stage - saying I want this idea first, I want this idea second, this idea third. It could help you there as well. Once you get into the more substantial changes, that's when the computer becomes critical or could be. Once you have your order, once you have your structure, then you start talking about links between ideas and maybe some nuances of language and the computer can help you because you can try different - if your sentence doesn't work - you can just leave it for a while and come back to it or you can make some revisions and say well there are two sentences that express this idea and I am going to leave them alone and come back to them later.

T: Next year I am intending to implement something but I still not really seeing my way clear.

W: Its really come clear to me that you can't bypass the process.

T: And there is support in the literature too. That you can't escape the teaching of the process – the pedagogy of writing.

W: See, the students really want feedback. They want feedback constantly.

T: Yes, they do and that's so important and that is where it becomes a problem and you were mentioning one time that you were on the run the whole time. Is that different than when you are in the class?

W: Well they come and see me. Its exhausting and I am really tired at the end of a class like that but we get a lot done.

T: That's right and in a way they monitor themselves in a sense because they will be looking to see if there is somebody with you. They will continue with what they are doing whereas at the computer they need you right now.

W: You see in my class when they are lined up three deep and the student comes up and I say what are you trying to say here. When they are in the lineup they realize he is going to ask me the same thing and they may go back to their desk and work on it some more and come and see me later.

Note: The individual help of the teacher is still needed whether in the regular classroom or in the computer lab. Writers need response to their writing. Strategies such as peer editing, where a partner provides the writer with advice, and writing circles, where a group provides feedback to the writer might take some of the pressure off the teacher. These techniques are possible in the computer room as well as in the regular classroom.

T: One of the things we were attempting in this project is to find a way of introducing the word processor into English. I am not sure we have progressed. How do we discover...?

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W: Well I certainly know what I wouldn't do. I would never have them revise after I had them do an essay in class and go to the computer. It really goes contrary to everything that should be done.

T: And what about this sentence revision exercise?

W: I'd cut that down and I would concentrate not so much on the types of errors but on the types of functions. Like there are certain types of functions - I would concentrate on - sure it would be a wordy sentence - but I would not concentrate on the wordiness in the sentence but I would concentrate on the deletions. Instead of going through this - too long and complicated and took way too much time. They picked that out and I appreciated their honesty.

T: They were very candid. Very fine group.

W: That little girl saying good instead of well. She has been doing that all year and I have been standing behind her and correcting her a couple of times and she was laughing.

T: They are a wonderful group.

W: You sure see variations of attitudes toward the computer.

T: Uh um. So how does one integrate that into the use of the computer? Should we be requiring everyone to be working at the computer? Is that a legitimate requirement?

W: I think if the computer was not so unwieldy they would feel better with it. If it was something that just before they were going to bed, by their night table if they had a good idea they could just quickly write it down right there. If they could do that sort of thing with it I know that they would feel a lot better.

T: And I wonder with the problems of access, and listen, this school probably has better situation than most. So with these problems of access there, is it worthwhile still pursuing it?

W: I think it's worthwhile. I am still not
absolutely sure on how I am going to do it for
the next time.

Note: Each teacher has peculiar circumstances of access and

availability to computers. Through action research each

teacher may have to discover and rediscover what works best

for his or her students under the circumstances. Also some

issues remain which just have to be endured. For example,

the fact that the screen is in public view may result in

some loss of privacy.

T: How would one discover what it is to do next?

W: I'd like to somehow get my size down.

T: In number of students?

W: In number of students.

T: So that you might be sending in sixteen or half
the class in?

W: What I would like to do is not just to say ok
students we are going to the computer lab and I
just go individually to them. I don't want to do
that. What I would like to do is that as a
group, just as you saw the group working today,
as ideas would be coming that students would be
able to make a notation of ideas as they hear
them. Because I think that some of them feel
really isolated. Also they're in their own
little cubicle and they feel somehow as if they
are supposed to create something just on their
own just at that moment.

T: Yeah I got the sense of a couple of them saying
those kinds of things – the coldness of ...

W: And then at the same time they really felt that
the computer was making their words public. That
here is something really personal and private
that they were writing down and its on the screen
in front of them and available to everyone else.

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T: I must say I have experienced that occasionally working in the lab. Last year when I would be composing a paper I was working on for Al or writing a letter and one of the students wandered by....

W: Covering the screen (laugh). Or when you are working on their marks and you don't want them to see what you are doing yet.

T: So there is that problem and I don't know how to cope with that one. Whether that feeling of privacy is a feeling that in early stages it is not ready for public viewing. But let us say that the culture evolves where that's all right. As a matter of fact someone could say hey that's a neat idea you have there as they wander by. I mean is there an essential kind of privacy that should never be tampered with or is it merely at this point ...

W: I think it is a certain discomfort. I think anytime you do something a bit new and it becomes a bit public that would make them uncomfortable. One thing that concerns me a bit and Matty had mentioned this about younger people using the computer for their work in language arts in junior high. I can see some real damage being done to children who are not taught the process because in grade ten the students are coming in and they think that they have to sit down at the computer and compose something that is almost finished. You are going to end up with...

T: As a matter of fact there is a lot of the writing that I read - even now I was working with seventeen university students and their writing isn't natural. They're one step removed from themselves and its not a problem of grammar it's...

W: It's essayese. It's a different voice. It's not a natural voice. They haven't found a voice yet.

T: Now, these people haven't used the computer. The problem has been there, but what may happen is we may make it worse.

W: I can see that.

T: Unless the process is taught.

Note: One of the nice things about a collaborative project is the opportunity it provides for discussion of important issues in teaching. Even though the focus of research might be on something like computers in writing, the talk moves to the problem of teaching writing in general as the following part of the conversation reveals.

W: Because it is a very difficult habit to break. Because like Ron was saying when people make their outlines afterwards. There aren't very many individuals that what they write the first time is worthy of printing. Not too many.

T: Well I have been reading some - one of the things I have discovered in my investigation of this whole thing of computers in English I also had to investigate the theory of writing, the teaching of writing, without the computer. I have had to look at all of that stuff and rethink a lot of it.

W: You see that's the whole point I don't think that the theory is any different. I think the basic writing process has to be taken into account.

T: I am rethinking a lot of my approaches to writing, teaching writing. I have done essentially the kinds of things you have done but not enough reinforcement of that act of brainstorming, the act of the creative process as it works, the organizing of that.

W: There is a real temptation to skip, to go a couple of steps ahead.

T: To the finished, semi-finished product.

W: It's a question of time too, you know. I am so rushed in this reporting period and I will be rushed in the next reporting period so what I do is I give a lot of in-class essays. Which is a good skill to have - is to be able to write a fairly good finished piece of work in fifty-two minutes, but I am probably doing some damage to them in the long run because I am concentrating

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too much on that sort of exercise. You don't have the kind of time to contemplate, internalize the ideas and to consider all the potential.

T: There are a couple of books that I have come across and probably you have heard of similar things - one Ken Macrorie writes in a thing called Telling Writing. By 'telling' meaning a process where one finds a voice and there is another by Gabrielle Rico and she talks about right brain and left brain research. I am not convinced about some of that stuff but it does put a focus on the creative side of writing, closer to natural voice. We tend to let the left brain write as though we are writing the finished product and that is where the essayese comes in. She has developed a technique called clustering, and it is brainstorming essentially. You put a word down and from that you draw other ideas, words that associate with it and once you have done this kind of a clustering around a word or a phrase, then you draw the ideas out that are speaking to you and you start writing. Some interesting work and exercises that she provides that I am going to have a look at. It is a library book and I am going to see if I can order it.

W: Along those lines it would be interesting to see what learning styles the students have.

T: You do get a picture of a variety.

W: A lot of this struck me today because I haven't really talked to them as a group about this.

T: We don't talk about that very much. I don't think that I very often talk to students about how are you comfortable in your writing or your thinking about English in general. How do you approach it? How do you go about it?

Note: The thought occurs to me that we ought allow students more opportunity to talk about how they learn. Just as there is a movement in the teaching profession to be reflective about one's practice, we might encourage students to be reflective learners.

W: Like Bill is a pretty good writer, he is not bad and when he says I do it the night before, he does. It's not bad - he's seventy-five - but it could be eighty-five. And Jennifer is very deliberate and I know that weeks ahead of time works on her essay. She goes over and over it.

T: I have to be quite deliberate. I have to work on it a long time ahead of time. Like my son will crank out his essays the night before.

W: I can't either.

T: He is writing until two and three in the morning and turning it in that day.

W: It takes me numerous revisions to get something natural.

T: Well, one of the things I am thinking about in our approach that we used here - for us as teachers to research our own practice and improve it. Institute change in it and that's what I have been attempting to do and this is what I am going to be writing about a bit too as well as word processing. I am going to write a bit about how we go about instituting a change and reflecting on it and changing what we do. Where do you go from here?

W: At the day of inservice where English teachers got together and so we were asked to describe a project we had done with children and so in my group I gave a description of what we are doing here. It was interesting to see their different reactions. Some were really interested asking how do you actually do that. Some of them kind of backed up - you could just see there was a glazed look that formed. They were not interested whatsoever.

T: There is a lot of resistance and I meet it over at the university. My approach to it is - first of all, there is a lot of misconception about what this instrument does. Somehow they think that it replaces a basic human activity - creative activity. We discovered that's not true. Yet that is a feeling that we cannot discount because it is there, we have to understand it. In the end as English teachers we have to cope with the word processor because...

W: It's here.

T: It's here.

W: And it's useful.

T: So we have to integrate it somehow, come to grips with it.

W: Sally said it, that the errors you make come right off disk. You have to print it out there.

T: It's also going to change the way we mark things, because I must admit and I am disappointed, I must admit that marking has been influenced by the appearance of it and the number of spelling errors. And now when every kid in the class turns in a clean copy with no spelling errors – because we will be soon using spell-checkers and I don't believe – some people regard them as being – as ruining student ability to spell – it's not true because it merely highlights errors – you still have to do the work of correcting. But you will get these letter-perfect in a sense, so you will be marking for other things, you will have to focus a lot more on the content and style.

Note: At this point we had a discussion about departmentals which I have omitted because time and space do not permit. The issue of evaluation requires study and thought especially in light of the increased use of the computers in writing. There are several schools in Alberta piloting the use of computers to write the diploma exam in English 30. Will this become the practice in Alberta?

T: Anyway what are you going to do from here?

W: I am going to go in again but somehow I want to keep my numbers down. I am going to stay as close to the writing process as I can. I want to try to do the same thing as I would in a

classroom - just using the advantages of the word processor.

T: Do you think you will continue next year.

W: Yes, but I would be selective about the group I would use it with and I would think primarily of size. Because it really became a burden after a while.

T: At one point you had mentioned that if you had five computers in the classroom...

W: That would make a difference because what I could do - I could use the process that I normally use in class and have them working on that as well. Because access is a problem. I have students in here all the time (points to English prep where there is a computer and a printer). That's good. It wasn't used in the first part of the year, but now it is used all the time.

T: As a result of our project?

W: They are not always using it for English. They use it for Social Studies or other courses which is nice. .

T: I am wondering, although we are in financial restraint times now, but I mean down the road as English departments, should we be requesting computers.

W: I don't think that each English teacher would want that either. For me give me five or give me thirty. Anything in between would be a waste. Because I would only be sending five at a time. See, within a classroom I can organize, every one can be doing something and there won't be any time wasted. But if I have to go to the computer lab and half of them going into the library and I am going to be running around from student to student checking what they have on their machine, then I am just not physically up to that.

T: In a way it does change the approach to teaching.

W: You mean taking the entire group? Oh sure. In some way I find it restricts me. If I had a smaller group where I could give more precise directions to the entire group, I'd find it

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easier or as I said if I had five in here, then restrictions would be equalized.

T: We would still be in the mode of pen one on one with paper.

W: No, not necessarily, I would like right now with the honors twenties, some I would be working on the writing process with, but I've got them doing group work on different things while they are reading the novel for individual presentations. Now while they are doing something like that there is absolutely no reason why a group of five could not be working at the computers. You could have four different activities going on at the same time.

T: Which you do already?

W: Which I do already. It's just that here it would be real nice ... say there is a writing assignment coming up. This is what I want you to be doing and they will work together. The other groups can be taking care of themselves.

T: I really appreciate this. I hope this will be helpful.

W: It has been interesting - it really has.

As I said earlier, I left most of the conversation intact because I want to demonstrate the collaborative conversation as it transpired. The conversation reveals the reflective stage of the action research cycle.

Final Reflections on the Project

John felt that there was a problem using the computer in writing. Two kinds of skills needed to be learned: writing skills and technical skills. When students didn't have these skills, learning them slowed the creative process somewhat. Partly, his reaction can be based on his own background. He said he does not feel comfortable with the computer. He is convinced that there has to be freedom of choice. The students must be free to choose the writing medium they are most comfortable with.

Both teachers were concerned about access to machines and keyboarding skills. My question is whether word processing should be taught somewhere else so that time is not taken away from an already heavy curriculum? At this stage, both teachers are continuing with the use of computers in their English classes informed by the study that we conducted.

The consensus of the three of us is that the project was successful. We may not have discovered anything particularly new or important to generalize to the world, but we have a better understanding of the problems and needs of our writing students. We are thinking about writing and computers. We are looking for better ways of teaching writing. We have a basis for further investigation. The collaborative relationship between myself and the teachers

was very comfortable and relaxed. I did fairly extensive reading in action research and computers in English, but I was careful to supply a limited amount of this material to Wayne and John, particularly on action research, because I was conscious of the time constraints they face. As it was, they were very generous with their time to talk to me about the project.

Summary of Findings

This chapter was an account of a collaborative action research project where I acted as the outside collaborator. I was closely involved because the project was conducted in school I most recently taught in and with colleagues I knew very well. I regarded the implementation as change in my own teaching as well as change for my two colleagues. The following points summarize some of the things we learned.

1. Accessibility and availability of computers is an issue. Wayne suggested that he would work differently with five in his classroom as opposed to thirty in a computer lab. Writing students have to compete with business education students and computer processing students for lab time. Some students have different machines at home from the ones at school. The bottom line is that we work with what we have.

2. Many students prefer to do their early drafts with pen and paper. Present high school students learned to write with pen and paper. Many of them are still comfortable creating with tools they know best. As succeeding generations of students arrive with more experience with the computer, it is possible they will be more comfortable using the tool at all stages of the writing process.

3. Students are generally positive toward the use of computers in writing especially as a revision tool. Most students recognized the value of the computer in writing and expected to continue using them.

4. Collaboration is an important feature of action research. Collaborators provide motivation for each other and there is impetus for the implementation to continue. An outside collaborator who can provide time for writing and reading is of great value. Collaboration is fun and not so lonely.

5. Keyboarding skills are important. Most often, students or teachers who were lacking skills found the computer in writing of less value. My guess is that in the future keyboarding will be taught in elementary school.

6. There is no substitute for teaching the writing process. The research literature and our own experience continues to support this.

The next chapter is a continuation of the story of implementation of change in my teaching of writing. I had completed my year of study at the university and would be back in the classroom in September.

Chapter 6

Story of Implementation - The Archbishop O"Leary Experience

I was informed early in June of 1987 that I had been assigned to an English teaching position at Archbishop O'Leary High School in Edmonton for the 1987-88 school year. The job would involve teaching English 10, 13, and 30. The following piece of reflective writing reveals my feelings about the assignment. I saw this as an opportunity to continue my action research. I visited the school on June 25 but did not do my journal entry until July 6.

> I wish I had written this immediately after I had left the school. It occurs to me now that my research has already begun. Some relationships have been established (begun). I spent some time with Bruce (English Department Head) - he continues to be helpful and reassuring. I also met some of the people I will be teaching with. I saw Jerry, Bill and others; many people whose faces are familiar. I am in an awkward position in that many people know me but I cannot remember some of the names. I will ask Jerry and Bill to continue to introduce me until I know the names.
> I wish I had a staff list and timetable. I realize that I do not know the length of class periods. I will have to get that if I am going to plan.
> Bruce introduced me to Carol who is also teaching English 10. She is willing to help with my planning. She seems like an open person.
> I spent some time with Len, Department Head of Business Education, who showed me the classroom that I will have access to for computing. The lab is

equipped with IBM's on a network hooked onto a hard disk. The word processor that is available is part of the integrated program called Enable. I will have to become familiar with the IBM, networking, and the word processor. Today I started the tutorial at the Education IBM lab at the Universit I hope to spend an hour a day on Enable until I am as familiar with it as I am with Appleworks.

Back to Len, I sensed a bit of resistance to the intrusion of an English teacher into the business education wing. He was very supportive, but skeptical. He worried about the effect of word processing being taught prior to teaching proper keyboarding. If students pick up bad habits, it difficult to get rid of them. He also sees a problem in logistics.

Dave, who teaches both English and business education was interested in my work. He wants to try something with his classes. He might be a good person to collaborate with. He indicated an understanding of the tension for business education teachers. Would I be usurping their territory?

I am excited about the prospects at O'Leary. I have more access than I expected. I wish that I were working with Appleworks but this may even prove to be a better opportunity.

I continued my preparation for the fall by registering in ED CI 453 with Professor Margaret L. Iveson. The title of the summer session course was "Teaching Language and Composition in the Secondary School" with the following objectives:

1. to examine the nature of language, oral and written, through reflecting on our own language and composition and through considering students' experiences, theory and research;

2. to develop strategies for teaching language and the writing process;

3. to be able to analyze advantages and disadvantages of a variety of teaching and evaluating methods for developing language and composition in secondary schools.

The experience I gained in this course was very important because it reinforced what the literature was saying about computers in writing; that is, teaching the writing process is paramount with the computer merely being the tool. I also had the opportunity to think about what it is like to be a writer and to understand better what students experience as writers. The following are two pieces of reflective writing I did at this time:

Typing Dilemma

I will be beginning my action research project in September. I will be integrating computers into my English 10 classes. My classes have been scheduled so that I have access to an IBM computer lab with 24 computers on a network. I will be using the Enable program which has a word processor as part of it. I am new to the school in September and I have been fortunate to have the cooperation and interest of the administration. There is also support from the English department head and the business education department head.

I also sense caution from some people. Business education teachers are concerned that we will be moving into what is their area of expertise. There is worry about the equipment being improperly used and that access for business education students will be affected. There is another particular issue that has surfaced that I will make the subject of this short paper.

There is concern by some teachers that if students who have not taken typing prior to their introduction to word processing in my English class that there is liable to be damage done to their potential typing skills. If the students pick up improper techniques and bad typing habits, it is difficult to break them of these habits later even in a properly taught typing class. I will have to go to the literature to see if there is support in research for this contention.

My view is that word processing skills will become part of a persons repertoire of daily living skills in much the same way that use of pen and

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paper is. Not every student in the school will acquire the high level of word processing skills required in an office setting. It is possible that eventually every person will have access to a computer or word processor for routine writing activities. It becomes increasingly valuable to be able to use the word processor at post secondary institutions. As a graduate student, I would be at a very serious disadvantage if I did have word processing capability.

I am not an efficient typist but the word processor forgives weak typing skills. It is necessary to have some typing skills, probably twenty to thirty words a minute as a minimum. I have churned out many papers at the keyboard and have been happy to be able to do so. There is no doubt that faster typing skills would be helpful, but I cannot wait until I am proficient before using the computer for papers.

Students in high school may also find that the word processor helps with their writing. The problem is what to do with students who arrive in an English 10 class without typing skills. Ideally, they should arrive with relatively good keyboarding skills and familiarity with a word processor. The focus then can be on writing as a process rather than on technical skills. As it is, students will have to be given a crash course in word processing. Some will have typing skills, others will have to be shown the correct finger positions but will have to practice on their own. Many students have computers at home and develop keyboarding on their own. This is where the problem of acquisition of improper typing technique may occur.

As an English teacher, I must plunge ahead hoping to demonstrate that for some students even minimal keyboarding skills still empowers them to produce better work. Under present circumstances, despite the fact that penmanship is a requirement many of us do not write legibly. The possibility of success in writing for some students that the computer may provide outweighs the danger of lost typing skills. The tedium taken out of the revision process and the clean copy, for some students, will be a confidence builder.

The future probably means that students will acquire keyboarding and word processing skills in junior high school when growth of fingers and hands is almost at maturity. Hopefully, the grounding in these skills will be such that potential of business education students will not be harmed. The high

school will have to provide access to computers for
all students of writing as well as for business
education purposes.

Here are some of the questions that I am
thinking about:

If one forms bad typing habits, are they permanent?

When are children ready to develop keyboarding
skills?

Should keyboarding be compulsory for everyone like
pen and paper are?

Does word processing overcome weak typing skills?

What is more important, writing ability or
secretarial proficiency?

Should we keep word processing away from everyone so
that we do not damage the typing skills of some?

Should students arrive at the high school with a
certain level of keyboarding and word processing
skills?

The next piece was also written in Professor Iveson's

class. I realized some things about writing that I hadn't

thought about before, particularly what it means to be a

student writer. Writing is not easy. Sometimes, teachers

make the assumption that a student merely has to sit down

and write. What could be easier? I often come back to this

piece of writing to remind myself what students might feel.

A Reflection on My Own Writing

Although I have been teaching English for many
years, I do not consider myself an accomplished
writer. My writing has been what is necessary to do
the job. The writing I have done consists of lesson
planning, note-taking at conferences, writing
business letters, preparation of briefs and
speeches. Even some of the curriculum writing I
have done does not seem to be real writing. Only in

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undergraduate courses did I do some sustained writing and that was not particularly satisfying and a long time ago. I should give myself more credit for the writing I have done but for some reason I feel like I have been waiting to really get serious about writing.

This year in graduate school I have finally found an opportunity to do the kind of writing that allows me to explore ideas in a real way. I consider myself a beginning writer. I am just coming to awareness of how to control written language to express my meaning. Most of my prior writing felt forced. The task was onerous and painful but now I am feeling much more positive about the prospect of doing some worthwhile and effective writing.

I have been influenced by Jim Parsons who advises writers to write without jargon. In other words just say what you have to say. I also been influenced by a Progoff journal writing workshop led by Terese Craig that I participated in this winter. Journal writing is a way to come to know oneself and the world better. As well, the reading that I have been doing about the writing process has me thinking about my writing much more. For me, the act of pre-writing is doing a lot of reading, which I enjoy, and a lot of thinking, which I also enjoy.

When I write, I tend to look for the perfect sentence in my first attempt. Rather than letting the ideas flow and worrying about mechanics later, I try to phrase the text in its final form the first time. This gets me into writer's block often. I am trying to break the habit by using the word processor. I am trying to write more like I speak. I am find that I enjoy writing more although I still approach writing tasks with apprehension. I am especially interested in a book by Gabrielle Rico, Writing the Natural Way, that explores right brain thinking to enhance writing. I have started using clustering, a brainstorming technique that she describes, and I am considering introducing it to my writing students.

Revision in my writing has been at a minimum because of my habit of writing the near-to-final text on the first try. I have come to understand revision as the task of trying to find my writing voice rather than editing to correct mechanical errors. I think this will also change the way I talk about writing and revision to my students.

Sharing my writing with others is difficult at this stage of my writing career. I find I am very

self-conscious. How am I being judged as a person by what I have written? I am still developing the confidence that what I have to say is important and that I am saying it well. The piece I am working on about what it means to be a father was particularly difficult to share with my partner because it is so personal. Her positive response made me feel that it is worthwhile to continue working on this piece.

For a long time I have been thinking about student writing. How do I improve my teaching of student writing? My interest in the use of the computer to help student writing was the main motivation to pursue graduate studies. As I have read the literature and written about the issues I have discovered, I have increasingly become conscious of my own writing. I am much more aware of written language and how it works. It is related to oral language, but it also has a life of its own. I am much more interested and aware of writing as a process. I am interested in the life that a text takes on as it is being written and its relationship to the writer. Just as interesting is the life of the text after it has been completed and read by someone else.

I will never again take student writing for granted. I am much more sensitive to how complex and difficult writing is. I want to create an environment for students to be supported and encouraged to write for purposes that are important to them. I am sure that most students would have the same writing blocks, the same fear of sharing their work, the same lack of confidence that I have experienced. I want to be sensitive to that. I see the value of reflecting about my own writing to help me understand how others experience the writing task.

Trying to Implement the Change

September came very quickly. Before I knew it I was totally immersed in the hectic world of teaching. I hadn't taught English 13 before; ten years had passed since I had taught English 10; and, five years since I had taught English 30. All my time was taken with preparation and marking. Even though two of my English 10 classes had

access to one of the computer labs, we never did get around to going there. I thought about trying something and continued to teach myself how to operate the IBM and the networking protocol. I even had the business education department head assign files on the hard drive for my students; but, before I knew it the school year had passed.

So what were the real stumbling blocks to implementing the change? I was teaching the writing process instructed by my reading and the coursework of the previous year at the university, but somehow the logistics of taking my students to the computer lab loomed too large. The major problem was just finding the time to prepare for the change. The fact that I had to shift to the IBM and a networked lab also made it difficult. My classes were very large; thirty-two students and only twenty-four stations in the lab. I was concerned about my English 30 students who needed to be prepared for the departmental. Even when some time became available fatigue and inertia reared their ugly heads.

When I was at the university I had an idealized view of research as a teacher. The reality of the school life makes a research stance very difficult. The school culture is not a culture of research. I think I was embarrassed to raise research issues with my colleagues who have so much on their plates already. The mild resistance of teachers in my own department along with the unspoken reluctance of the business department discouraged me. Administration did not

provide energetic support because their priorities are elsewhere. In any case why should my priorities be anyone else's? I had arrived at Archbishop O'Leary with a mindset of research that might have worked at Archbishop MacDonald where I would have carried a smaller marking load and familiarity with the Apple computer. There is a gap between research as planned and research as lived.

Finally, in the spring of the 1988-89 school year I was able to conduct a small project in two English 10 classes with the help of my student teacher, Heather. I had been thinking about this project for a year and a half. I had been timetabled twice so that a couple of my English 10 classes were opposite an empty spot in the computer lab. I had been discussing the implementation off and on with colleagues in the business education department. They had been very helpful and interested and sometimes skeptical. I don't blame them.

One of the teachers suggested I use Sidekick because of its simplicity. I spent a couple of sessions alone in the lab trying to get Sidekick to work. I was unsuccessful. There was a problem of compatibility with the network. Then one of the teachers in the business department suggested I proceed with Enable which is an integrated business package. One of the programs is a powerful word processor. I had done some work with Enable the previous year at the University and then at O'Leary in the fall.

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The following is the action plan I wrote to help frame the implementation for Heather and myself.

Action Plan

Students will write about an experience that had some impact on them. The exercise is found in The Writing Experience p.65. They will frame the experience as discussed and outlined in the text. The rough draft or at least an outline will be prepared before we go to the computer lab.

Each student has been assigned an I.D. number and a password for the JANET network. Each student will have 60k of memory on the hard drive. Since there are only 24 computers some students will have to pair up. I will try to pair students who are proficient with each other so that slower typists will have more time on the computer.

We will take the whole class into the lab after assigning the ID's and passwords. We will teach the students how to log on to the network, change their passwords and then access the Enable word processor. We will try to get them inputting their documents as soon as possible with the minimum of instruction and as much hands-on as possible. We will teach the minimum of editing features such as cursor movement and deleting text. We will teach them how to save the document and how to log off the network. My student teacher, Heather, and I will be available for individual help.

First we will conduct the following survey:

1. Name
2. Typing Skill - courses taken - self taught - words per minute.
3. Do you have a computer at home?
4. What kind?
5. Have you ever done homework assignments on the computer?
6. Do you know how to program?
7. Do you think typewritten papers would improve your mark?
8. Would you like access to a computer at school?
9. What is your feeling and knowledge about computers?

The Implementation

The action plan was a guide but the actual implementation varied according to changing circumstances. For instance, we read the results of the survey but we never did have the time to do a careful analysis. We did get a general impression of the two classes in the experiment from the data and it helped us to pair students.

Before bringing the students into the lab, Heather (my student teacher) and I spent several hours after school becoming familiar with the network and Enable. Fortunately, Heather is a business education minor. We felt that we would be able to bring the class in on Thursday and Friday, February 10 and 11.

Luckily, the first day in the lab was the day of the basketball game which most students attended. We went to the lab with six students in each of the classes. It enabled us to have a dry run - and the time to give a lot of individual attention to the six present. It also allowed us to have six experts when the whole class would be present.

With a small group we were able to give individual attention. The trial run also alerted us to some of the problems we might face when the large group would be present. We found that the machine confused some but others were quickly able to grasp what to do. We got this group far enough to log on to the network, access Enable and start

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typing their documents. We taught them some elementary
revision techniques and cursor movement. We showed them how
to save the document and log off. The next two periods for
each of the two grade ten classes were spent in the computer
lab. For one group I handed out the ID numbers and
passwords in the regular classroom; for the other I waited
until we were in the lab. Assigning these took quite a bit
of time. I should have prepared a card for each student
with this information on it to speed up the process.

We decided to have me explain how to get on the network
to block 6 and Heather to explain to the block 7 class. We
would both be available for individual help once we gave
general instructions. Because of the large classes, 34 in
block 7 and 31 in block 6, and a lab with 24 computers, we
had to double up some students. One computer was sick and
suddenly we were down to 23 stations.

The trouble with giving instructions in the classroom
is that the directions do not make much sense unless the
students are at the machines. The problem with giving
instruct   hile they are at the computers is that some
students are distracted and do not listen. There is also a
lot of noise. Some students get ahead of others. Others
take a wrong turn. Instructions become confusing to
students at different stages of the process.

We ran into a problem when we first fired up the
computers with the whole class there. There is a main

switch which I turned on and then the students turned on the individual machines and monitors. Big mistake! It takes forever for that many machines to get on the network at one time and therefore we had to wait almost ten minutes. For subsequent classes we learned to have the computers running and on the network before we brought the students in.

We had the students log on and immediately change their passwords. The passwords they had been assigned were randomly generated so we thought more familiar passwords would be better. We only had a couple of students who sent their files to computer limbo by creating a password no one knows. I suppose I could have approached the business education department head who might have known how we could recover those files. Instead, the two students in question used a friend's ID and password for their documents.

It takes some time for students to learn the protocol of logging on, accessing Enable and getting to their documents. Only a few students lost their documents from the previous class because they had not followed the instructions for saving and logging off.

The writing assignment was a description of an experience written in narrative style. The assignment was taken out of The Writing Experience. Surprisingly, after four classes most of the students had a printed document ready for handing in. We managed to get them to that stage by just plowing on - a combination of large group

instruction, a lot of individual help, and students helping each other. The business education department head dropped in occasionally which was very helpful. The students that were unable to finish in class time came in at lunch time when Heather or I were available for help.

The students with no keyboarding skills had the biggest problem. Students who were away on the days we were in the lab also fell behind. The keyboarding problem continued to stump me. Coming in at lunch time was wearing since I also had lunch room supervision every second day.

On February 28, Heather was away because of a callback so I took the opportunity to take the classes into the lab to write a response to the experience they had gone through in the computer lab. My goal was threefold; one, to get their reactions for my action research; two, to allow them another opportunity to solidify their knowledge of accessing their files and working with them and; three, to get them typing into the computer without a rough draft. I had them save their responses but not print them. I was concerned with the large amount of paper that was used each time the whole class did an assignment. For some unknown reason the network grinds out blank pages on each side of a document which further increases paper usage. Thus, their responses were on disk. I had them write responses to the following questions:

Do you have typing skills?

What did you find that you enjoyed about this
experience?

What did you find frustrating?

Does using the computer make you a better writer?

How should we do this differently?

The responses were mostly positive and encouraging.
Generally, students in both classes enjoyed working on the
computers. Many liked the change of setting for an English
class. The frustrations for some were those that we had
already identified. Lack of keyboarding was a problem for
about one-third of the class. Some students wrote that
finding their way around the computer system was confusing.
There was not a clearly held view that computers make them
better writers but the majority felt that they would have to
develop the skills needed to do their writing on the
computer.

A Coincidental Discovery

Early in March, Heather assigned a paraphrase of a
speech by Bassanio from the <u>Merchant of Venice.</u> Initially,
we thought we would have half the class go to the lab and do
the paraphrase on computer and the other half stay in the
classroom to do another assignment. Then we would switch
the two groups. We realized that the problem with this plan
was that we would have two assignments to mark and two class
periods used up.

Instead, we decided to put them into pairs to prepare the paraphrase, input into it the computer, and print one copy for the group. The group result would be marked. Explanation was given in the classroom and then everyone moved to the lab.

Some students still had trouble accessing Enable and getting to the input stage. They still needed more experience to become comfortable with the sequence that gets them to the typing screen. Some still missed setting the key for the print window which is part of the network protocol. They worked very well in their groups. They helped one another and really engaged in the activity.

As I thought about the paraphrase exercise, I discovered things about the event that pleased me. I did not regard the paraphrase of Shakespeare text as an especially significant learning tool. I usually assign it once in a Shakespeare unit. This time as I observed the pairs in their work at the computer I observed a number of valuable results. Their was an enthusiasm about paraphrasing that I had not seen before. As the pairs negotiated interpretations and meanings they talked about the whole play. They reviewed relationships of characters and character traits to help understand what this piece of text was saying.

It is possible that the same thing could be accomplished with pen and paper, but I think that the

opportunity to change words and phrases on the screen allows for more experimentation. Psychologically, words on paper have more permanence than those on the screen. As well, the screen provides a focus that is more compelling. The end result was a printed copy of the paraphrase but the most important educational gain was the process each pair went through. There was some sharing of ideas among groups as well, which we did not discourage. This exercise has me thinking about other similar assignments for poetry and other group responses to literature.

This event demonstrates that research in the classroom can lead to discoveries that are not planned for. Working with Heather as a partner led us to change our plan as we went along. For me, this experience reinforced the need to have someone to collaborate with. Action research becomes a stance that a teacher takes in the classroom always watching for ways to improve learning.

Summary

This chapter traced my implementation attempt at Archbishop O'Leary over a two-year time period. My first year there allowed for very little to be accomplished as far as bringing computers into my English classroom. In the second year a small project was carried out. The following points are a summary of the things I learned as a result of the O'Leary experience.

1. Time was a major problem. Being new to a school meant all my time was taken by preparation and adjusting to the new situation. Action research fell lower on the list of priorities.

2. When I was at the university I had an idealized view of teacher as researcher. I had forgotten how compelling the day-to-day life of the teacher in the classroom is. Research thinking slips because the community does not value it very highly. I thought that my research would be at the center of my work but it wasn't.

3. The school culture is not a culture of research. I was embarrassed to make too much of my research in front of my colleagues. They have too much on their plates already. My priorities weren't the priorities of my colleagues and the administration.

4. Collaboration is very important. Someone to work with on the research keeps it going. I discuss this issue thoroughly in the next chapter.

5. Perseverance is an important feature of action research because change takes a long time. Circumstances shift and conditions are not always ideal for advancing the implementation but if the research stance is maintained, eventually the opportunity comes to make gains.

6. Instructions to students about computer use are best done in the computer lab where they experience them hands on. There is a difficult stage that has to be lived through until the majority of students is comfortable with the machines.

7. Action research may provide knowledge that is unexpected. The paraphrase exercise could lead to an interesting approach to studying literature through group work at the computer.

The next chapter presents my reflections on the implementation experience.

Chapter 7

Reflections and Conclusions

Computers in English: What Next?

Some English teachers may say computers and English
just don't mix and will never allow them anywhere near the
students. Some teachers feel that they should do something,
but how to get started? Some of the approaches discussed
earlier in this paper and the Archbishop MacDonald
experience may provide some ideas of how to proceed. A
first step might be to read Daiute's book, but the best
thing to do is to plunge into working with word processing.
Starting small is wise; perhaps one class. The availability
of computers may present a problem, but most high schools
have one or more computer labs.

I believe that action research has good potential for
teachers wanting to implement change into their classrooms.
Stephen Kemmis and Robin McTaggart provide a description of
this approach in their Action Research Planner (1982).
Action research in education, at its simplest, means
teachers researching their own practice for the purpose of
improving the teaching/learning event. The four moments in
the action research cycle: plan, action, observation, and

reflection are something like the natural way most humans operate in their day-to-day activities. The difference is that action research provides for a higher level of consciousness and a more systematic approach. The four moments are often pictorially represented by a spiral, wherein after a plan has been tried, observed, and reflected upon, a revised plan is implemented and the cycle is continued with attention on changing circumstances and improvement of practice.

What we did at Archbishop MacDonald was more satisfying action research into computers and writing than the O'Leary experience partly because of the collaborative aspect and partly because I had more time to do the necessary reading, thinking, and writing. Finding someone to collaborate with, either in the same school or in another, is important. The rather formal sounding process described above becomes easier with a colleague. The value to teachers in formalizing the research and writing it up means that English teachers can become a research community that shares its knowledge.

My experiences in the English Language Arts Council and various meetings with English teachers indicate that English teachers are always looking for ways to improve student writing. For those students who already write well, the computer may help to take some of the tedious work out of revision. For those who are comfortable with pencil and

paper and have legible handwriting, leaving them alone might be the answer. For those with writing problems, including poor handwriting, computers may provide an important opportunity for success. Many studies support the positive effect of word processing but as Ruth J. Kurth (1987) says: "The most important ingredient in any composition program is a teacher who is knowledgeable about the composing processes."(p. 18) Our research supported this point.

About Action Research

I will now turn to some issues that this kind of research generates. First, isn't action research what every practitioner does as part of normal everyday practice? To some extent it is; but, to do action research means to plan, act, observe, and reflect more carefully and rigorously than one does in everyday life. The goal is to gain knowledge as well as improvement of practice. Also, collaboration with others is an important aspect of action research.

I wonder how much theoretical background a teacher needs to engage in action research and how the teacher acquires it. In the implementation of change, can the teacher become an expert in the change by reading and researching and inservicing elsewhere? Is it possible for anyone to walk into the classroom a fullblown expert? Can the teacher begin a change with only vague knowledge or even just an idea, that evolves as one progresses through

consecutive action research spirals? Outside expertise can be sought when necessary, but must change be gradual and incremental; and, should the teacher assume full ownership of it?

I found that the term action research "puts teachers off." It tended to mystify. The term and some of the theory put forth by Carr and Kemmis (1986) and others, like so much educational theory, seems so distant from the world of the classroom. I, personally, don't like the term. However, I cannot think of a better replacement. I also worry about and am leery of the bandwagon effect. Suddenly, action research is an approach everyone is talking about. Sometimes a good idea is destroyed when it becomes a slogan.

What can be researched? I have a strong belief that there is much in the learning/teaching event that cannot be researched - can never be researched by any means. Even qualitative research approaches will not capture the delicate subtlety of such a human activity. Even though I am more comfortable with self-reflective and autobiographical exploration than I am with quantitative approaches, the complexity of human interaction and the vast number of variables still prevents clear understanding. Some of these nuances of human behavior are left to the poet to express.

I sense that many things are left unsaid in action research because of the dangers presented by ruthless

honesty and self-revelation. Often these closely guarded thoughts could be pivotal in understanding and changing educational practice. I know I have left unsaid certain observations that might be too critical of a colleague or a student but the failure of an attempted change could be attributed to these crucial observations.

When I approach teachers with the idea of action research there is little interest. Of course, we are continually being faced with yet another new approach – pursuit of excellence, effective teaching, critical thinking, learning styles, and now, action research. However, there are elements of action research (I will continue to use the term for now) that I find appealing. Imagine the possibility of classroom teachers investigating their own practice with the hope of improving it or teachers writing for other teachers about what they are doing or what they have discovered. Especially interesting to me is the possibility of collaborative work. Presently, there is so little exchange among teachers about what is going on in their classrooms.

This kind of research can have a direct and immediate effect on student learning in this classroom. The situation as it is with all the complexity and 'messyness' is taken as the locale of research. Action research can be democratic, free of the heavy hand of administration, free of distant theory and belongs to the teacher and his or her students.

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What motivation is there for a teacher to engage in
action research, particularly the formal writing? The role
of the teacher is changing and Rob Walker (1986) suggests
that:

> As teaching has become increasingly professionalized
> and the management of educational organizations more
> systematized, so 'research' has increasingly become
> something that teachers are expected to include in
> their repertoire of skills.

Every teacher is interested in improving her practice but
there has to be recognition beyond that. As a profession we
might push for university credit for teacher researchers,
higher income, consideration for promotion, publication, and
time to do the work. But, that's an issue for another
paper.

Collaboration

I want to come back to the issue of collaboration
because it is so important. Working with others helps to
keep the project going. If possible, an outside
collaborator from the university is ideal because then there
is someone who has the time to do the review of literature
and supply what readings are needed to the practitioners.
The outside researcher can provide the outside impetus and
motivation to continue. Teachers with so little time need
someone to be observing, providing a sounding board and,
especially, doing the writing. Care has to be taken that

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the outside collaborator does not impose too much. Power
must be equally shared among collaborators.

The issue of collaboration strikes me as being crucial
yet elusive as an active action researcher. With whom do I
collaborate? Do I go out and find a university researcher
to work with me or some other outsider or do I approach a
colleague on staff? There is not yet a tradition of a
research posture for teachers or administrators in the
field. There are many occasions when teachers talk
informally about changes they would like to see. Most often
the changes longed for are distant hopes for more time for
preparation and marking or smaller classes or more support
from parents and administrators. Less often the talk is
about changes in their own practice. Ideas and materials
for classroom activities are often exchanged among teachers
which is an informal attempt at improvement. Attempts at
formalizing the search for improvement will draw resistance.

How does one convince colleagues and administration
that the research attempt is credible? Whose idea is it
anyway? Why should the time it takes to be involved in
something like this be expended? There may be mild interest
expressed by some colleagues and administrators as long as
there is a minimum of disturbance to the status quo. The
going gets especially tough when special consideration is
needed such as a smaller class or favorable preparation time
or favorable timetabling.

The research activity I engaged in over a four-year period changed me. I found that even though my focus was on introduction of computers into writing, I became reflective about many aspects of my teaching. I have been thinking more about how students learn to write and, in fact, how they learn in general.

Epilogue

When I moved back to Archbishop MacDonald for the 1989-90 school year, I continued my work on the teaching of writing with the main focus on the process of writing. We used the computer lab as a class whenever we thought it was useful. Most students produced work on computer but they did so on their own time. Sometimes individuals or small groups of students worked in the computer lab during class time. The computer has become a routine part of my English classroom. I did not formally conduct action research but I continually have the stance of reflection on what I do and look for ways to improve my practice.

Near the end of that school year I discovered and purchased two programs around which I would like to conduct an action research project. One program is called Writer's Helper Stage II and the other is Seen. Writer's Helper Stage II, (1989) produced by William Wresch from the University of Wisconsin, is a collection of activities to help students write and revise their essays. The activities, appropriate for a variety of writing assignments, are arranged into two major sections:

Pre-writing Activities offer several ways to help choose and explore a writing topic and then to organize the information in preparing to write.

Revising Tools analyze several characteristics of a document to help locate grammatical errors an to improve writing style.

This program has potential in that it focusses on the writing process including paying attention to audience.

The other program, Seen: Tutorials for Critical Reading, written by Helen J. Schwartz from Indiana University - Purdue University at Indianapolis, helps students to analyze and interpret literature, art or historical events. As the introduction to the software explains:

Each tutorial ask questions which lead students to develop their ideas and support them with evidence. Students can then share their ideas on the bulletin board, where they can compare their work to the work of classmates and gain analytical skill by exchanging comments.

Both of these programs seem to be the next step in the exploration of the use of computers in the English classroom.

I have been working in central office during the 1990-91 school year in staff development. My experience as an action researcher and reflective practitioner have been valuable assets working with teachers and schools. I believe that any teacher who engages in specific attempts to improve practice finds new energy that prevents fatigue and burnout. In my case, I found that even though I was

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focussing on computers in writing many other issues in my
teaching practice surfaced. I found myself re-motivated and
excited by teaching and I think I have become a more
thoughtful professional. I am continuing to explore means
for enhancing the role of teacher as researcher.

Action Research Project - Preliminary Plan

Introducing Word Processing into a High School English Class

We will introduce the Appleworks word processor into two English 10 classrooms at Archbishop MacDonald High School. Archbishop MacDonald is an academic high school with honors and baccalaureate programs as well as regular matriculation. On class is a matriculation English 10 class with sixteen students while the other is an honors English 10 with 32 students. We are interested in the effect of the word processor on the writing of high school students, in particular on the act of revision. We will also investigate the problems in logistics and attitudes of students and teachers to the word processor in an English classroom.

Although I approached Wayne and John to participate in this project, Wayne indicated that he has always been interested in improving the revision process and John said that he felt it was time he "got with it" in terms of becoming more familiar with the computer in schools. I expect that I will have to do some instructing in the use of Appleworks. Wayne has some familiarity with the program whereas John has less experience. I hope this project will be a collaborative effort and the activities will be negotiated every step of the way. I am very conscious of the pressure of time on teachers and hope to keep extra work to a minimum. I have not approached them yet but I hope to involve Henry and Rosemary, the computer processing teachers, because of their expertise.

Wayne and John will integrate the word processor into their classes at the appropriate time. They will hand out the writing assignments and generally supervise and teach as normal. Eventually, they will become familiar enough with Appleworks to provide assistance to students when necessary. They will decide on the extent of the use of the computers, whether for one assignment or several or for the whole year. Time permitting, I hope Wayne and John will keep some written notes, observations and reflections on what happened.

I will help plan the project and keep a journal. I will instruct on the use of Appleworks, observe some classes, interview some students, interview the teachers,

provide what expertise I can, write up the proposal, negotiate with administration and other staff when necessary and supply what literature we may need on action research and word processing in English. I will write up the final report.

The project will be collaboratively planned. A possible scenario might be: The students will be introduced to Appleworks. They will do some writing and revising on the computer. We will monitor the results, make adjustments as necessary and proceed with the project. Students will create files on disk where they will save rough drafts as well as the final drafts. We could consider allowing only one hard copy of a rough draft to conserve paper. The final draft would also be produced on hard copy. A number of rough drafts could be saved on disk for the purpose of comparison by the researchers.

We would require access to the computer lab, class sets of Appleworks, data disks for students to save their files, and computer paper for hard copies. The class with 32 students would mean that students would have to double up, possibly assisting each other with revisions. The computer lab next to the library would be preferable to allow some students to do research while others were at the computers.

Progress of the change effort will be monitored by observations, evaluation of papers, discussions, interviews.

Some questions:

How many students already use word processors?

What if some students work on different machines at home? Should we require them to work on Appleworks for the sake of this project?

What about costs? (paper, disks, xerox)

Nature of the Change - Systematic use of the word processor for writing assignments will be introduced into two English 10 classrooms. Whereas in the past students produced writing assignments in a variety of forms including typewritten, hand written and on a word processor; now, all of them will be instructed in the use of a word processor and class time will be provided for composition and revision and printing of writing assignments at the computer.

Impetus - Although the suggestion came from me, the two teachers are implementing the change into their classes as a result of personal interest. The change effort has truly

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become a collaborative effort, not driven by the administration, nor the district, nor the university but by the three of us.

Context - Archbishop MacDonald is an academic high school with honors and baccalaureate programs as well as regular matriculation. One class is a matriculation English 10 class with sixteen students while the other is an honors English 10 class with 32 students. In the honors class 24 of the students have varying typing skills and 17 have experience with word processing. In the matriculation class, 8 have typing skills and 8 have word processing experience. Some students have word processing experience but minimal typing skills, others have both typing skills and word processing experience.

Participants - Forty-eight students, the two English teachers and myself and the computer processing teachers as resource people.

Action Steps

1. Collaborative planning

2. Action
   - introduction of the project to students
   - instruction in the use of Appleworks
   - writing assignments using the computer
   - draft copy saved onto disk
   - revisions and further drafts saved in new file
   - hard copy of revised draft
   - further revisions saved to disk
   - final draft saved to disk and printed

3. Monitoring will be conducted throughout - observations, evaluation of work, interviews, journals and discussions.

4. Reflection on what has happened and adjustments to the plan for the next writing assignment.

5. Writing of the final report.

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