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EdNet, A Virtual School Program

by

Leslie Dawn Snyder ©

A thesis submitted to the Faculty of Graduate Studies and Research
in partial fulfillment of the requirements for the degree of Master
of Education

in

Educational Administration

Department of Educational Policy Studies

Edmonton, Alberta

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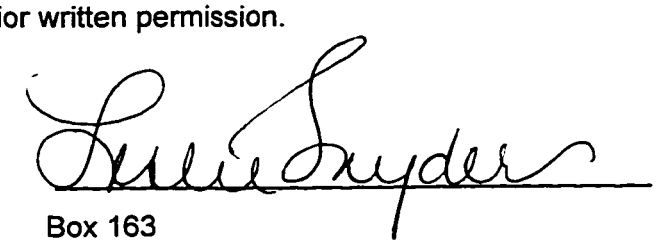

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled *EdNet, A Virtual School Program*, submitted by Leslie Snyder in partial fulfilment of the requirements for the degree of Master of Education in Educational Administration.

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DEDICATION

This work is dedicated to
my mother and my late father,
who have always believed in me
and encouraged all my endeavors.
It is also dedicated to my family
who have provided love and support
every step of my journey.

It's coming from the feel
That it ain't exactly real
Or it's real
But it ain't exactly there.

Leonard Cohen

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TABLE OF CONTENTS

Chapter 1
INTRODUCTION TO THE STUDY....1
RESEARCH FOCUS: THE QUESTION....3
SIGNIFICANCE OF THE STUDY....3
BACKGROUND TO THE STUDY....4
Nechako's Electronic Busing....13
ADLC On-Line School....17
E-Quest....17
OVERVIEW OF THESIS....25

Chapter 2
METHOD OF THE STUDY....27
PHILOSOPHICAL STANCE....27
SELECTION OF PARTICIPANTS....28
RESEARCH DESIGN AND DATA COLLECTION....29
Interviews....29
Observations....31
Documents....31
DATA ANALYSIS....32
Trustworthiness of Data....32
Audit Trail....32
Credibility....33
Transferability....33
ETHICAL CONSIDERATIONS....34

Chapter 3
DESCRIPTION OF FINDINGS....35
INTRODUCTION....35
THE PROGRAM....35
Initial Ideas....35
Promotion....36
Technology....37
Initial Computer Skills....39
School Attendance....40
On-Line In Practice....43
CURRICULUM....46
Philosophy....46
Core Subject Design....47
Presentation Options....51
Alternative Physical Education Option....53
Fine Arts Option....54
Math and Science Labs....55
Work Experience....56
Evaluation....56

STUDENT INTERACTION 58
Conferences 58
Field Trips 61
Friends 61
CHANGING RELATIONSHIPS 62
Teachers 62
Students 64
Parents 65
Role of Alternative School Site 67
Teacher-Student Communication 68
Parent-Teacher Communication 70
INVOLVEMENT 72
Reasons for Choosing Virtual Schooling 72
Medical conditions 72
Learning disabilities 73
Family values 73
Desire to work with computers 74
Fosters learning 74
Met individual needs 75
Better than other distance learning methods 75
EPILOGUE 76
Lotus Notes 76
On-line Mentors 78
Future of EdNet 78
New Initiative 1997/98 80

Chapter 4
SUMMARY, DISCUSSION AND RECOMMENDATIONS 82
OVERVIEW OF THE STUDY 82
PURPOSE 82
METHOD 82
EXECUTIVE SUMMARY - EdNet 83
DISCUSSION 85
RECONCEPTUALIZATION OF EDUCATION 87
Teacher 87
Parents 90
Students 92
Place & Time 95
Curriculum & Instructional methods 96
Change in Home-School Relations 99
RECOMMENDATIONS 100
REFERENCES 102
APPENDIX 1: SAMPLE SURVEY QUESTIONS FOR PRINCIPAL 106
APPENDIX 2: SAMPLE SURVEY QUESTIONS FOR TEACHERS 107
APPENDIX 3: SAMPLE SURVEY QUESTIONS FOR PARENTS 108
APPENDIX 4: SAMPLE SURVEY QUESTIONS FOR STUDENTS 109

Chapter 1

INTRODUCTION TO THE STUDY

In the past fifteen years one of the most obvious trends in education in North America has been a rapid growth in home schooling. In Alberta alone the average yearly rise in the number of home schooled students is about 35 percent. In the 1984/85 school year there were 55 students registered for home education; by 1994/95 this number had risen to 6303 (Alberta Education, 1995), and by September of 1996 there were 8100 students enrolled (Alberta Education, 1997a).

Another trend that is beginning to have a significant effect on education is the advent of telecommunications technology (Alberta Education, 1996a). The Alberta government undertook a number of studies on technology in education. Their most recent report, "Framework for Technology Integration in Education" (March 1996a), reflects the information provided in a series of expert consultations and recommendations from educators, parents, the business sector, and other interested participants throughout the province. It states:

> Albertans said that technology integration in education is very important to ensure the success of our students. They want students to be well prepared for a knowledge-based society by becoming skilled users of technology and communications. They believe that technology can help students become lifelong, independent learners, better able to apply the skills of critical thinking. ... Regardless of what programs students take, Albertans want technology to be an integral part of how and when students learn (Alberta Education, 1996a, p 3).

The report encourages schools to integrate technology and telecommunications into their curriculum (Alberta Education, 1996a, p 6) and recommends that government re-invest in education by connecting all schools to a provincial learning network and the Information Highway.

These two initiatives -- home schooling and communications technology -- have converged in the provision of programming for home school families. In Alberta, home education regulations allow parents to make educational

decisions for their children "through a home education program with assistance from ... a school board" (Alberta Education, 1996b, p 1). Parents must register their child with the local jurisdiction, or another willing, non-resident board, or an accredited private school in the province. This board acts in a supervisory capacity, developing their own home policies regarding student participation in the school, at extra-curricular functions, and outlining the use of school equipment and facilities (Alberta Education, 1994, p 3). The board is required to provide help and advice to the parent, conduct and maintain student assessments, examine student portfolios, and report to the parents on student progress (Alberta Education, 1994, p 4). Parents are required to "evaluate and assess the program and the student at regular intervals" (Alberta Education, p 3). They are expected to supervise their children and ensure that they complete assignments.

The government provides different levels of funding to the resident board based on what percentage of home schooling is being provided by the school and what amount is provided by the parent. For students on a total home school program, supervising boards receive $990 per student. Of this amount, the board must offer at least 50 percent to the parent for purchase of materials (program documentation such as textbooks, teacher's guides, curriculum, Program of Studies, and other materials deemed necessary). Students in grades one through nine who receive at least 50 percent of their program from a school are placed under a "blended" formula and the school receives the full per pupil grant (Alberta Education, 1996b, p 3) which was in excess of $4000 in 1996/97.

A number of jurisdictions have recognized the possibility of using these new technological developments to expand the options for students who choose not to come to school full time, or who are unable to because of personal commitments. This would be a way of providing service to students who only need a few courses, those who cannot come for a variety of other reasons (health, sports, fine arts, job commitments), or students who have chosen home schooling but would like some contact with the school.

I was totally unaware of these developments until, during one of my elective master's courses, I attended a session at a school that was offering a blended distance education program. During this session the school principal talked briefly about their virtual school, EdNet, and its future potential as an open and distance learning method. I was intrigued.

When it became known to me that my own district was interested in EdNet, I decided to pursue virtual education as a topic for my thesis.

Research Focus: The Question

The main purpose of this study was to explore the question, "What is a virtual school?" Through a general examination of this topic, these questions were identified:

What issues and concerns are involved for the participants?

What challenges will this type of educational setting present?

How is the curriculum organized?

What are the potential benefits of providing such a program?

Does a blended setting provide enhanced distance learning?

Will this influence public education?

What is the value of virtual education?

Significance of the Study

Virtual schooling is the newest innovation available to parents who want an alternative to the classroom structure of the public school system. As the number of families selecting alternative forms of schooling continues to increase, it will be important to carefully assess the potential rewards and pitfalls of virtual education.

In an age of decreased funding, small schools in geographically isolated areas are constantly searching for new ways to provide students with equal access to quality programming. These schools currently employ a variety of

open and distance learning options, and are meeting with varying degrees of success. Virtual schooling is another avenue they may want to consider.

Parents, for a myriad of reasons, are searching for alternatives to the public school system. As more and more families select some form of alternative programming, public educators need to be sensitive to this choice and find appropriate ways to work with them. Rather than avoiding this trend, school officials should recognize virtual education as a viable alternative that meets many families' needs.

EdNet, and similar programs, are attracting much attention. An in-depth examination of EdNet allows interested parties and future participants a chance to experience, through this study, the implementation of one system and judge its suitability for their own situations.

Background to the Study

In this section I have chosen to outline the development of distance education in Alberta, the changing role of the government in relation to education, influences of technology on education, and the growth of virtual schooling. This places EdNet, the focal point of my study, in a context where it can be more clearly understood. I have concentrated mainly on the province of Alberta, but references to virtual schools in other provinces have been included.

Distance education in Canada has a long history dating back to 1919 when a British Columbia lighthouse keeper requested lessons for his children who were of elementary school age (McKinnon, 1986, p 194). "[I]t was soon provided in other provinces in response to similar requests from parents in areas with no access to formal education for their children" (Haughey, 1990, p 1) or for students who were ill (McKinnon, 1986, p 194).

The province of Alberta began offering correspondence programs in 1923. It was called education by mail and provided print courses to elementary and secondary students. Over the years, science kits (1940s) and language audio cassettes (1970s) were added. Students did their work at home and the

lessons were sent back to a provincial correspondence school to be marked. At first, the majority of the lessons were for elementary age students; programs then included secondary level courses as distance education services expanded (ACS, 1985).

"Over the years the mandates of most services changed to meet the needs of new clients" (McKinnon, 1986, p 195). One area of growth saw correspondence added to regular classroom instruction with students completing their work during their "spares" or outside school time (ACS, 1985). These courses replaced ones "that schools were unable to provide because of small numbers, lack of qualified personnel, or the inability of students to attend classes" (Haughey, 1990, p 1).

Haughey (1990, p 4) noted that since the 1980s there has been impetus for school-level distance education change in Alberta. Equitable access to quality education for students in rural areas became a concern and the provincial government decided that "such concerns might be addressed by a new version of correspondence education."

In Alberta in 1987, (Alberta Education, 1987) a Task Force to develop a vision for the Alberta Correspondence School was established and the report, "Basic Learning at a Distance: Building New Partnerships," identified major changes requiring resolution. The report recommended resolving the following issues: inadequacy of the postal service for course delivery and the need to explore the use of various technologies for instruction and curriculum enhancement; the provision of student support possibly resulting in study centres throughout the province; enhanced course design; local jurisdictional partnerships for support and delivery of courses, and equity for all students.

The conclusions of the report writers were that the Alberta Correspondence School change its philosophy from correspondence with students to the provision of decentralized learning services, reflected in a name change to the Alberta Distance Education Centre (ADLC), and that the Centre would focus on the provision of centralized course design and liaison with

regional centres which would be established with local jurisdictions. New delivery alternatives such as audio-conferencing, electronic mail, telephone tutoring, and media resources were to be integrated in this decentralized concept (Alberta Education, 1987).

In response to these proposals the government chose to begin a pilot project to explore the advantages of using locally-based tutor markers. A local coordinator was appointed to administer the Distance Learning in Small Schools Project (13 small schools each with fewer than 100 high school students). Technologies trialled included the use of fax machines for quicker marking turn-around, and audio-conferencing to provide students with support and interaction with a specialist teacher (ACS, 1985). Completion rates rose to 90% (as compared to 40-41% from 1980-1982); more schools became involved and more courses were added as teachers saw the benefits of faster feedback and local support reflected in student learning (ACS, 1985).

In 1988 a second project, "Distance Learning Project North," began. It explored a multi-grade approach based on a student-centred learning system, computerized testing and data banks, the use of audio-conferencing and audio-graphics for teaching, and partnerships among the schools and jurisdictions, (Alberta Education, 1989).

From the success of the pilot projects further initiatives were taken and distance education was moved to the jurisdictional level. "Some jurisdictions ... opted to coordinate their own distance education programs, while others ... formed consortia of three to eight participating jurisdictions" (Haughey, 1990, p.7). By the early 1990s five consortia had been established in Alberta, one of which was Distance Learning Options South. In their annual report, Distance Learning Options South encouraged ADLC to continue to develop alternatives to paper/pencil/fax courses so that students could access an alternative way of learning (Hough, 1992).

Local consortia development heralded the beginning of the transformation of the mandate of the provincial Correspondence School which was

encorporated into the Alberta Distance Learning Centre. The provision of materials to school jurisdictions and students was transferred to another unit, and the Correspondence School continued as a separate division of the Centre, providing full services to adults students and those students unable to access a local consortium. The number of students they served declined as more students accessed courses through their local jurisdictions.

In January of 1995 the government put in place a reorganization and reduction of school jurisdictions (from 141 to 60). This led to further re-alignment of distance education consortia. Haughey and Fenwick (1997, p 2) note that

> Collaboration is becoming increasingly idealized for its purported benefits to teachers, schools, and districts not only to help deliver distance education more effectively, but to enhance learning in more general ways. Konrad and Small (1989) state unequivocally that institutional collaboration is essential to achieve the potential of distance education. Moore (1993) also argues strongly for institutions to work cooperatively to deliver distance education, as a network of people integrally linked to a whole. Technology has the potential to revolutionize education, claims Moore, but only when the current constraints of conventional organization structures undergo radical change. ... Of the various possible models of collaboration, consortia appears to be the preferred form of partnership among institutions chosen to implement distance education.

The reduction in the number of districts and the adoption of consortia were two such changes.

As of May, 1997 there are three major consortia operating in Alberta. They are the West Central Alberta Distance Education Consortium, The Big Sky Distance Education Consortium, and Distance Learning Options South. They provide "a sharing of resources, both human and financial, to extend the program with economy of scale in distance learning delivery" (Alberta Education, 1997b, p 1). Alberta Education notes that a number of jurisdictions have chosen independent operations and that "virtually every school jurisdiction, however, has access to a distance learning consortium in its vicinity" (Alberta Education, 1997b, p 1). These consortia are supported by ADLC through access to course materials and inservices for training and support in the distance education field.

The Alberta Distance Learning Centre has undergone another revision in the past year. Under their new business plan, the government of Alberta has divested the control of ADLC to Pembina Hills Regional School Division #7. This school division will maintain the same responsibilities to students throughout the province regarding distance learning. The government does not want to be in the business of delivering programs, and prefers to "steer, not row." The province will retain control of the course development site of the ADLC operation (creation and physical production of course materials); Pembina Hills will be delivering the actual distance education courses (Ken Vandenberg, personal communication, May 7, 1997).

An average of 15 000 students register in approximately 140 different courses with Alberta Distance Learning Centre each year. Most students take one course; some students take full programs. All students are registered with a school jurisdiction in the province; this could be the district they reside in, or they could be registered with a "willing non-resident" board. Of the total number of students registered with ADLC, approximately 100 are involved in a virtual school experience (Ken Vandenberg, personal communication, May 7, 1997).

When Pembina Hills acquired the distance learning section of ADLC, they were already in the process of developing Vista Virtual School. This was then combined with ADLC so that a portion of the programs were provided via this virtual method.

There are a growing number of technologically based distance learning programs operating in Alberta. Some brief examples include:

> Fort Vermilion School Division #52 [where] a distance education project delivers Math 30 and 31, Physics 20 and 30 to Grade 12 students in 5 small high schools. ... [A] teacher located in one high school [teaches] the students in four other schools as well. The students are using the Smart 2000 conferencing system; a computer and telephone line to connect to the teacher. ...
>
> Langevin Community School in Calgary is using computers as another way of sharing information with parents and the community. ... As part of this project students will have their work stored in two computer files, one private and one open. Students can access the files from home to do

> additional work. Parents can look from home at their child's work in the open file. Parents can communicate with the teachers by e-mail. ...
>
> Cyberhigh in Greater St. Albert Catholic Regional Division #29 has enrolled 98 students and connects them from their homes to 5 teachers who are also home based. Students are dispersed throughout the province. (Alberta Education, 1996c)

The main focus of these three programs is traditional classroom teaching via a technological medium. Although "pace and place" may have more flexibility, the programs are teacher directed.

In British Columbia, New Directions in Distance Learning (NDDL) offers a "mediated learning model" within a virtual learning environment. In 1993-94 the British Columbia Ministry of Education and the Open Learning Agency launched this pilot project with the desired outcome of providing "a flexible and ... effective means of delivering and resourcing educational programs which will suit learner needs and be sensitive to time, distance and location" (Porter & Manley, p 48, as cited in McKinnon, 1995, p 67). NDDL is "a collaborative program involving school districts, Distance Education schools, and the Open School (Porter, 1997a, p 2).

Focused on the secondary level, NDDL offers a wide range of courses. It is described as a triad:

> Each of the triad partners has individual responsibilities. The teacher-mentor is responsible for course content, marking, tracking student progress, and tutoring. The on-site facilitator is responsible for maintaining the learning environment, assisting the student with learning plans and schedules, and working with the equipment. ... The student is responsible for his or her own learning, work habits, assignment submission, and fulfilling the requirements of the course. While the student must become a motivated and independent learner, the teacher-mentor and the teacher-facilitator are also responsible for helping the student to be successful. (Porter, 1997b, p 1)

NDDL has adapted the provincial correspondence materials for delivery via technologically-based systems. Resource materials and study guides can be accessed on-line and they use "interactive broadcast, desktop conferencing and

computer-mediated communications ... for interactive tutorials on an individual or small-group basis" (Porter, 1997a, p.2). Through computer mediated communication, the students are able to receive prompt feedback on their work, as well as providing interactive counselling or concept clarification.

By using on-site facilitators and a teacher to present correspondence materials, the NDDL program extends the geographic capabilities of the classroom while the format remains very traditional. With sessions scheduled in certain locations, even the concepts of time and place are closely aligned with regular schooling.

In Baffin Island, NWT, computer-mediated communication is being used which is showing growing potential to "support cost-effective communications links [from there to the rest of the world]. ...CMC has the potential to support the creation of a "virtual community" in which Inuit language and culture can make the transition to the 21st century" (McAuley, 1995, p 140). The on-line environment is structured to support a variety of interactive purposes. The system uses an electronic bulletin board to facilitate wide-spread messaging, electronic mail for messages of a personal nature, and the option to sign up and participate in public conferences on topics of the user's choice (McAuley, 1995). TGIF, a newsletter accessed via the Internet, contains articles by students on topics of interest to teens, as well as community news. This has been an extremely successful undertaking and "its longevity as an on-line project can probably be attributed to a great extent to the high degree of student ownership" (McAuley, 1995, p 144).

McAuley (1995, pp 145-146) notes in his study that in order for computer-mediated communication to be successful, one of the requirements will be a

> paradigm shift in how teachers [regard] the classroom and their role within it[.] [This] relatively new medium ... requires that teachers recognize and value interactivity and collaboration if its potential is to be realized. In other words, if we wish to create a virtual community that will allow students to extend and enhance their sense of themselves and what they know by drawing on these resources of the wider world, we must create classrooms that will allow them to do so.

The vision of this project attempts to move toward a facilitative learning model through the recognition of the need to re-structure classrooms and learning to foster interactive collaborative activities.

The Evergreen School Division in Manitoba was facing similar problems to other jurisdictions in Canada -- fewer students, school closures, long bus rides and loss of community identity. Distance education was incorporated into programming to alleviate some of these issues (McKinnon, 1995, p 67).

Evergreen began using two-way videoconferencing to deliver a number of secondary level courses. In 1993 they combined services with an adjoining jurisdiction and delivered courses to four area high schools simultaneously. This enabled them to capitalize on subject matter expertise and form larger class sizes by linking up with videoconferencing. "The organizers found that with two way video delivery, fewer discipline problems developed and fewer drop-outs occurred than in the traditional classroom" ((McKinnon, 1995, p 68). It was also noted that "classes worked best for older, more motivated students who possessed the necessary skills to function independently without a teacher present" (McKinnon, 1995, p 68). An on-site facilitator was not present during the classes.

Evergreen is also replicating traditional classroom methods, making more efficient use of staff while depending on student motivation for successful completion of traditional course material.

Haughey concluded (1990, p 7):

> Given the pace of development of alternative technologies and their interactive capabilities to engage and encourage student learners, we cannot ignore their potential value for education. But we need to ensure that appropriate pedagogical approaches are also developed so that the focus is on learning rather than on transmission of content. In the long view, such approaches may be the cutting edge of the transformation of schooling from the industrial model of the 19th century to a post-industrial model more appropriate for the 21st century.

With the exception of the ideals embedded in the Baffin Island project, the above scenarios closely replicate traditional pedagogy. The technology that has

been incorporated facilitates increased communication over geographic boundaries using conventional materials and methods. These innovations have enhanced distance education, allowing larger numbers of students to be connected to curriculum in a more cost and teacher effective manner. They have not radically altered the principles and methods of current educational practice.

In 1986, McKinnon (p 202) stated that "publicly-funded distance education services at the elementary and secondary school level are involved in many initiatives to use technology effectively and to improve the quality of education they provide." Trends that he noted as current in the provision of distance education ten years ago are still relevant today (McKinnon, 1986, p 196):

1. an increased use of technology;
2. a commitment to inter-provincial co-operation in programme development and course sharing;
3. an emphasis on developing courses suited to adults applying for secondary-school courses;
4. a growing demand by school boards and school districts for distance education materials to support, complement or supplement school programmes;
5. a decentralization of service in some provinces;
6. the emergence of new clients with specialized needs;
7. a heightened awareness of public profiles and the importance of projecting a professional corporate image; and
8. a commitment to improve distance education through innovation, technology and experimentation.

Even twenty five years ago, in the early 1970s, the Worth report (1972, p 18) predicted that expanded communications technology in the home would make a variety of new educational approaches available through the use of "computers, instructional television and remote problem solving." Worth predicted that before the 1980s technology would present the opportunity for education to become decentralized and home-centred, different from institution-based schools. His report said that the late 70s would see students at higher educational levels spending more time working at home alone or with small groups. The mid 80s would see senior high students following this pattern for

their basic high school courses, and younger students doing the same by the 1990s. Worth continued by saying that the

> need to pursue learning throughout a lifetime, for whatever reason, will be facilitated by the capability for one-way and two-way communication in homes and the adoption of technological services. Consequently, educational institutions will tend to become resource and organizational centres facilitating the development of individual and group learning experiences in ways quite different from those of today.

Both Worth and McKinnon have made predictions which relate closely to the current transformations in distance education.

Traditionally, distance education has been generally defined as "the provision of formal educational opportunities to students, who using specifically prepared materials, have major responsibility for their own learning and submit their work for marking and assistance to a teacher who is not present during their learning" (Haughey, 1990, p 1). Technology and innovation regarding distance education practice has a long history. One of the most recent applications of technology to this field is the virtual school. Virtual education is the name given to distance education that is provided via computer mediated communications.

Since virtual education is a relatively recent phenomenon, there is very little literature on virtual schools. Descriptions of the following virtual schools are based on a presentation at a workshop on this topic.

Nechako's Electronic Busing

A virtual school called "Electronic Busing", operates out of School District #56 (Nechako) in British Columbia. It offers on-line education to students from kindergarten to grade 10. This program is transmitted by way of e-mail on the Internet and follows local provincial curriculum.

Electronic Busing grew out of a desire to meet the needs of the large number of people leaving public education and was initially an alternative for parents who wanted to have more control over their children's education. Families were promised a high level of freedom to choose curriculum, materials,

and methods, with little interference by this virtual school. The program initiators did not want learning opportunities to be confined to schools, nor did they want geographical and time constraints to hamper access to quality education. They felt that learners should have more control over the pace and place of their learning.

A description given of the parents who chose to enroll their children in this program included a large number of Christian home schooled families, as well as those who perceived the public school system as "rigid, uncaring and troubled", "unfair", and employing "too much comparison testing of students." Some of these families did not want their children subjected to the actions of other students in the public system, believing that these other students were "not in line with their values and morals."

The Electronic Busing program required families who resided outside their school district to have previously been using some form of home schooling, believing that these families had a better understanding of the rigors of a home-school situation and thus were better prepared for becoming the "major director of the student's learning."

Parents and teacher met and discussed the placement of the student in the program. They were flexible regarding the grade level at which a student would begin. They recognized that not all students moved at the same rate and therefore allowed them to "approach the topics in various subject areas at their own interest and pace."

Students worked at home under the direction of their parents and with the guidance of a teacher. Students were assigned to teachers on a "family basis," with all the students of one family working with the same teacher. This required that the teacher coordinate programs for a variety of levels across the curriculum. Each teacher had "a client load of about 50 students."

Teachers estimated that students had about 30 minutes of e-mail communication with them per week. The proprietary system used was First Class. As well, families talked to the teacher on the phone or mailed items to the

virtual school site. Students did not come in to meet with the teachers or other students.

Initially families were given a "resource account" of $400 to purchase learning materials for students. This amount was subsequently reduced to $200 because of added Internet costs that the district had to provide. It was stated as questionable whether even this sum would be paid next year [1997-98].

The home district of each student received $500 per student "as a fee to allow [them] to operate in [the home district's] area and for providing texts and other support to the students. These payments will also cease," due to the reduced funding provided for these students.

Parents and teachers work together in this model to develop a program that will meet each child's individual needs. Fryatt and Gregg (1997, p. 3) noted that this

> type of approach works well with parents who desire a high level of involvement in their child's education and have a high level of commitment. It may not work well for all families but it provides an unprecedented level of flexibility and control is placed in the hands of the parents who are treated as true partners in the process.

The parent's role required that they be at home with the student. Electronic Busing wanted parents . . .

> committed to working with the BC curriculum, [with] access to the Web, [who could] purchase curriculum documents and look at learning activities, the outcomes, and suggested instructional strategies and decide if any of those fit. [They] can do other instructional activities as long as [they] attend to the learning outcomes. . . . [The parent] determines what [they] want [their] child to learn given that at the very minimum [they] must do what the curriculum says, but [they] can do it all at [their] pace and in a style and manner and using materials that [they] think are appropriate for [their] children and not in a classroom where the teacher may have values and attitudes that [they] do not.

The virtual school wanted parents to become the primary organizer, planner, director, and supporter of the students. Parents were "experiencing various degrees of success -- how much to do, when to do it, how to do it." Some of the

parents were not with the program any longer because they found the "reporting and adherence" too difficult.

The role of the teacher in Electronic Busing consisted of support for instruction, accounting, and evaluation. Staff became facilitators for the learning that the families were doing, and provided the list of learning outcomes from the curriculum documents. They also helped to provide a range of ways that these outcomes would be met. Staff prepared "extensive files on topics such as social studies, science, novel studies and parents use these," but it was explained that this caused burnout and exhaustion.

The teacher evaluated the student work. After a child has worked on an activity, he/she provided evidence of his/her learning. If a parent wanted a child to achieve an "A" in social studies, for example, the teacher provided a list regarding the "quality, quantity, and frequency of the activities they needed to do in order to generate an A." The student and parent had to provide evidence of the work the student had done and the teacher then provided "evaluative statements about the quality of the work." It was noted that "accounting for the student learning process electronically [was] not easy. . . . Reporting strategies and procedures were particularly troublesome and are still being refined."

There were many demands placed on teachers as they supported families, and some staff found "it too challenging to continue." As well, this was not an environment suited to every teacher: "not everyone [felt] comfortable or capable." The selection, development and supervision of staff " were major concerns."

In this setting students were responsible to perform self directed tasks in order to be successful. The principal of Electronic Busing did not see this as a program for all students, and he communicated that if students were not successful in regular school, they likely would not be successful in this virtual setting either. Electronic Busing expected that if students were successful in other forms of home schooling, they had a much higher chance of success in the

program. It was noted that special needs students may "not be able to be served -- some can -- but it required a very dedicated parent to make it work."

Face-to-face contact with other students was not organized by the school. Some families (most notably a core of parents who were already home schooling) did some "collaboration of activities" such as arranging for picnics, and "play days" where students met. Others had their children involved in soccer or volleyball at their local schools. The principal explained that "the [students] treasure the social activities they have."

The primary concern of the administration was whether it would be feasible to continue to operate this program with reduced monetary support. Under the previous funding level the program had "financially benefited the district . . . [as it did] generate dollars for other programs."

At the 1997 CADE/ACED Virtual Conference, Fryatt and Gregg (1997, p. 7) noted that

> The Nechako Electronic Busing Program does not fulfill the needs of all students or families. It provides a very real alternative to conventional models of public education for parents who want a direct involvement in their children's education, an alternative to overcrowded schools, an escape from unsafe learning environments and allows for the provision of additional curricular pursuits the students or parents choose.

ADLC On-Line School

ADLC On-Line began as a joint venture between the traditional correspondence school at the Alberta Distance Learning Center, and Pembina Hills Regional Division in Alberta. This arrangement began in September of 1996. They offered full computer based programs which followed the Alberta Education Curriculum for students in grades one to twelve using e-mail and the Internet.

ADLC On-Line had begun at the request of traditional correspondence students who wanted to transmit assignments electronically to their teachers. The staff noted that this approach experienced much success from its outset, with correspondence students being given the option to do their traditional

lessons by word processing them and e-mailing them to their teachers. The correspondence school had no responsibility for hardware, software or Internet problems -- any difficulties were solved with the student's service provider or technician.

After this initial effort, discussions ensued regarding the application of technology to instruction and ADLC school staff began to explore the virtual school concept. Developing both the virtual school and the resources at the same time was financially impossible, and this led to the use of correspondence materials on-line. It was at this point that the government of Alberta divested the correspondence school to Pembina Hills school district. Concurrently, they approached other school districts and expressed an interest in working out partnership arrangements. A number of other districts were receptive to this proposal.

Existing traditional ADLC materials were modified by the teaching staff employed at the correspondence school. This involved using "regular materials and regular textbooks, with some modifications to how the assignments [were] completed. Then teachers [built] in other kinds of activities and much more individualized programming." They did not want students receiving a standard package of materials -- they sought a "greater degree of flexibility, personalizing of programs, and a greater degree of interaction between how the program was designed and what [was] actually being used by the student." If students were able to demonstrate proficiency with certain materials, they advanced to the next level or received a modified version of the assignment.

ADLC On-Line teachers stressed that not all resources are currently on-line and that the "backbone to all instruction is still the traditional" correspondence school material. Although it was noted that these materials "carry an old fashioned kill-and-drill connotation," they recounted that since 1988 there has been a change in the way materials have been prepared. They now "cater to a variety of learning styles, are curriculum focused, and there are different ways in which students can achieve the same kind of objective" at the

secondary levels. They added that at the elementary level it "is a different story and this still needs to be addressed" noting that they will be doing this in the near future.

When the revision of materials began, the school had approximately 15 000 students, only 75 of whom were on-line. No staff were assigned to the virtual school project or to the modification of existing materials for this small number of students. Teachers volunteered to do this while still providing service to their regular client load.

Four assistant principals were assigned to become project coordinators and they were the liaisons for On-Line students, arranging "home visits, calling parents, and making sure it was all in place." Their role was also to monitor and ensure completion of courses.

All of this has required a "huge time commitment from [correspondence school] staff" and caused burnout. In addition, it created a "sharp learning curve" for teachers.

Students were provided with Performa 5260 Macintosh computers (chosen primarily because Pembina Hills district had technical support available for the Mac platform). Included were color printers, CD ROMs, and modems. Although 40 percent of their available budget available would be consumed with hardware, software, and Internet access, the virtual school staff decided that, because of competition in the virtual school field, these items would be provided free of charge. They piloted the use of single sheet scanners in some homes (originally for elementary students to send in hand-written assignments and graphics), and planned to pilot the use of eyeball video cameras, all free of charge to students enrolled in a "complete" program.

ADLC On-Line also provided free Internet access. Teachers, students, and parents communicated via First Class and telephone, although On-Line staff felt that students would have increased success and improved communication if they met with the teacher in person.

Teachers in the On-Line program initiated communication with students by calling them once a week; the program coordinator made contact once every two weeks. E-mail communication happened almost daily. On-Line felt this increased communication was a factor in student success. Daily on-line communication was also possible for parents.

Students had "Internet Chat", an on-line communication forum between students which was used for conferencing. Parent chat groups were also set up on the Internet. This provided parents with a new forum for communication and they now had "the opportunity to share ideas and frustrations with other families." Monitoring of Internet information was the parents' responsibility.

On-Line recommended a careful screening process to select students for the program and they noted that "technology won't solve the problems of a child who already has had many problems [in traditional settings]." Initially they "wanted people who were confident about studying at home -- studying independently." Parents must also understand the commitment they were making as they would be the "on-site teacher or facilitator."

Teachers evaluated and returned assignments within 48 hours. Since On-Line was responsible for determining the pass or fail of a student, they wanted to have on-going assessment incorporated into their program. As part of the partnership arrangements with local jurisdictions they wanted to have locations provide for supervision of exam writing so that standards of "honesty and integrity" were maintained.

While On-Line had no concrete results at the time (March, 1997) they "think there's been improved achievement. . . . [They're] hearing from parents that the grades [the students] are getting on lessons have improved." The completion rate for students in the traditional correspondence school is not high and this includes students taking the On-Line program as well as those on the traditional lessons. The administration stated that the

> bottom line for [them] is the completion rate. The traditional correspondence completion rate was 25%, up now to about 42%, which is a tremendous increase but this still doesn't cut it. We want to move to

100%. If this program doesn't achieve 90% with all the interaction and investment in resources and staff ... there's a big problem.

As the program currently exists, On-Line materials can be blended with home education programs to qualify for blended program funding. The program is dependent on this continuing as they "operate right at the line. There is no surplus money available." There were administrative and technical costs that were not incurred in traditional settings. For example, $500 was paid to the school district in which a student resides to cover "registration/administration costs."

In the near future, On-Line will offer a "catalogue shopping of services -- there are a couple of options." Students can be enrolled in a full program, or purchase single or multiple courses.

On-Line "wants to provide a service." They feel that "working together to meet the needs of students in the province" through partnerships will allow them to personalize programs that will meet the needs of students.

E-Quest

Elk Island School District in central Alberta also wanted to integrate curriculum and technology, and at the same time provide alternative programming for a number of their students. In September of 1996, E-Quest became one of the ways they chose to do this at the junior high level.

The initial rationale for E-Quest, as stated above, was very important to the development of this program. Parents helped to "determine goals and objectives, were well aware of the materials [the school was] going to use, knew the approach [the school was] going to take, and had input into the . . . criteria for teacher selection."

A strong print base for materials was considered to be a factor in on-line program success, so E-Quest opted to use ADLC materials as their starting point at the secondary level. This would allow them to avoid the work of developing new units of study. These materials were then modified.

To keep the focus on the student instead of technology, an outside service provider was hired for Internet and e-mail access. This would make any problems arising in this area the responsibility of the service provider so that the school could "focus on the program that [they] were delivering to the students."

Because of their limited budget, Ed-Quest administration asked parents to arrange for their own computers. Because of the competitive nature of the on-line school market, E-Quest "felt the need to provide something to the families." They did this through software provisions, allowing them to offer roughly the same dollar value in materials that students would receive if they were involved in one of the other programs which offered "$700 to students" to purchase resources.

Students were interviewed to determine their suitability for the E-Quest program. Following this, parents and student filled out an application. A variety of students were accepted (including three students diagnosed as ADD).

Students signed a form stating that they would attend in-service training, sign in each day, complete work assigned to them and attend face-to-face sessions for "tutorials, labs, research, presentations, assessments, tests, parent-teacher conferences and/or field trips."

Parents signed an agreement that they would "provide transportation to and from a school board site for purposes of additional support and resources." They also were made aware that "the main criterion for student success is an adult who is committed to the program at home," and that "support and encouragement were critical components to the student's success."

The principal of E-Quest suggested other family and student characteristics such as experience with computers, at least average academic success prior to enrollment, previous success with home schooling, attendance records in other schools, writing and reading abilities, parent-child relationship, and a student's access to other youngsters for socialization. "They need contact with other kids. It's just critical in their development and their approach to their

social world." The principal stressed the importance of immediately clarifying that this program is not going to solve all of a student's problems.

Other students who would enroll in on-line programs would be those who were involved in "national or provincial sporting activities," or other activities that did not allow them to attend the traditional classroom setting.

E-Quest believes that the optimal program would be "if the child can take some of his/her options at a school site." Five of their fifteen students were doing that and "it [worked] just great. They [did] their core subjects on line and then [they would take] band . . . or CTS modules at the school." They found this to be successful because "it [gave] them a good balance."

Experienced teachers were chosen for the program because of their ability to bring their knowledge base to the materials in order to adapt and change them. As well, they "were chosen for their flexibility and willingness to try new ideas." Staff were deemed to be more suitable if they had a "teaching philosophy that did not require 'physical' connectivity" because of the lack of face-to-face contact that they would have with students. The principal explained that "not every classroom teacher is going to be an exemplary on-line teacher."

E-Quest administration stated that the most difficult part of on-line teaching is collecting student assignments, so they were also looking for teachers with "creativity" in this area.

E-Quest began operating out of one of the regular schools in the district. Not designed as a "stand-alone" school, this pilot project was intended to determine the potential for district expansion and growth. They found a lot of strength in being associated with another school in terms of facilities and resources. The professional isolation of on-line teaching was reduced with teachers able to network in this setting.

Students were required to log-in daily to meet the attendance requirements stated in the School Act. They could contact the teacher via e-mail or telephone for assistance with their work. Teachers also needed to have daily contact with the students.

Dates were outlined at the beginning of the program for students to be in attendance for "face-to-face" sessions. During this time they completed activities that could not be done on-line such as science experiments, group work, paired reading with a grade one class, use of software that has district licensing, and oral presentations. "This is what the parents and the kids say is the winning thing for [this] program," stated the Ed-Quest principal.

Many interactive lessons had been planned for the face-to-face sessions because the students were "lonely, they needed their peers, they needed other kids around, they needed to discuss these issues." When students were asked what would make them come to E-Quest over other programs, "face-to-face was the first thing."

Students were given dates specifying when work was to be done. The whole year was planned in advance and field trips and other interaction days were determined ahead of time. There were no plans to attempt to accommodate acceleration through materials by changing the design of the program. Self-pacing was still part of their program, but on an individual level. One student may take an hour to complete an assignment, while another may take four hours.

There were concerns about the monitoring of student work to make sure that it was their own. Originally the face-to-face days were going to be used for exams to confirm student progress, but this did not happened and exams were written on-line.

The E-Quest principal predicted several factors regarding the future success of the program:

> You might have 1 percent of your junior high population that is attracted to this type of learning. My forecast is that kids may want to take one or two courses on line for a variety of reasons . . . upgrading . . . speedy at math and want to get through it, . . . repeat a program at the senior high level. There's a whole gamut of reasons but my forecast is that these courses are going to be offered in the school on-line. There'll be a computer lab set up and students can go down there and take a course that may not be offered at that time or that school or that they need to upgrade or get extra assistance in. I think that's where the real market for the development of these on-line programs is.

E-Quest sees this as "an alternative" for certain students in their schools where the school cannot offer the best possible program in the traditional manner. "The most important feature in offering an on-line program is the student."

These virtual programs raise a number of issues for educators. Why *are* parents dissatisfied with public education (Fulton & Gale, 1994, p. 16), choosing instead to take on the enormous task of educating their children at home? Is virtual school technology the new tool we've been searching for. Is it only as good as the people that are working with it and the programs it is designed to deliver? Will it replace public education or even teachers? Or, will it only replace those teachers using traditional delivery methods who are unable to meet the challenge of a radical departure from a century-old industrialist model, making the change to a new facilitative style of teaching and learning required to send us forth into the next century?

The advent of telecommunications technology provides us with the opportunity to offer education in non-traditional ways. With the number of students choosing home schooling, an examination of virtual schools may give us insight into a different pedagogy more in line with education in the 21st century. The following chapter provides an in-depth look at one virtual school, EdNet, and may help us understand the issues around this emerging distance learning method.

Overview of Thesis

This first chapter has introduced the nature of the study and its significance, and has included background information necessary to this study of distance education and virtual schooling.

Chapter two presents an explication of the methodology. Chapter three presents the major findings of the study as experienced in the one virtual school that was examined in depth.

Chapter four includes an executive summary of the study, a discussion of the findings and of the implications that virtual schools present.

Chapter 2

METHOD OF THE STUDY

Philosophical Stance

I used a qualitative research design to explore the reactions and experiences of the people of one virtual school in Alberta. Specifically, I sought to describe what happened in a virtual setting from the perspectives of the various participants. An interpretive study of this nature made it important to gather data "from the inside, through a process of deep attentiveness, of empathic understanding (verstehen) and of suspending ... preconceptions about the topics under discussion" (Miles & Huberman, 1994, p 6). Through a variety of methods I have attempted to present in-depth descriptions related to the participants' understandings of this virtual school setting.

This study focuses on how the participants understood their experiences during the time that I worked with them. As well, it recognizes that these understandings were, and still are, in the "continual process of transformation" (Foster, 1986, p 200) due to the uniqueness of "local characters, circumstances and cultures" (Foster, 1986, p 200). Virtual schools per se are a rapidly developing phenomenon in an area which is in a state of constant change and this study represents only one "snapshot" in time. It looks at how this school program is administered, how it works pedagogically, and the reactions of the participants.

From what people learn and experience, each of us constructs understandings of events. Therefore this document presents what each of the participants believes about virtual schools from his or her own involvement in this setting and has "experienced holistically and mediated heavily by values, attitudes, beliefs and the meanings which persons ascribe to their experiences" (Guba & Lincoln, 1982, p 249).

Qualitative research "reflects a kind of dialogue or interplay between researchers and their subjects since researchers do not approach their subjects

neutrally" (Bogdan & Biklen, 1992, p 33). As the process evolved, both the participants' understandings and my understandings of virtual schools continued, and still continue, to develop. Although I had limited exposure to virtual schools, my values and experiences as a teacher, administrator, and parent no doubt influenced my interpretation and understanding of these stories. It is widely understood in this type of research that the interviewer and the participants will "influence each other in their telling, since questions and responses are interconnected and collaboratively constructed conversations" (Cameron, 1996, p 23). As questions were asked and answered, my understanding of the events related to the issue, and the patterns and themes which emerged, are entirely unique to this specific study.

Selection of the Participants

The open-ended nature of the approach allows the participants to answer from their own frame of reference rather than from one structured by pre-arranged questions. In this type of interviewing, structured guides are not used; while loosely structured interview guides may sometimes be employed, most often the researcher is the only instrument, and works at getting the participants to express freely their thoughts around particular topics. Because of the detail sought, most studies have small numbers (Bogdan & Biklen, 1992, p 3).

Participants were selected in a purposive rather than random fashion, as this was a case study focusing on one particular school. In March of 1996 I approached the school district to do a study of their virtual school project. After receiving district approval, I sought and received the principal's approval and agreement to participate. I contacted the junior high teacher of the program and he also consented to participate in the study. Discussions with this teacher determined that other important study participants would include the elementary level teacher involved with the program and the technology specialist at the school. I met with these people as well, explained my research, and they agreed to be part of the study. All were eager to have an external person describe their work.

The junior high teacher, Mr. Travis, chose the families to be interviewed. He determined that those selected would provide a wide variety of responses. He contacted the families selected to determine if they would be interested in participating in my study. He then provided me with a list of their names and phone numbers so that I could contact them personally.

I made initial contacts with them by telephone. At this time I introduced myself, explained the details of my work, and allowed opportunity for any questions. I explained that I would like to meet with them for approximately one to two hours at their convenience and that they would have the right to opt out of the study at any time they chose. Each family indicated a willingness to participate, although some were a little hesitant.

Research Design and Data Collection

The qualitative research strategy for this study is based on open and naturalistic inquiry. A general outline was used to guide data collection so as to cover a variety of topics related to virtual schools and home education from the perspectives of all participants. This left me open to hearing what the people involved in the program felt was important, without my biases directing the study. The data were gathered through interviews, observations, and document analysis.

Interviews

Interviews were the main source of data. Participants were encouraged to share their insights on any and all aspects of virtual schooling as a method of education.

All school staff were interviewed initially in April of 1996 at the school site. At that time, participation was once again confirmed and a review of ethical considerations was covered. The interviews with the principal, technology specialist, and the elementary level teacher averaged an hour in length and were guided by a semi-structured list of questions (see Appendices 1 and 2) which allowed for further discussion of topics as they arose in the interview sessions.

The first interview with the junior high teacher was intended to last one to two hours. In actuality, I spent over five hours with the teacher on that day alone. The teacher spent the morning talking with me and in the afternoon I observed him working with the students who were present.

All families were interviewed during April and May of 1996. I went to each of their homes and met with all family members who were interested in participating. These interviews lasted between one and three hours. In all but one case, students were interviewed before their parents. In some cases the parents remained in the room while I spoke with their children; in other homes the parents came and went freely. Again, a semi-structured format was followed; I used a prepared list of open-ended questions, different for parents and students, (see Appendices 3 and 4) designed to allow for a focus on different topics. Each interview deviated somewhat from the list, depending on the interests and willingness of participants to share their stories.

School staff and families were informed that after the interviews (which would be audio-recorded) all findings would be held in strictest confidence and presented in a manner that would ensure their anonymity. I explained that they would have access to the findings of the study as well as to the transcripts. I informed them that transcripts of the taped conversations would be provided to them for review and that they would be free to change, add, or delete information at their discretion. They were made aware that all audio tapes and transcripts would be destroyed after the study was completed. They were advised once again that they had the right to opt out of the process at any time.

A second interview was held with the principal of the virtual school. At this time I was able to ask questions relating to specific topics that arose during our first conversation.

Approximately 20 additional hours were spent over the course of the remainder of 1996 with the junior high teacher, both in the classroom and by telephone. Many ideas were covered each time, with both the teacher and myself initiating discussion on emerging ideas. When conversations could not be

recorded, copious notes were taken and questions were asked and answered for clarification on the notes I was taking.

Transcripts of the interviews were returned to all participants. If they had any changes, additions or deletions they wished to make, they were asked to contact me by a certain date. Only one parent called me. At that time I had a lengthly discussion (over an hour) with the parent and I took detailed notes of this conversation as we talked. During this time the parent revealed a lot of personal information regarding reasons for pursuing home education. These facts had not been brought out when interviewing the family at their home and the parent was reluctant to share them even at this point but felt that it was best to state their true reasons.

Observations

Four half days were spent observing teachers and students working in the virtual school classroom. These sessions were audio taped, transcribed, and returned to the teacher. Extensive field notes were taken at the time. The teachers were very open, always eager to share what their students were doing and the methods that they were using to improve their instruction.

Observations were made at the homes of the students in the program and these were carefully documented in a journal after each session. A number of the students were eager to display their work, and their capabilities on their home computers. Notes were also made about the physical surroundings, home atmosphere, and parent-child interaction/communication.

Documents

The teachers provided me with copies of handouts, posters and Power Point presentations on the virtual school, promotional literature on the school, unit plans, student work, reporting methods, and memos sent to parents. Articles in public newspapers on this particular virtual school were also reviewed.

Data Analysis

The on-going process of qualitative data analysis was completed by steady exploration of this virtual school and its participants, combined with continual "checking for accuracy, seeking verification, testing, probing and confirming as the data collection proceed[ed]" (Owens, 1982, p. 11).

Once the transcripts were returned to all participants for verification, I read through them many times as I began to identify categories for the data. I reviewed the audio cassettes on many occasions, listening to the information they provided, trying to make sense of what the participants were saying, not just on a surface level, but underneath as well.

Approximately five days were spent in an initial coding phase, taking every line of every transcript, and placing them into appropriate categories which would allow me to summarize accurately the stories I had been given. Once the initial categories were established, they were then sorted in such a way that the stories within this virtual school could be organized and told.

This initial coding system had to be modified a number of times, with categories changing and information shifting back and forth. As well, the order for re-telling the virtual school experience also changed a number of times. It was difficult to find a format that would do justice to the variety of topics that were made available in the interviews. I returned to the transcripts and tapes on a daily basis as I checked for verification of what I was presenting.

Trustworthiness of the Data

Audit Trail. Owens (1982) stated that "[j]udgements and conclusions in the report should be demonstrably reasonable, meaning that they are well connected to the evidence and supported by a carefully maintained audit trail" (p. 14). A collection of audio tapes, their transcriptions, observation and interview notes, documents, and a journal were all kept to be used for constant reference.

Credibility. When interviewing and observing, techniques were used to maximize the trustworthiness of the data. As a first step I sought to ordain a sense of trust with the participants and thus establish a rapport. I constantly

sought clarification and further elaboration of responses when interviewing, as well as summarizing points during the interviews. All participants received transcripts of the interviews, allowing them the opportunity to expand upon and clarify any statements they had made. The follow-up interviews with the junior high teacher were particularly insightful -- as my own knowledge of the process of virtual schools increased, this led to many further questions.

Transferability. Through the thick description provided from the participants' stories, sufficient data have been made available to give readers an introductory understanding of a number of the issues that arise in this new field of virtual education. The transferability of this study will be obvious "if enough 'thick description is available about both 'sending' and 'receiving' contexts to make a reasoned judgment about the degree of transferability possible" (Guba & Lincoln, 1982, p. 246). It is my belief that much of what has been said by staff, parents, and students will strike resonance with others in the same situation.

This study is not intended to be generalizable to all virtual schools, but hopefully it will be worthy in "the degree to which it generates theory, description or understanding" (Bogdan & Biklen, 1992, p. 46) of the virtual school concept. The goal of the thick description is to seek

> more than mere information or descriptive data: it conveys a literal description that figuratively transports the readers into the situation with a sense of insight, understanding and illumination not only of the facts or the events in the case, but also the texture, the quality, and the power of the context *as the participants in the situation experienced it.* (Owens, 1982, p. 8, emphasis in original)

Thus, through the use of thick description, sufficient information will be provided to allow the reader to make judgments about the project.

Ethical Considerations

Ethical considerations were carefully observed. All participants received a letter explaining the nature and purpose of the study, how the data would be gathered, and the feedback and follow-up procedures that I would be using. Informed consent was obtained from all parents for their minor children. The right to opt out at any time was carefully explained. This included the right of children to exercise their veto-right even if parents had given consent. Confidentiality and anonymity regarding all situations and information was assured. Hence, pseudonyms have been used for the names of all participants and for the virtual school. Participants were notified that a copy of the final study would be made available to those who wished to view it. A printed copy of the study will be made available to the virtual school that was studied.

Chapter 4

DESCRIPTION OF FINDINGS

Introduction

In order to obtain an understanding of a virtual school, one particular school, EdNet, was chosen for study. Data were gathered through interviews, observations, and document analysis. I met with five families and four staff members who were actively involved in this school and willing to participate in this study. After gathering the data, I organized it into categories, which I present in the following sequence to help readers develop an understanding of the operation of this virtual school.

The Program

EdNet is a distance education program for home-schooled students that is conducted via computer conferencing from a junior high school in an urban school district. Students and staff connect on a daily basis through the modems on their computers to the EdNet site where lessons and assignments are posted and conferences conducted. In addition, students have the opportunity to attend classes and receive instruction at the school.

This program is possible because the school was built with a technological focus. The infrastructure was already in place and allowed for the type of expansion necessary to make a system such as EdNet a reality. In this school there is a large Local Area Network and all students, including those in traditional classrooms, have their own e-mail addresses. The media and technology specialist, Mr. Henitiuk, said that "We like to view EdNet as a very natural extension of what we do here already."

Initial Ideas

The staff at the school developed the concept for EdNet. The principal of the school explained:

> The idea came from a group of people . . . saying we've got all this technology, we should be able to do something different. . . . Then we focused on this and talked about home educators and the work that they

> are doing. . . . We came together and decided to bounce some ideas around where kids wouldn't have to come to school but they would be in a school. That's where it started.

EdNet received a lot of initial support from the school's central office administrators because they wanted to provide better services to home schoolers. The principal added:

> The issue of home educators is that we are responsible and accountable for the results but have no input into the process. So we said we would take that over. . . . We did a bit more work here and came up with a name for it. We started meeting with some central services people who helped us through some questions, put the concept together, and write it down. Then we went to the Board last March [1995].

Promotion

One of EdNet's promotional statements reads that they "pushed the walls of [their] classroom into the larger community." They provided on-line education via computer to students who worked at home for the majority of the time. As well, they added to this by providing opportunities to meet the social needs of their students, and by providing teacher support on a regular basis.

The principal described EdNet: "We started with a very simple explanation. It's a very large classroom. One corner of it is a computer, but it has students, it has a teacher. There's communication. Every student has a full time place and that's the path." In the fall of 1996 two teachers and 35 students were involved in the project.

One of the parents said:

> It is like home schooling but you have all the advantages of having school along with that. [My child] is into sports so she has played for their basketball team; and she can still go to dances; and you have the support of a teacher. If there is something as a parent that you don't understand how to teach, then you can ask.

Another parent related what happened with her children when they joined this program.

> They went in and for the first two weeks they met the kids that were in the class. They got their own locker. They felt a part of the school. The

> opening day they had a really neat assembly where they got these T-shirts. They are a part of that school. They are in the yearbook. They can be part of the newsletter. They have one of the kids who is part of the student council. They have field trips, math and science labs so there is this connection socially with the other kids in the group and I like that.

EdNet is a flexible, home-based education program suitable for a variety of families. It has been advertised as an alternative for students who want to accelerate through the curriculum, students now on home schooling, students needing flexible scheduling, students who are "medically fragile," students comfortable in a computer environment, and students requiring alternative programming.

EdNet has also advertised the following resources for their students: access to EdNet teachers, Local Area Network at the school, mentors on-line from the U of A, other programs offered at the school, the school's Internet connections, and the school district's resources (other than those specifically listed here).

Technology

Initially, the idea behind EdNet was to use the technology already in place in the school and give students access to the same things they would have available to them if they were physically in the classroom. This became possible through the use of "remote access software." This software allowed the students to connect to the Local Area Network of the school from their home computer.

In order to be connected to the EdNet program, students needed to have a "Windows" capable computer, at least a 14.4 BPS modem, remote access software, and a telephone line. Students could then dial from their home telephones into the Local Area Network at the school. For security reasons, after dialing, the computer hung up on the caller and dialed back to the registered telephone number. This prevented unauthorized users from accessing the system.

The student was then connected to one of several "work stations" (an IBM computer without a monitor) located at the school. The media specialist

explained: "Each student has his or her own personal private account created on our Local Area Network." They also have their information storage areas and both of these are accessed with a password. Parents also have their own password for accessing the system as well.

Mr. Henitiuk added that when students wished to complete an activity or contact someone else connected to the system, the key strokes they used at home were actually executed on the computer at the school. Through this, they could access any of the school's resources -- software, CD-ROMs, and the propriety software system for communication with their teacher or other students. After connecting, they saw the same screen at home that they would see on any of the computers if they were sitting in the classroom.

The media specialist explained that, in technical terms, "It's a computer at home with a modem and a phone line, dialing into a computer here. That signal comes in through a phone line and through a modem to the machine. That machine is part of the Local Area Network, and that's how they gain access." As more students are added to the EdNet program, more machines have to be added for students to dial into because, as he explained, "Every student access requires a full line coming in and a modem and a machine that it can connect to."

Although the connections were not that reliable initially, the system is more stable now. When there are problems at a student's home, the technician first tries to solve it by telephone and if that doesn't work he will go there.

> Obviously we try to stay away from that as much as possible, but it is the communication method that students are using so it's extremely important that it work and that it be reliable and that it do the job that we need it to do. When it doesn't work, it would sort of be like a student being in a classroom and being deaf and blind. They're not getting the information that they need to be able to do their work. So we need to do whatever we need to do to make it happen.

One parent commented that it was better to have a good modem with the fastest speed possible. Her son said this was "because the system crashes sometimes when you're on," but, she explained, "it doesn't crash, but you just lose connection."

Another family commented that they would like to see the school get a faster server to improve the system. This was completed in the late spring of 1996 and one teacher, Mr. Travis, noted that the new system would have increased capabilities. They would be able to provide more on-line information in different formats. "We'll be able to provide more simulations. Simulations take up more memory, but we'd like to see more of those on our drivers."

Initially, EdNet used First Class conferencing software to provide e-mail and enable students to transfer files. Most recently (September, 1996) EdNet moved to Lotus Notes because it offered a great variety of features which would enhance services to students.

The media specialist, Mr. Henitiuk, said that EdNet was "breaking new ground . . . . It's a major re-organization in the way we deliver those kinds of services to kids and the technology has a major role in that."

Initial Computer Skills

In order to be involved in the EdNet program, students and parents needed to have some amount of computer knowledge. Within the five families interviewed there was initially a wide variety of levels of computing ability, from raw novices to parents who were quite proficient. All of the families had purchased computers prior to enrolling in EdNet. In order to provide them with the knowledge required, an orientation with the students was held at the school when they first started the program.

Ryan, one of the students, said that he was nervous when he first began, but that after the training session and watching others, he caught on quickly. Chris knew some programming, could draw, and knew a bit about DOS. Both Kent and Jessica had fine motor problems and computers had already been recommended for the written portion of their classroom work, so they were anxious to begin completing assignments on the keyboard. Bryant felt that "You didn't really need to know all that much, you'd catch on."

Mrs. Reinders was acquainted with computers through her husband's employment and had done some programming. She felt that basic computer

knowledge was a must, and also noted that the technical expertise provided by the school was very important. Mrs. Dillman also liked to have someone who could come in and repair things as she had crashed her system on occasion, but her comment on level of computer knowledge required for parents was, "I would say not to worry about it. You'll learn."

Mrs. Lyseng felt that it was necessary to have enough experience so that you could "get into the school," (via the computer) but noted that her son could solve most problems they encountered:

> He just keeps expanding. We'll have a problem in trying to download something from the Internet and we didn't have something right, and it is like a month later but he thinks he's got it figured out for me. He just kind of leaves it there and he will hear something or see something and he knows what to do.

If it was a very technical problem, she added, then the media technician, Mr. Henitiuk, was available from the school.

Mrs. Simpson felt that "It can be a headache for the parents." She noted that although she was fairly knowledgeable there was "a fair bit to learn just to keep your computer running." She commented that for the student it's not a big issue because "they learn so easily, they can learn it faster than we do."

Mrs. Gache commented that she had very little computer experience but that it wasn't really a big problem for her. She did note that she'd "like to be able to have some general knowledge about how it works and how to get onto it." Her husband knew "a fair bit." He said, "I have built it from scratch. I've done a number of repairs. I've done a lot of trouble shooting, . . . a fair bit of software loading, all kinds of things." Although he didn't feel it was essential, he felt it was nice to have someone to call on for trouble shooting.

School Attendance

In their PowerPoint presentation, EdNet staff stated that, "[s]tudent social needs are met through school based activities such as group projects, conferences, labs and learning demonstrations." Teachers see this as an important part of providing a blended home schooling program, and they

encourage students to attend sessions both at the school and "off campus." These sessions, while encouraged, remain optional and students are not required to attend.

Generally, the families interviewed for this study attended the school about once a week for various reasons. As well, most of them traveled to the alternate locations around the city when activities were arranged. Their reasons can be divided into two categories: students attending for academic reasons, and students attending for socialization, but often it was a blending of both.

Mr. Travis said, "some kids come quite often. Twice a week. Some kids come once a week. Others come once a month and one student I haven't seen in four months because he's on an educational tour with his parents in the southern United States. . . . So we've been quite flexible this year regarding the student's actual attendance in a classroom."

Attitude toward school attendance varied. Mrs. Reinders says, "We try to attend any of the labs and go to school once a week, . . . usually on Fridays." As well, if the teacher is at the public library, they try to go there as well. Mrs. Reinders saw merit in her children getting together with the teacher and wanted the time that they spent with him to be productive. She wanted a specific day assigned for Bryant and Chris to attend,

> because it has been left very open . . . to the judgment of the parents, which probably some like but I would like to see them say specifically [they] need to be at school on these days. [This could be organized according to learning groups or] a really great math and science lesson plan so that it would be a productive day . . . and have things happen there that don't happen at home. For instance, at home they can't have group discussions. . . . You need the input of other students and you need to see the perceptions of other people and have those skills also besides just independent study. They need the interaction with other students.

Ryan also noted that he went to the school two or three times a week "to bring my work and visit with Kent." He received help while he was there; submitted his work, noted any problem areas, and discussed these with the teacher.

When asked about attending school, Kent was not very positive and said, "It ain't bad." When observed at the school, he was very much involved in what was happening. Later in the interview, Kent did say that it was sometimes fun to do group work.

Student Peter Gache felt students should have to go a certain amount of time, "cause that would almost be a deadline in itself. You know, you'd have to have everything done before that time." His parents take him to school about once a month in winter months, but they do *try* to make it about every two weeks.

Mr. Browning, who taught the grade 4 - 6 students in the spring of '96, stated that some of the students needed to attend more than others. With this age level he said that it was necessary to meet with them a minimum of once a week for up to half a day. This was a general rule -- and he qualified it by saying, "and then some of those students I can see on a regular basis, every two or three days and that would help them out. Then there are some kids every second week or third week [that are fine]." He noted that it depended on the student.

The meetings with the elementary students were more structured in nature.

> What they do is they bring anything that they had trouble with . . . so we end up working though all of the problems . . . and then just giving them hard copies, quite often, of assignments. Making sure they are on task. We set goals, where they should be, what they are going to be doing until the next week when I see them again.

The junior high students also had a chance to meet with their teacher on this type of basis. "Right now we're meeting in mutual sites . . . . Rob Browning or I or sometimes even both of us will meet in the [public] library because we have a lot of kids who live east of the city so they can give us assignments, we can work with the kids for a while. Just to meet and talk with them . . . is important," stated Mr. Travis.

All EdNet students were welcome to participate in the drama productions, house league programs, active-living days, school teams, and interest clubs that were held at the school.

There were students who came to the school for Physical Education. As well, others took Phys. Ed. at other schools in the city. The principal described this as "brokering" for services with other institutions. Jessica, for example, still attended gym classes with her friends and classmates at the junior high school that she had attended before switching over to EdNet. She joined the basketball team at the EdNet school, however, and travelled there to play this extra-curricular sport.

On-Line In Practice

The variety of parents and students in the EdNet program was equal to the variety of school work being done and the progress being made in the program. In each home, families were doing different things in different ways.

The day began with students going to their computers and turning them on. They saw a screen which indicated various icons they could access. From this screen they could choose to connect to various data bases: unit plans, e-mail with the school, or discussion data bases. If a message was waiting for them from their teacher, they knew that they should open that first. Next, they knew they should make an agenda for the day and e-mail this to the school.

All families agreed that students should be setting and following an agenda; they needed to have goals and deadlines to follow. They did not agree on the format of the day -- they utilized the flexibility and individual choice allowed by EdNet. Mr. Travis didn't mind this but said that the *ideal* would include students logging in to see what they have to do, and then sending a copy of their day plan so that he had some idea of how they were organizing their day.

Some parents allowed their children to set up their own day and then the parents checked on them regularly, offering and providing assistance. Some of the parents gave their children a starting point such as an initial timetable or

chart that the students followed in planning their day. As well, some families had more than one child sharing the same computer, so timetabling was also necessary to accommodate this.

In other homes the parent was "available" and "just sort of knew" what was going on with their children. In some homes, parents set out projects for the week but were flexible on a daily basis. Not every "system" worked for every child in the program. The teachers allowed for flexibility in planning, and while EdNet instructors *requested* a daily agenda from their students, and *wanted them to log in at least twice daily*, it did not always happen.

None of the students worked on all core subjects every day. One parent thought that this was one of the problems her daughter was having in a traditional classroom -- having to switch subjects so often: she explained,

> Jessica took about twenty minutes to settle down to work so when she was working five subjects a day she was basically getting half a day out of it. Whereas now she usually works -- it really varies -- it depends on her. If I see she is getting restless I'll suggest she change, but otherwise she'll often work for two hours straight.

All of the students preferred to keep going with something if they were "into" what they were doing. Mr. Travis noted this also and said that teachers impose schedules on students by forcing changes on them throughout the day. He said that this wastes a lot of time as students have to re-organize and settle down to work once again in a new subject.

Each student talked about trying to complete a certain number of projects every day. One boy noted that he did three projects a day "from different subjects. If you work on a project in each thing then you'll get ahead slowly, but you're finishing it all at once." Another boy noted that he did "two projects from each subject." One student said "I work on about two subjects every day."

Families varied in the amount of time devoted to school work. Three of the households tried to maintain a minimum number of hours (somewhere between four and six per day) but were flexible about this; another household didn't keep track. The mother in the fifth family said her child worked from one to five hours

per day, averaging fifteen hours per week. Some students got up at a certain time, others said they should get up earlier to be more successful. EdNet instructors found that "with the amount of curriculum we're trying to cover, kids have to be working about four to six hours a day, . . . four hours minimum for most kids."

Not all of the student's day was spent on-line. Mr. Henitiuk, media specialist, described what a typical on-line session might be like for an EdNet student. "They would log in. They would go into the electronic mail, receive some information from their teachers, submit some information, participate in some of the conferences, maybe do a little bit of CD research, and exchange some mail with some other students, and then log out. So they don't stay connected for hours at a time."

Mr. Browning wanted to see elementary students making a one or two week schedule for themselves. They could plan what they will complete in that period of time. As for working on each subject each day, it did not matter to him. "If they're really excited about something, or some aspect of it, if they work a full day on it that's great . . . . You can catch up on the other later on."

Most students started work after 0900, had at least one break (usually for lunch), and had a variety of activities going on. As well as the work they did on their computers, most of them were active in other project areas.

If they experienced difficulty or wanted to hand in assignments, they might go to the school. If there were labs or field trips or scheduled meetings with their teachers they might go to the meeting in those specified locations.

Four of the parents described what happened in their homes on a daily basis:

> 1. We often read together in the morning, . . . and then Jessica just works on her own for an hour and a half or two hours. I'm not too sure. and then we have lunch. I guess in the afternoon I usually try to get her to do things she might need more help with.
>
> 2. He usually goes into the school through the modem about 0830, finds out if there are any messages from Mr. Travis or anything like that. And he gets going on what he has to do whether he has to take some

information out of there [the computer] or start working on a report or something. That might be for an hour or two. Then his computer time is up unless he makes special arrangements and he has to do some work right now, so he usually works most of the morning and that is about it. Then we might make trips to the library or half day at school or something else.

3. We actually start at 0900 but it is hard sometimes to get him up. We do have arguments about it and we're trying to organize him. . . . Let's take Monday. Monday his tutor comes, then in the afternoon he goes to Tae-Kwan-Do, and in the middle before his tutor comes we do phonics.

4. What we have is a routine and the ways it works, they have a poster and they know what the basics are that have to be done. I check in with them in the morning. They first write their day plan. They had an agenda given to them at the beginning of the year. They write in their agenda what their plan for the day is. They are to show that to me. I look through it and talk to them about what they are doing, maybe suggest they put some more things down if they are just putting what I think is only going to take about an hour. For the core subjects it is understood that they should put in four hours a day. . . . Then they e-mail Mr. Travis with that day plan so he knows in the morning what the boys are doing and then that way they pick up the mail from him because he may have some comments on the day before . . . . Then they do their work. They have an hour off for lunch. They go back to work and then they do their journal and then I look at their journal. I pretty much check at the beginning and the end or if I see them idly sitting around doing nothing I may check on what they're supposed to be doing.

Curriculum

Philosophy

The EdNet program is based on a model of facilitative learning, and uses integrated as well as subject-specific units of study; it follows the Alberta Education Program of Studies used in the regular program at the school. Currently Mr. Travis, the junior high EdNet teacher often combines social studies and language arts, putting some math and science questions into these units as well. He refers to this as a "thematic approach." He also has dedicated units of study for math and science (where they are subject specific, not integrated).

Not all families were in agreement about whether they like this "thematic" approach. One parent said, "I don't like combinations of subjects." She preferred that the units be more "to the point and more factual."

Another parent commented on how they were able to adapt the lessons through contact with the teacher. She felt this better met the individual needs of her child. Her child stated that although everyone received the same work, it was "not the same answers for everything."

Yet another family commented that although the units were not perhaps clear enough in some cases, they liked the flexibility that the thematic content allowed them. Within the themes presented, one aspect might be more appealing and then they would focus their energies on that area, perhaps doing less on something else. Her child would like to continue with integrated units, but would prefer that they were shorter. One advocate of the thematic approach was a parent who said:

> Personally I like the thematic approach because to me it's more like real life where math, science, and language are all tied in around a theme. Just like when they are in the work force and they have a project to do, then it incorporates a lot of different skills and it is more real. It is also more motivating because they get excited about a theme of sports or something like that.

Core Subject Design

A unit of lessons is prepared by the teacher and a message is sent to the students via e-mail that the unit is ready for replication. When students receive this message that the unit is waiting, they can download it through their modem into their computer and then print a copy of it. Units include the objectives to be covered and an outline of a list of "projects". For each unit, resources are specified, and students are usually given choices about which ones they may use.

While all students receive the same unit, there is an opportunity for flexibility since students are able to negotiate some of their projects. Some projects may be completely optional. For those who are interested in developing

a project in more depth, they may be allowed to leave out other assignments or combine them. EdNet staff see this as developing part of the "new culture of learning" whereby students are "developing goals and plans to complete assigned projects."

Mr. Travis feels that he has to be careful about how much he includes in a unit because if there is too much, the unit may crash while on-line. In 1996/97 he also wants to give the students the opportunity to have some say in what they're doing and to direct some of their learning. He explained, "Some parents probably feel that there's not enough structure, not enough expectations . . . for each project . . . . And we're learning that some kids want more and some want less, some kids want more freedom to negotiate their projects." He gave an example of a boy who called him and wanted to make a model rather than reading a text and answering some questions. He thought this was acceptable and later acknowledged, "It's how you organize the material. Those kinds of skills are probably more important than the content."

While Mr. Travis likes the negotiation aspect and feels it is a valuable part of his program, he does agree that there could be a certain amount of improvement in the unit structure and expectations, and this is something he wants to work on. In the fall term of 1996 he introduced a time element for each project. When a student now looks at their unit plan, they see a specified number of hours that the teachers estimate it will take to complete each project. This helps them to plan their time more efficiently and gives them general guidelines of what is expected of them. This partially addresses the parent comments which included requests for yearly plans with time frames and goals. They wanted to know how much material should be covered over a space of time. One parent said, "We want to know how much material we should cover in a week on that subject." Another parent was concerned about children "getting behind." One parent noted what happened when timelines were absent: "You don't have that deadline, the time management is more difficult."

Within the on-line environment, deadlines are not easily set. Mr. Travis explained that in a regular classroom when he says an assignment is due, he has a number of strategies at his disposal to ensure that this happens because the student is there with him. On top of that, he says, "We can't impose schedules if we can't do anything about it . . . . They know I can't just go out there and get the assignment from them . . . . It's a problem we have to resolve." Currently the teachers present general expectations of when they want a unit done but they are willing to negotiate these dates.

At present Mr. Travis saw two ways of addressing this problem. The first was to enlist the help of parents since parent intervention and assistance are really important in helping students complete work on time. The other was that EdNet teachers wanted students to take more responsibility for setting their own goals and guidelines about how much work they should be completing. This was difficult to gauge with such a diverse group of parents and students because they all had different expectations of what and how much they would like to see done within a certain amount of time.

Mr. Travis noted that there were those who only wanted to have their children complete the minimum requirements, while other families wanted their children challenged or accelerated. One of the prime motivators for many of the families who chose the program was they could work at their own pace and EdNet has promoted this idea of flexible schedules. What this pace will be for each student is partly determined in the home.

The other teacher, Mr. Browning, explained that the physical design of the unit was a "paradigm shift" for teachers. Working with grade 4 to 6 students, he realized he had to communicate well so that both the parent and child understood what was being asked of them. He noted that in a classroom setting, a teacher would check for clarification with the students as the concepts were presented. If students didn't understand, the teacher would explain further. He stated, "With this you have to be a lot more precise, you have to be very clear what you want them to get done."

The other thing Mr. Browning had to be aware of was that a unit was a very large amount of work for an elementary student to focus on. He would give a deadline for the whole unit but he also broke it down further with those students that he met with in person. There they would set smaller more manageable goals, often on a weekly basis. One of the parents specifically requested this: "With the younger group -- more specific deadlines, more specific goals, breaking the material into smaller pieces, and only once they have done that, then get some more."

Some of the students may want to move more quickly through the curriculum and they are allowed to do so if they are able to demonstrate the necessary achievement and work habits. As an example, Mr. Browning described how one of his grade six students had completed some of the grade six curriculum by the end of January last year and the teachers were able to provide her with some grade seven units.

They also considered that not all students needed to complete the same work within a grade because they weren't all at the same level of skill development. Mr. Travis wanted to develop "mini lessons" for inclusion with the units so that in a home when the assignment was, for example, "write a persuasive essay," the support would be available if a student did not know how to do this. Another student may not need that extra lesson and so would not open up this file on the computer:

> We recognize that we have to deliver support to the kids and parents. The parent is more involved and some of them need extra materials so that they know what a persuasive essay should look like. . . . If they don't know how to do something like that, I say "If it's unclear to you, download this file. That should help you. If you have further questions, contact me."

Discussions with the students and their parents revealed that it wasn't always the same subjects which were difficult for children. Often it was the subject where a student previously had problems which caused the most difficulty on-line. At the Reinders home, one boy found Language Arts the easiest but needed special help with math. It was the opposite for his brother --

he had problems in math. Both boys found science and math more difficult on-line because they preferred the hands-on activities. Their mother agreed: "I think science is a real hands-on thing that just can't be covered over computer."

In the Dillman household, Ryan put subjects in order from hardest to easiest -- social, science, language arts, then math, "because I'm really good at math!" The response was just the opposite in another home: "Math and language arts need more drill." In this house math was not a subject they worked on every day and it presented a challenge.

The Simpsons found reading the hardest and felt that with the design of the units, more reading and writing were done so this helped to improve their daughter's skill level. They found social studies difficult also, with math being the easiest. Jessica pointed out that math units were also shorter than the others.

The teachers also mentioned that math seemed to present the most challenge for students and attributed this partly to the curriculum being used by most home-schooled families -- the requirements are not the same as the Alberta Curriculum. Another factor was that math is often taught using "manipulatives" and this was not possible in the current on-line environment. Mr. Travis proposed another alternative: "I think in a regular program in a regular school you get math every day. Your teacher imposes homework every night. When you work in a home environment unless a parent has a very particular interest in math, math is perhaps the one thing you let slide."

Presentation Options

Basic expectations were given for each project within a unit but Mr. Travis said, "I don't say obviously or specifically in what form they have to present or demonstrate what they know." Parents and students agreed that this allowed the students more flexibility in both their approach to the topic and the presentation of their findings. In discussions with parents and students they talked about a wide variety of approaches they used.

At the Simpson home, Jessica became interested in a unit on structures and decided to do research and a photo essay around the city which pictorially

showed her findings. Jessica's mom explained by saying, "If she is more interested in something I'll kind of encourage her to put more work into it than might be necessary -- just because it is something that she is willing to go further with." Mr. Travis noted, "You couldn't do that in a regular school program, and it helps with the assignment." Jessica had also used PowerPoint as another multi-media approach for demonstrating what she had learned.

Kent Lyseng also used PowerPoint for many assignments because he liked it and it was an area of interest for him. As far as being able to present information in different formats Kent explained, "I like having the choice." Kent explained that although it is the same unit for everyone, "You could use PowerPoint, or you could do a traditional report, you could do a video in the park or a photo collage." Although Kent knew of and used other formats, PowerPoint was his favorite.

At the Reinders household, Bryant and Chris had done radio programs, videos, graphs, and charts. Mrs. Reinders explained that their favorite has been the use of computer special effects:

> Yes, this is great. This is one place they have really excelled in. They have done videos and my one son Bryant did some special effects and had fun doing that in his presentation. They both have used the computer, like Chris is working on presenting one of his reports with a little character he made -- it speaks and so it is an animation. They both like programming so they are always trying to think of ways [to use this]. Bryant used a PowerPoint presentation for one of his and so they get excited about that. Chris is into animation. Computer animation is the area he wants to get a career in. Whenever there is a project that he can do something along that line, he does it. There is one where he is supposed to report on ancient machines. He drew the ancient machines on the computer with a little bitmap. It is really good and something he enjoys. Another kid would have taken five minutes doing that project but he is taking a long time but it is okay with me because it is an area he is interested in.

Her son said, "I like that. I am good at using computer graphic systems. It is really fun when I do that."

At the elementary level, most work is still being returned in more traditional formats (written reports and displays). The students bring their work with them to their weekly meetings with their teacher, Mr. Browning, or they submit it to him by e-mail.

Mr. Travis reported "When I send out a unit I make it clear that it doesn't have to be the traditional report." One family feels this "gives a lot of leeway for individual ideas and needs, and seemed to motivate them because under the project guidelines you can do "this or this" and those choices would fulfill the project. The students like that." As well, Mr. Travis says he is prepared to negotiate if a student would rather do something other than a certain assignment: "I try to get them to use a variety of ways that suit them."

The teacher also drew attention to the growing level of technology being used to present these non-traditional demonstrations of learning. He revealed that some of the students have "high-end machines," computers with advanced technological capabilities, and that through these, the students are producing "fantastic projects." He said that the technology level of the student and their computers "is better than ours and they're learning from each other about this. The multi-media stuff is incredible. They're even sending us videos [on-line]!"

As well, the open-ended structure within the projects requires a lot of decision making on the part of the student. Mrs. Lyseng said that her child could "take one task and do a wonderful job on it but it would take him forever." She does say that there is room for meeting individual needs and interests with the ability to negotiate and present work in different formats. "That's one of the reasons they are so open . . . so you can go with the individual child." Her other comment was that if there was a simple curriculum specifying a minimum amount of work in each unit, then they would be able to concentrate on areas of interest after completing the required projects.

Alternative Physical Education Option

Students who did not attend school for the physical education component of their program had to design and follow an Active Living Plan. This plan had to

specify what activities the student was participating in to meet the requirements of Alberta Education. A variety of activities were included in the programs that the students set up. One family had their children in football, baseball, swimming and squash. Another student took Tae Kwan Do three times a week with an instructor. One young fellow did "a bit of Tae Kwan Do, lifted weights" and got regular exercise that was not specifically planned into his day (like bike riding in the river valley). Another family said that one of their sons played indoor hockey, but their other child did not really follow a plan or participate in physical education.

Mr. Travis said "This year we've tried to make kids accountable for active living programs and to prove the things they've done. Some are very involved and develop outside of school just as you do in a Phys Ed class in any school."

Fine Arts Option

Within the different families, the emphasis on meeting the fine arts requirements of the Alberta curriculum varied. Some families were planning their daily lessons to include components of music and art while others stated that their children were not interested in these activities.

In one of the homes the mother was an artist and she had her children do drawings, ceramics, and computer animation. These children also learned to read musical notation on the computer but since they were not interested in music, they did not pursue it any further.

One of the parents employed a tutor for her child. This teacher came in to their home twice a week and provided vocal and keyboard lessons. As well as providing the fine arts component, the voice lessons helped the asthmatic child's breathing. The student said he enjoyed these lessons and even composed songs on his own.

Another of the students had fine motor problems and most art assignments were done via the computer to accommodate this. No music lessons were pursued. One of the families interviewed stated that music and art were boring to their children so they didn't make them do anything except

complete those drawings which were related to assignments for other school work.

A youth leadership course, and speech and debate preparation were included for extra credit by one family. The parents were pleased that "these qualified for credit. They can take outside activities and qualify them."

Students had the option of attending the EdNet school facility for complementary courses. One student participated in drama. Another option that was discussed was "brokering" of these services (buying them from another school).

Mr. Browning described the opportunities for fine arts that were available to EdNet students during the 1996 year.

> There are three things. We developed one art program here, and some of the kids are doing that. A lot of them are just doing stuff at home. And the third thing is that we've had some kids where we've kind of been their brokerage, and they have actually done it in their area school. There's two kids in the elementary section that the principal here has looked after, and they go to school for French, Art, and Phys. Ed. The school here ends up paying the school for that time that the child is there. I see that happening more in the future for us.

Math and Science Labs

EdNet provided opportunities for students to attend math and science labs. The labs were designed to cover certain concepts in those areas, as well as to provide group work and opportunities for interaction among the students. Jessica's mother was impressed as she had concerns about her child's socialization and felt this helped to meet this need. She wanted the students to be brought in regularly -- about twice a month -- to work on group activities of this nature. Her daughter liked the group work and also wanted to meet and "just do fun stuff too."

One parent was drawn to the EdNet program partly because of the labs. "I saw EdNet and then I thought that's a better idea because the kids can go to the school and do science projects and that kind of thing with other kids and have some social contact." This social aspect is what encouraged her to leave her

previous home schooling method. Another parent felt that labs were an important part of the science curriculum, and suggested that students could go to school and do "a month's worth of labs that day, then go home and write them up."

All students in the EdNet program were invited whenever labs were organized. A teacher was contracted to operate the program. Because of the range of ability in grades 4 through 9, there were multi-entry points during the day. Three of the five families interviewed requested more math and science labs as they felt these would help their children to be more successful in EdNet.

Work Experience

EdNet students had flexible hours to complete their required courses and this allowed them more opportunities to work in the community than traditional junior high students had. A junior high work experience program was in place in the school and a number of EdNet students were able to become a part of it. Students were able to go the Provincial Museum and the Space and Science Center where they helped to set up displays and do other work. Other locations where students had placements were the Future Shop, Strathcona Wilderness Clinic, and a veterinary clinic.

Evaluation

When advertising EdNet, the school emphasized a "focus on achievement." During the 1995-96 school year evaluation was administered in much the same way as in a regular classroom. EdNet students had the option of coming in to the classroom to hand in assignments and complete tests. Mr. Travis said that students who were greater distances from the school arranged to take their tests at home, joking that it would be very difficult for his students in Sri Lanka to come in for every exam.

Assignments that were submitted electronically could be marked "on line." Mr. Travis said "Sometimes I actually mark it on the screen, insert bold face italicized comments, and send them marked back to the kids, and a copy to the parents of the results of the assignment."

Parents also received the regular report card that the other junior high students at the school received but Mr. Travis felt that this didn't work as well for the EdNet students. With e-mail the teacher could highlight all of a child's file "and send that to his parents every week or two weeks or whatever. [If a] parent phones me and says I just don't know what my son is doing, I'll send [them] a summary of their work."

Comments regarding student progress indicated that parents felt they were receiving more feedback than in a regular program. When the formal report card was distributed it had a lot of student assignments attached to the back of it. These assignments were all teacher-marked, as opposed to being marked in class by other students. A lot of written comments from the teacher were included. One parent commented, "I don't care. Report cards aren't important to me. That he does it is important and that he learns from it is important." She felt more informed in this setting, and she said that she sees what her child is doing because she is there working with him.

Other feedback was provided to the parents via e-mail. For some parents this was satisfactory and one parent felt it eliminated the need for formal reporting. Another parent said, "He'll [the teacher] send an e-mail saying how well she did, and what he liked." Another parent said, "He always uses the positive approach and gives them a good pat on the back and then reinforces a skill that they need to work on more." She also appreciated the opportunity her child had to improve the mark on an assignment by re-doing it. The teacher will say, "I like the way you did this, now if you just go back and refine this and this, it would bring that up to 90% or better." This comment was made by many of the parents and students -- they liked the opportunity to raise their marks by improving on the work completed.

Mr. Travis explained, "I have an on-going file so that as I mark something with comments I keep a cumulative file that has descriptions of what they did. I usually try to think of one area that they should improve on in skills, and perhaps

one that they were successful in. . . . The way I've kept my marks this year, the comments were often as valuable as the marks."

Student Interaction

EdNet students had various ways to interact with each other even though they were not present in a traditional classroom on a daily basis. This interaction was deemed very important to all students, and quite important to many of the parents.

Conferences

Students were encouraged to interact via participation in on-line conferences. To do this, a student connected to the Local Area Network and selected a conference from the variety available. The student could then have "discussions" with other students on issues related to those topics.

When EdNet first began, there was a forum (conference) for each of grades seven, eight, and nine, a games conference where students could discuss the latest in computer entertainment, an Internet conference which covered a variety of topics, and a current affairs conference. Two of the current affairs topics that the students discussed were the massacre in Dunblane, Scotland, and the creation of the new Canadian coin, the "toonie."

When EdNet changed over to another software program to manage their data base, the conferences changed slightly. They included Current Events, Writer's Workshop (where students could post what they had written for others to read and comment on), Tecki Stuff, Sports, and Student Biographies.

If a special event was happening at the school then there could be a conference created that was directly connected to the event, such as the "National Peace Conference" held at the school in the spring of 1996 involving students from all over the world.

The interaction on a conference began with one student writing an article on a topic and posting it via electronic mail. Other students could then read it and react to it. The replies followed sequentially and were numbered. Mr. Travis explained that, "it's not face to face, ... [but] this is one area that they can interact

[and] the structure and the language they put together is usually more than you would get in a regular discussion in class."

Student interest conferences were moderated by a student or the teacher. As well as creating new conferences as requested by students, the moderator's job was to ensure that the conferences did not get out of hand. After a student posted a message it was only accessible to the moderator and/or the teachers until it had been read and approved. If a message was not appropriate the moderator could contact that student to discuss changing the message, or the moderator could talk to the teacher about it. If a student didn't respect the rules regarding the conferencing, the moderator could suggest to the teacher that the student be locked out of participating. This has happened on a few occasions, but never on a permanent basis. If messages were suitable, the moderator would approve them and they would go into the conference to be read by other students.

Mrs. Lyseng felt that there were some positive aspects to student conferences but she also mentioned that "it's kind of like they are just fighting over the e-mail instead of in person. You do have your regular social menace who will go around blasting somebody and it goes back and forth." Her son says that, "Sometimes they start fires! Arguments go on in there and then sometimes they end up with personal mail that is not nice." Kent said that he participated in the student interest conference, but not the current events one.

Mr. Gache wanted most of the conferences abandoned: "The student conferences are nothing more than socializing, and if they're going to have them, have it so that students realize this is a socializing method by computer. The only things that should be there as a classroom activity is something that relates specifically to course content." His son Peter said that the arguing in the conferences had been "cracked down on" and that although they weren't of much benefit to him, it was "fun and entertaining to meet people on-line at school." When asked if he would participate if he received marks for doing so, he said, "No," he would only participate if he were interested in the topic.

Ryan participated in student conferences, mostly on game topics. He said that if he had free time and was interested in a certain conference he might participate, but if he were being evaluated on his participation then he would be more involved.

Mrs. Simpson was concerned that her daughter Jenny did not have a lot of e-mail contact with her classmates and was encouraging her to do more of it. Jenny knew that her teacher, Mr. Travis wanted them to be involved in conferences and to talk to other people but she said that, "it's kind of boring, just asking these math questions and then argue about the answer." She also agreed that a participation mark would encourage her to get more involved than she currently was.

At the other end of the spectrum, Mrs. Reinders viewed the student conferencing as valuable,

> because at that age they need interaction with other teens. They need to have their conversations about "Descent" [a game] and whatever. My boys only spend about ten minutes on those things but I think they really look forward to their conversations with their friends over the e-mail. If we took that away I don't think they would be very interested in EdNet. It's a vital thing to them.

Her son Bryant noted that "on the mailing system, you can send anything to your friends but you can't take it back unless you un-send it." A message could only be "un-sent" if the person to whom it was sent had not opened it yet.

When asked for his opinion on student conferences one teacher felt they were very good. He said that some of the EdNet students didn't "have the right etiquette in place," and that this was something they'd have to look at further.

> There are certain things you can say and certain things you can't say. For example, putting people down for their opinions, we found that happening quite a bit. . . . So those things have to be talked about right from the beginning because it's a whole different culture.

Mr. Travis felt strongly that conferencing was important for the students.

> I think it's crucial to get kids to interact with other human beings. I think the whole idea of a kid working in some den or basement room, hooked up to a computer just doing school work four or five hours a day -- there's

> something about it that turns me off. I think we have to develop ways where kids can interact with other kids, other teachers, and other adults. Some kids have done that very well but I know there's other kids who have really avoided interacting on important issues.

One of the ways he may encourage more extensive participation in the future is through evaluation, as if the student were in the classroom. He notes that interaction via the conferences is growing all the time and some students were going into the data bases and spending hours reading and responding to the material there.

EdNet teachers noted that these conferences were contributing to a new "culture of learning" whereby students were "establishing working relationships with other students on-line." They described this as one of the ways that students could meet social needs.

Even with these provisions for socializing, students still expressed a desire for face-to-face interaction and group discussion. Ryan wished that there were more students at school on the days he attended because "you get to hear different people's ideas." Chris also wanted more opportunities to meet and talk in groups. He said he missed this aspect of the regular classroom.

Field Trips

Field trips were arranged for EdNet students. They went to the Provincial Museum and the Space and Science Center. All the students talked about how much they enjoyed these excursions, mainly because they liked to be with their friends and have the chance to socialize. Chris said that the best thing about these trips was "probably being with my friends." Ryan said, "there's not enough field trips," and that although he enjoyed EdNet, he missed the contact with other people his age.

Friends

A number of students talked about the opportunity to "make friends and meet people." Some of the students have held birthday and Halloween parties and invited other EdNet friends to their homes. The students also talked on the telephone to each other. One of the students went to the school dances, which

she wished that they were held more often as she liked going to them and meeting other young people there.

The parents of three of the families were very encouraged by the socialization aspect of EdNet. Two of these families had previously been on home schooling and they felt the socialization was lacking in their other programs. One parent said "I chose it because it had a social element."

Mr. Travis also felt the social aspect of school was important. "You know how the junior high environment is. Basically interacting with people every time they walk down the hallway. It's like energy, it's like molecules heated up and I think they miss that type of interaction." He viewed the social aspects of EdNet as important although he was not overly concerned about the amount of time a student actually came in to the school. Students "coming in to the school physically is not a major issue with us -- lots of the students come two the three times a week but for students in Sri Lanka and Turkey on extended trips with their families, this just isn't possible."

Changing Relationships

Teachers

In discussing the impact of this form of education, the principal saw the role of the teacher as

> much more a broker, an advocate, involved in negotiations a lot more as opposed to the more traditional sense where the teacher creates the lesson, creates the long range plans, and then the student receives it. In this case the parent requests, the student requests, there is a lot more negotiating.

When they were involved in the creation of EdNet, they were aware that the role of the teacher would have to change to accommodate the physical distances involved.

The teacher was to be in a supporting role for both students and parents. Although they provided the basic lessons, the teachers were not making the daily decisions as to how the curriculum would be covered, or even what specific resources would be used to learn the skills or concepts. Students were

encouraged to take more initiative in making decisions in those areas, with the teacher acting as a resource person. Mr. Travis said, "We encourage them all the time to look for additional resources. We give our kids basic support material. If they had to, they could use the textbook." The principal noted that "teachers must be able to put material together for a wide range of student needs, and must really understand the curriculum and what it's for."

Teachers in this setting also had to be very flexible. Mr. Browning said, "You get pulled in a lot of different directions. . . . There are certain things I want to have accomplished by the end of the day. It doesn't always happen because so many things end up interrupting." Even though there were not always students present, the EdNet classroom always seemed to be humming with activity, with phones ringing, students coming and going, and any number of people arriving frequently. The traditional notion of not interrupting teachers during class time was not evident in the EdNet classroom.

The most frequent criticism made by some of the parents was that the teachers were not well enough organized. Most parents conceded that this improved as the year progressed. The teachers themselves said that they wanted to improve this aspect of their program and that this should be easier as they "will be able to anticipate a lot of the problems that are going to happen in the future. Everything will be up and running sooner than it was last year." They wanted to have the units and resources in place, as this caused the majority of the problems in their first year of operation.

Mr. Travis commented frequently on the accountability of teachers.

> We are much more accountable in this kind of environment. If I send a unit plan that means everyone sees it. If I send a lesson, every parent sees it. Usually you asked your kid what they're doing at school and they say, "I don't know. Nothing." Well, parents log on and see what kinds of things are sent to a kid, so you're much more accountable.

While interviewing there was a special sense that much of the success of EdNet was due to the particular characteristics of Mr. Travis. Certain attributes of his personality and teaching style were mentioned a number of times. Mrs.

Dillman said, "He's interested in each student and makes them all think they're favorites." Mrs. Lyseng indicated that he's "great, flexible, and patient. You can talk to him about anything." She noted that he has a good sense of humor and provides constructive feedback. One student said that occasionally Mr. Travis would "bend the rules" and give extra time to complete an assignment. Mrs. Simpson said he tried to get students enthused, used different approaches, and was flexible. She also said that he is "pretty quick in picking up areas where kids might need more work, or areas where they are doing really well . . . I don't know how he does this so quickly." One parent said very simply, "He likes to help kids."

Students

Not all students are suited to on-line education in a blended home school setting such as EdNet, and some students were even asked to leave because they did not fit the learning style required to be successful. Those students who excelled were those who were in regular contact with the school, those who logged onto the system to receive and send messages on a regular basis, and those who submitted daily agendas and plans.

As well, self-motivation and an ability to work alone and/or with their parents were important characteristics of successful students. They needed to be able to ask for help, and maintain open communication with their teachers. Some students were adept at this but others lacked initiative in contacting their teachers when there were issues to be dealt with. Mr. Travis said this happened much the same way it does in a regular classroom.

Students needed to be able to take responsibility for their own learning. Students with good organization skills also had more success. EdNet wanted students "taking the initiative to acquire information and other resources to complete projects." One parent noted that "If you don't have a mother who pushes you, then you need a really good work ethic." A student commented that "You've got to want to work, to improve your marks, otherwise you're just going to sit around and do nothing."

Students needed to develop a method of communicating with others in an on-line environment. They had to accept that they would be more accountable for what they said as they left a written record of their activities and comments. This on-line communication was important as they would have less opportunity for actually meeting with other students.

Student motivation was discussed by many families. For each child there was different attitudes expressed about what would motivate that student to do better. Flexible projects, thematic approaches to subjects, and positive reinforcement from the teacher were all important to the students. All students agreed that being able to use the computer to complete assignments was a bonus. Two students were competing for the best marks and to see who could finish units more quickly. One family felt that being able to accelerate through the curriculum at a faster pace was motivational. Another parent felt that the work should not be boring and that there should be incentives for students to finish. One father noted that his son needed frequent of prodding but added that "When they can see that they are accomplishing something their motivation increases." One parent conceded that it might be harder to be motivated in EdNet because you didn't always have someone checking up on what you did.

Parents

The EdNet program required a high degree of parental involvement. The school considered the parent to be a "teacher aide" for the child, and parents were expected to assist their children with their work, supervise them at home, and maintain contact with the school via e-mail and telephone. As well, they were welcome to review assignments with their children.

Different parents provided different levels of support. All parents drove the students to the school and to field trip or meeting locations, with the frequency of this varying from three times a week to monthly. All parents commented that they helped their children with the organization of their work.

Mrs. Lyseng said that the "parent should be home to guide them and to keep track of them." Mrs. Reinders monitors this when she checks the agendas

of her children every morning. If she felt they needed to add anything they discussed it. She spent about an hour each day doing this, checking with them before they started and after they finished to see what they accomplished. Her child said, "When she's here I do more."

Among the families interviewed, the mothers were home most of the time during the day but the degree of involvement varied considerably. Mrs. Simpson read for a couple of hours a day in the room where her child worked so that she could "help her avoid frustration because then she gets really *off* of things and it takes a long time to get her back on task. I'm there to sort of avoid that. Like if things aren't going well she has someone to ask." Another mother said that some weeks she did not do anything to assist her child. One student stated that "my mom is just impossible to work with." He wished she would not give him the amount of help she did.

Three of the mothers helped their children locate resources for projects. This often included trips to the public library or other locations around the city area. One mother searched the Internet for her child, and a different mother indicated that because her child was a visual learner she looked for films on related topics to help her child.

Two of the mothers read with their children; one of them used a phonetic reading chain to help her son with his dyslexia. Mrs. Reinders viewed her role as being "accountable for making opportunities available but I felt that they have the responsibility of doing their work and doing a good job. I'll encourage them but when it comes down to it, it's up to them."

Parents taught mapping skills, used context clues to help students determine word meanings, proofread work, provided math examples, helped students manage their time, and provided encouragement. Other times parents directed the student to call the teacher, or took the student to the school when they couldn't help them at home. One of the parents said she didn't feel she needed to know every concept herself, but it would be nice if she did because

then instead of "going through all the work to get to it, I would just tell him [the answer]."

Mr. Browning described the role of the parent as one of importance. "We know that they have to be there otherwise it won't be successful. The couple of kids that are not successful, we know that their parents have kind of let their kids do what they want and there is no support. There is no guidance at home." When asked what type of parents EdNet was looking for he said "parents that are really concerned about the education of their child."

The EdNet school principal described the parent role as "almost like having a private tutor for your child." Mr. Travis said that the best students "seem to be the kids whose parents have accepted the higher level of involvement in the kid's education. They're very keen, they provide opportunities for their kids to do projects away from the traditional textbooks."

Mr. Travis described what happened in one of the homes. "Her child is perhaps the top student in EdNet right now because it really fits what they're doing at home. . . . Her mom has really maintained a very structured environment." He noted what happened when student behavior and family expectations did not mesh. "Somehow all the kids, especially at the very beginning, thought this was freedom. You know, they could stay up late, sleep in 'til 12 o'clock every morning, and we found when their personal routine started to conflict with family expectations, it's bad news." The parent had an active role to play in keeping students focused and on task.

Role of Alternative School Site

Twelve students enrolled in EdNet via the YMCA. About half of these students were of native heritage and all of them were students at risk. For some students this meant that they had been involved with the justice system; for a number of the girls the program provided an alternative to a program for unwed mothers.

This program was slightly different than the other EdNet program in that the parents of these students were not involved -- the "Y" was acting *in loco*

parentis (in place of the parents). Facilitators on site ran the program with the students at the "Y" facility. They did their on-line work at the "Y" and from there everything else was the same as for any other EdNet student. They had their own e-mail connection and password which linked them directly to their teachers at the school. As well, Mr. Travis came in once every two weeks and worked with them in person.

In addition to program facilitators, counsellors and other staff were available as support for these young people. Mr. Travis noted that the EdNet program was mainly academic in focus and did not address specific social needs, and that even the academic work was "a challenge" for these students, many of whom "are sixteen and haven't been to school in over a year." Mr. Travis interacted regularly with the facilitators, much as he would the parents of his other students.

Mr. Travis commented that "there's a whole mess of kids in our city who are falling through the cracks." This was one way he saw of addressing this. Only twelve students were accepted for the 1996-97 year but there was a long waiting list. If a student dropped out for some reason, another student was immediately slotted in.

For most students, this was their first access to sustained computer use and Mr. Travis added that the students felt special -- they were part of something that was "brand new in the whole world." For the most part, he noted "technology hasn't been a big part of the urban native subculture" and this was the first opportunity for most of them to work in a technological environment. Mr. Travis thought there was a good possibility that EdNet would expand further for "outreach" students in the next year.

Teacher-Student Communication

Students and teachers could communicate on a daily basis via telephone or e-mail. A few students also used a fax machine. The amount of contact that they had varied. Some students called with problems or concerns, or to talk over a project they were working on. Other students rarely called.

When Mr. Travis wanted to distribute information to his students he used e-mail first. He noted that his messages were kept brief and to the point, as he felt students were turned off by anything that was too long. The communication might be a simple message confirming that he had received a fax from a student, or a few comments to make a student aware of something important. Mr. Travis no longer used paper newsletters, everything was sent electronically and he sent a copy of all student messages to the parents as well.

Mr. Browning noted that with this method of communication there were students who avoided having contact with the teachers.

> We still have a long way to go in developing the culture of kids initiating messages to their teacher. On the regular program a lot of kids don't really talk to their teacher and avoid dealing with a lot of issues. It's nearly the same way with this computer technology too.

If a teacher sent a student a message, the student could choose not to open it up and this also presented difficulties. Usually when this happened, the teachers would follow up with more e-mail messages, then after a few days they called them on the telephone.

In the drop-in classroom setting, parents, teachers and students all agreed that the students had more one-on-one contact with the teacher than in the regular classroom. One parent noted that a student had at least as much attention as in the regular classroom, adding that you "don't get personal attention in classrooms." Another parent said "They all seem to get individual attention. I've never seen anything like it, but he does seem to have time for them all which is something you don't see in a regular classroom." Mrs. Simpson stated that her child "gets more one-on-one with the teacher, up to a couple of hours a week."

From the teacher's perspective, Mr. Travis said,

> I know my students much better than the students I had last year [from the regular classroom]. When you have a class of thirty kids, do you really have the time during the day to get to know somebody? . . . . You're managing behavior, you're not getting to know any students.

Mr. Browning said,

> You end up spending the majority of your time with the four or five kids that are demanding of your time. And the kids that are always on task and are focused, you are not spending that time with them. Because they are doing what needs to be done and they are getting that completed. With these small group settings when I go out to Sherwood Park, I may have only a few kids so they are going to get undivided attention all the time . . . . You get to know your kids a lot better.

The principal of the school noted that when you looked at some of the drop-in situations that were happening with EdNet, "it's one-on-one for an hour and a half to two hours." He said the amount of attention students would have received in the regular classroom was much less.

Parent-Teacher Communication

Because of the importance of the role of the parent in the on-line educational environment, communication between parents and teachers must be available. There were a number of options open to both groups. The parents had their own e-mail accounts and passwords. The teachers had telephones by their desks in the classroom, and were open for appointments at almost any time. Most parents also expressed their appreciation that the teachers had ample time for them whenever they were at the school dropping off their students.

Mr. Travis sent copies of all student messages to the parents as well. This kept parents aware of any upcoming situations, as well as any problems with student work. This was especially crucial if a student was getting behind or not opening his or her own e-mail messages and he said, "You can't force a kid to open a message." If he was still unsuccessful in contacting the student, he phoned the parents to try to resolve issues.

The Reinders family was linked up via telecommunications every day. Mrs. Reinders "talked" with the teacher herself via e-mail about once or twice a week and she deemed this an effective method of communicating. She added that she felt she knew the teacher better than in a regular junior high setting where one would have a "short interview in a gymnasium twice a year with a lot

of other people around." The information she received in the EdNet setting was "much more detailed and specific" to her children.

Mrs. Reinders added that when she dropped her children off at the school the teacher always had time to talk. When she called the school she was able to talk over her concerns with both the principal and the teacher and she felt that there was a lot of support for her as a parent. She would like EdNet to have a place in the e-mail system that would tell her exactly where her boys were in their work.

> I would like to have someplace that I could constantly, on a daily basis, know exactly what is going on because things get a little lost because sometimes they [my boys] will say they turned something in but I have no way to check whether they really did. That bothers me. I like to know.

Mrs. Dillman felt that her communication with the teacher was very good. When she went to the school, Mr. Travis spent ten or fifteen minutes talking to her and she received the e-mail messages as well. Because of previous experiences with the school system, she noted that "I am still very suspicious or untrusting of teachers and what they will tell you about how your child is doing. I still take everything they say with a grain of salt and I probably always will." She stated that in this program she was "much better informed."

Mrs. Lyseng noted that teacher interaction between herself and Mr. Travis was not particularly important. She said, "I don't even talk to him once a month usually. Only when it is necessary. We'll e-mail or sometimes we'll go over and see him, but not that much." She did feel that e-mail was a good method for communicating, particularly since she could also read the e-mail that her son received. If she had a specific question or concern, Mr. Travis was "accessible, he will get back to you. He's phoned to talk to us too."

Mrs. Simpson had a number of long telephone conversations with Mr. Travis and felt she knew him very well. Part of this, she thought, was "the writing [via e-mail], I think the e-mail helps quite a bit. . . . And if I bring up issues that I think are happening he discusses them and gives his viewpoint."

Involvement

Reasons for Choosing Virtual Schooling

Of the families interviewed for this study, many reasons contributed to their selection of Ednet as an alternative education method. Mr. Travis said,

> We have a really diverse group of parents and a very diverse group of kids. We looked first of all at kids who wanted to accelerate through the curriculum. . . . We're looking at kids who are medically fragile. We have kids who have been in a home schooling environment who want perhaps a little more structure. Parents [of home school students] are burned out. . . . We also have kids who really like to work in a computer environment. . . . We've got a few travelling and we have one kid who's really involved in hockey and his games are late at night.

These students live in various locations around Edmonton (from suburbs like Mill Woods, Spruce Grove, Sherwood Park, St. Albert), in the province (Wetaskiwin, Red Earth), in Canada (Saskatchewan, NWT), and in other countries (Sri Lanka, Turkey, United States).

Medical conditions. A number of students had medical conditions which made it difficult for them to be in traditional classrooms. One of these boys was hypo-manic and "it was very hard for him to sit still for a long period of time and focus, whereas with EdNet he could do something for a minute or two, then get up and walk around, and then sit back down and do it again."

One of the students was almost deaf but did not fit in at the deaf school, and couldn't handle the junior high environment with all the movement and noise.

> He did not fit very well with the deaf school. . . . Putting him in the seventh grade moving from teacher to teacher is hard for the hearing impaired because they have no one keeping an eye on the situation ... so he would have been on his own. I think he would have sat back in the classroom because it's hard to concentrate with the excessive noise in the room. I think he would have gotten tired halfway through the day just by trying to concentrate and listen to the teacher. He would have just sat back there and done his own thing and not really paid attention.

Another student had severe asthma and he said, "I used to be sick all the time so I didn't get much school. So the reason I chose it was really because of

my asthma." EdNet allowed him to attend the classroom when he was feeling capable, but it gave him the flexibility to work at home.

Learning disabilities. One of the EdNet students had dyslexia and the progress he had been making in the traditional classroom was not satisfactory. "He couldn't read when he was in grade three. . . . So I had him tested and he's dyslexic. . . . . [At home] we concentrate on his needs." The mother worked specifically on strategies for the dyslexia and felt that her child was learning more without the auditory confusion of the classroom. "With the dyslexia, everybody was looking right and he was looking left." She went on to say, "Anybody who has learning problems would do better with this program. . . because they do better with one-on-one, they do better with hands on."

One student had been diagnosed with ADD (Attention Deficit Disorder) and was easily distracted in traditional settings. The parent explained:

> My child has ADD and was just so distracted by everything that was happening in class. We were trying to get help through the school but it was . . . very small steps that weren't helping. . . . When she switched to junior high it was dealing with seven different teachers for the four core subjects and they weren't willing to make any special arrangements. . . . Even the things that her doctor recommended, it was like hit and miss whether they would carry them through.

In order to provide her child with more chance for success, she chose EdNet. She says that after starting with EdNet her child was doing "way more. She was doing really poorly when she went on this program. All of a sudden she just took off. . . . I think part of it is the computer because the handwriting was such a big issue. And all the distractions in class. . . . Her marks have gone up at least 30 percent."

Family values. There were a number of families who were concerned about the negative influence of junior high peer pressure and the impact that socializing in junior high would have on their children. One parent said, "Some of the attitudes in school were something we were happy to get him away from if we could. . . . A lot of the socializing is not that great, especially at the junior high level."

A number of the families interviewed were members of the same church and home schooling was prevalent among these families. One parent noted that, "Home schooling is fairly common in our church. I think this has an influence on us. The other parents have the same desires and beliefs and they don't like the socializing part of schools."

Desire to work with computers. The completion of course work via technology was very important to the students and to their parents. The use of the computer was seen as motivational, and one parent said, "They were interested in computers . . . so I knew it was something that would intrigue them and spark their desire to do their work." The Lyseng family felt that EdNet was meeting their son's needs more than anything else they had attempted and said that "because Kent loves the computer so much it is very positive for him to be able to do his work on it." They said he was learning more than in a traditional classroom, although he was not yet working to potential.

Some families viewed computers as having "great benefits for the future." One parent's comment was, "I think that some of the ideas behind it involved taking what looks like maybe the way of the future in the business world, which is like a home office setting, and getting the kids involved in that earlier, so that they are more comfortable with it. I think it's [EdNet] got a lot of potential."

Mr. Browning said that parents choosing EdNet for their children believe that technology is "going to be the way of the future, so they [their children] will have a good background in it."

Fosters learning. One of the parents said, "The advantage is that the things they have learned and done have been almost entirely independent. Because they were doing all of the process of learning themselves I think the retention is a lot greater. I think it is something they really did learn." Mr. Gache added to this when he said, "I think that the kids can grow a lot more this way because they have to be more self-reliant. They are not "spoon-fed" quite as much. . . . They end up learning by doing." A third parent said "One main reason for home schooling was so he'd learn how to find things out for himself."

As well as learning independently, parents were concerned that their children develop a love for learning. One parent said "I don't want my kids not to enjoy the process of learning. I want them to love learning." This was re-phrased by the parent who said, "My son has reservations about school but he doesn't about this."

Met individual needs. Parents liked the low pupil-teacher ratio and the one-on-one attention their children received when they went in to the school site. As well, they felt that EdNet provided more flexibility and said, "There aren't enough options within the regular system." Students could "work at their own pace," "focus on their interests," and accelerate through the curriculum if they chose to. In this way students were not "getting so bored" and could reach their potential. One parent said "I was looking for an alternative to the regular school system. [My child] wasn't doing too well and I didn't see that changing."

There was a general feeling that students learned more on EdNet and that their grades were better. One parent noted, "This program is meeting his needs better than anything else we've done so far."

Better than other distance learning methods. Four of the five families in this study were previously on home schooling of some type (either Alberta Distance Learning or Christian curricula) and they chose EdNet because they felt it provided other options that they could not access through their previous educational methods.

Parents who had experience working with other home school methods spoke about the amount of time required from the parent and one noted that she "needed to create some time for [herself]" as the amount of planning and work required of her in their other distance learning program kept her busy daily.

Other parents liked the fact that with EdNet the work was planned for them. One mother commented, "We were home schooling for three years previously and with [him] going into junior high I knew there would be more demands on fulfilling the curriculum; and I had a grade one and a kindergarten

coming up [to work with]." She added that she would "still be able to see what he's doing and he would have the back-up and resources of the school."

The social element of EdNet was also attractive to families who had previously used a different home schooling method. A mother said, "My husband wanted to get him into a school and involved with kids his own age." Another parent said "I chose it because it had a social element."

The materials used by EdNet were more up-to-date and contained less "busy work" than other curricula they had used. Parents did like the daily lesson planning and timelines provided by ADLC, noting that "it taught [her] how to home school." One parent preferred ADLC's "more factual approach."

Mr. Henitiuk, media specialist at the school compared EdNet to home schooling.

> So although it [EdNet] looks like home schooling, it's actually functionally much more like "school schooling" in that with home schooling there tends to be little or no contact with a teacher at all. The parent is putting together programming and delivering [it]. The student tends to work in isolation whereas with our program a teacher puts together programming [and delivers it], assesses . . . and helps the student, sets up learning environments -- labs, discussion groups, that kind of thing. It's just that they do most of their seat work at home.

Epilogue

Lotus Notes

In the fall of 1996 EdNet switched from one proprietary communications software program to another. Their new system, Lotus Notes, consisted of an umbrella data base with large storage capabilities. The previous system had drawbacks. It was difficult to track student progress and achievement; teachers could not accurately track what students were doing. Because of this, students treated the system more like a distance learning set-up and this was not satisfactory to the EdNet teachers. The expectation that they were to log-in every day was not being met and there was no accurate way to track this. Students would say that their system was down or had other reasons why they weren't able to get on-line. With the Lotus Notes system, students were "tracked

much better . . . because it always stays in our server so it's more secure and accountable. . . . This tracks how many times a day they're on line." Every time a student logs into the Local Area Network it was automatically recorded with the date and time. When they logged off, the computer also recorded this. This method forced the students to be more accountable.

All communications (including e-mail, lessons and assignments, on-line resources) were then transmitted via Lotus Notes. An interesting feature is the immediacy of access to database information. For example, the teacher could create a data base using information from the Internet. The student could go into the program, click on the data base, and all the information would be electronically transferred directly to their home computer from the Internet.

Mr. Travis stated that many of the resources EdNet students currently were using in their units of study came directly from the Internet -- they were not textbook based as they were in the past. When the teachers located information on the Internet that they wanted to include in a unit, it was a simple process to paste it anywhere in Lotus Notes and it would be automatically available with the Internet cited as the source. The Lotus Notes system would even update the "URL" identification (website address) automatically when it changed on the Internet, eliminating the need for the teacher to do this.

A new on-line "report card" was in the development stages after the change to Lotus Notes. With the new record keeping capabilities, when a student sent in an assignment via e-mail, the instructor could mark it on line and make an immediate decision whether or not to include it in the student's on-line report card. When the report card was sent to the parents, all assignments that were to be included would be averaged into the mark and included. Mr. Travis noted that in this type of learning environment the traditional reporting dates used by the school may not be the best ones to use as the students progress through the curriculum at different rates. This more flexible reporting method would allow for the different environments.

On-line Mentors

When EdNet began operating, Mr. Travis had a vision for another type of resource for assisting students individually with their work -- this would be through the use of "on-line mentors." If the students were having a problem in a certain area, they would be able to e-mail a "specialist" or "mentor." This was going to be a person with related expertise located at the University of Alberta. Mr. Travis noted that he didn't have all the answers as he was a "generalist" and mentors would enable students to go further in areas where they had particular interests. Mr. Travis recommended the following:

> Visualize this like a spider web. Students and teachers and mentors would all be parts of that web, and the thing that connects the web is technology so we're looking at developing the mentorship program and that would be another resource that we would offer parents who are looking for choice.

In a follow-up discussion Mr. Travis was disappointed that this part of the EdNet program did not take shape in the way that he had hoped. People who had been contacted to be involved as mentors were unable to fulfill the commitment. Mr. Travis still sees this as a valuable possibility for extra on-line support for students and has not given up hope that it still may be possible "with a few more phone calls."

The whole idea behind this, as Mr. Travis puts it, is "to try to provide and look at how we can better serve our clients in this setting. . . . We're trying to provide a higher level of support."

Future of EdNet

When this study was initiated, EdNet was a school-based program that was operated directly by the staff and administration of one urban junior high school. Since that time EdNet's status has changed so that it became a district program, with other schools involved in offering the service.

The principal of the first school said that this could be taken one step further by franchising the program "in a business sense." EdNet would be the

"broker school" and "sell" their services to other districts and schools. He said that it could be operated out of one central location or scattered throughout different schools.

Those students that would sign up with EdNet but not have the ability to attend the school for the social and group activities (mainly out-of-district students) would basically be receiving *on-line education*. The principal said that the "best thing in my view is EdNet. But, if people are saying, "Well, on-line is good too, we can't get the Cadillac, we'll get the Chev," then [I] would be willing to sell them the on-line service because it is a matter of choice for the families." When asked what effect not having access to the school would have on these students, the principal said that the best method was for the student to be able to go to their local district school for similar types of services "as long as they could guarantee the quality."

The principal described the difference between the two by saying "on-line is sort of distance learning using the computer as the conduit of information. EdNet is a daily interaction of teachers and others in a more meaningful sense other than just recording what you are doing." They are providing both on-line and EdNet educational programs at their school.

There are also issues surrounding funding and registering students from other districts. The principal believes that "there's a perception by other school districts that we're going to take their students." He says that "there are districts that are not listening [to the parents] and they are going to lose a lot of their students." He notes that other districts have made "educational decisions based on dollars" and that parents want more choice. He "believe[s] that everyone should have a choice that they feel is the best one for them. And this [EdNet] is just another choice. And if some of the kids learn better in this climate than they do elsewhere then why shouldn't they have the best that they can have. It is all student centered learning."

EdNet teacher, Mr. Travis said,

> We are trying to find something that will suit everybody, but I think that in the future as we get away from the old paradigm of boxes and classrooms, of students and teacher, I think there will be opportunities for kids to work at home for parts of the week or something. I don't know how flexible the school will become but I think before the old paradigm was based on technology that required kids to be in a room all using similar textbooks. Most teachers wouldn't have access to the kind of technology we're starting to see at [this school]. When I see the future, the whole structure of schools change, and we're a part of it right now.

New Initiative 1997/98

EdNet's school jurisdiction plans to take blended distance education programming even further in the 1997/98 school year. Students registered in EdNet will be receiving the following services: on-line Language Arts, Math, Science and Social Studies following the Alberta Program of Studies; computer and software at no charge (when taking 50 percent of programming in grades 2 to 9, or a minimum of 36 credits per year in grades 10 to 12), as well as both Internet and technical services. This is an expansion of service in some areas. Parents who register with this program will be able to decide the source for up to 50 percent of their child's program themselves and access up to $1000 of the student resource allocation to support this portion of the program. They will have teacher assistance and advice regarding resources and instructional strategies as well as access to diagnostic assessment services.

There are plans to incorporate a number of "Hands-on-Camps" for drama, art and science, as well as offering half day physical education programs for students on home education. Writing workshops will also be held. "Unit Study Projects" are being planned -- these will be child-centred integrated projects spanning a six week time period. Families will have direct input into the planning and execution of these units.

When promoting this new initiative, evaluation of the student "will be seen as an opportunity to honor the individual learning that has taken place." It will be somewhat different than traditional evaluation methods. Parents will be asked which methods

would be most appropriate and useful to them. ... Appropriate forms of evaluation will emerge in conjunction with the student's learning. ... Recording of activities will be viewed as a priority rather than classifying or judging. This approach will promote a trail and error, risk taking approach to learning. The intention of evaluation is not to designate a rating or require a revision, but to gain insight. Evaluation is viewed as a tool to guide the development of future plans. ... It is viewed as an opportunity to develop directions or goals for future exploration and growth.

Chapter 4

Summary, Discussion and Recommendations

Overview of the Study

Purpose

The purpose of this study was to gain a fuller appreciation for an emerging phenomenon in education, the virtual school, and specifically, EdNet, one such school currently operating in Alberta. This thesis describes, through the voices of the families and educators involved, this blended method of traditional and distance learning. By examining one school in detail, this work brings to light more clearly the challenges and opportunities present in this educational venture.

Home schooling is on the rise. The numbers of students enrolled in some form of home or distance education have risen dramatically and there is increased interest in the options available. EdNet, and other related programs, bring a new and interesting perspective to home schooling.

Method

In order to gain a fuller appreciation for the actual practices of virtual education, one particular site was chosen. It provided virtual schooling for fifty students from grades four to nine. Six junior high students and one elementary student, their parents, the two teachers, the administrator and the technology coordinator from the school were chosen as participants. This qualitative research study is based on my conversations with these individuals, observations in the classroom and home setting, and documentation provided by EdNet. From the data collected, it was possible to more closely examine how a virtual school operates.

Executive Summary - EdNet

EdNet is a distance education program for home-schooled students that is conducted via computer conferencing. Students and staff connect on a daily basis through the modems on their computers. As well, students have the opportunity to attend the school for instruction. Because of the combination of working at home, and face-to-face interaction, this program is called a "blended" method of home schooling.

A variety of clientele are served by this program. It includes students wanting to accelerate through the curriculum, those requiring flexible scheduling, students with medical and learning problems, children wanting to use the latest in technology, families whose values were challenged in traditional settings, and families previously involved in other home school programs.

The idea behind EdNet was to give students access to the same learning opportunities that would be available to them if they were physically present in a traditional classroom. Remote access software made much of this possible, allowing students to connect to the LAN at the school from their home computer. They were then able to communicate with their teacher and other students, and access software and resources.

The structure of daily learning activities in student's homes varied within each family. Students were asked to begin each day by connecting to the school through their modems to check for messages. They were then to prepare and submit an agenda outlining their plans for the day. Students could make choices regarding what they would work on and in what formats they would demonstrate their learning. The teachers provided a great amount of flexibility and individual choice in these areas.

A thematic approach was the basis for covering the core curricular areas (often combining language arts/social studies, often with some math and science questions added -- at other times, dedicated lessons in each subject area). This received mixed reviews from the students and parents. Units included a list of objectives to be covered and an outline of a list of "projects".

Basic expectations and resources were listed for each project but much flexibility was allowed when students were choosing their approach to the topic and the presentation of their findings. Students were encouraged to develop their own goals and plans when completing assigned work. This was based on a philosophy of active learning and construction of knowledge on the part of the student. Although students were encouraged to work at their own pace, deadlines were established. Complementary courses were available either at the school site, by "brokering" with another school, or through arrangements made at home.

Student evaluation continued to be the responsibility of the school. Students were encouraged to come into the school to write tests and hand in work that could not be submitted electronically. All work was marked by the teacher and often included many written comments.

Parents stated that they received more feedback, and that their children received more individualized attention and instruction than in a traditional school setting. Parent-teacher communication was facilitated via e-mail, telephone, and traditional report cards with student work included. On-line report cards were instituted in 1997, with a daily update on all subjects available.

Student attendance at this school was optional. There were organized field trips and labs that students were invited to; students could also bring work to the school to be marked, or to receive assistance. Actual attendance varied with students coming both for academic and social reasons. At the elementary level, weekly half day meetings were scheduled in order to keep students on track.

As well as providing for the students' social needs by organizing activities at the school, on-line conferencing was encouraged. The teachers felt it was necessary to have students interacting with others and encouraged them to do so by establishing relationships via e-mail.

In the EdNet environment, the roles of the teacher, student, and parent changed a great deal. Teachers provided resources and planned activities but

moved into more of a supporting/facilitative role for the family. Parents took a more active role in assisting their children with the organization and completion of assignments, and communicating with the school. EdNet considered them to be teacher aides. Students were required to be more responsible, selecting and planning their own work, and negotiating with the teacher as they went through this process.

EdNet is a blended distance learning alternative available to students, parents and educators. Recognizing that virtual education is a new field, this study has raised a number of questions about the future of education as we know it, both in distance education and the traditional classroom.

Discussion

In order to fully understand and appreciate the true spirit of virtual schooling we must redefine what education is and how it will be carried out. This will mean that traditional notions of the classroom, the timetable, curriculum, instructional methods, and roles of participants will have to be reconceptualized.

First, with virtual education we must consider what setting will provide the optimum learning conditions for each child -- and this may not always be the traditional classroom. There is growing acceptance that "individualized learning settings... [allow] learners [to] maximize their responding" (McAvoy, 1986, p 16) and may be better alternatives for some students. Through virtual education, this could now range from the home to any number of alternate sites, including the school; these could vary on a daily basis.

Virtual schools also force us to challenge the notions of regular attendance, minutes spent on a subject area, and "lock-step" approaches to grade placement. Students no longer have to be present from 9:00 to 3:30 in order to complete their work. Students and parents can decide how many hours will be spent completing required assignments, and whether this will be done on weekdays, weekends, or evenings.

Further, we must reconsider standardized curriculum -- both in conceptualization and practice. In virtual schooling, teachers no longer have

exclusive license regarding course materials, resources, and end products constructed by students. In fact, since the parents do the majority of the "teaching", even program instruction falls into new hands.

This, then, leads us to careful consideration of the new roles bestowed upon teachers, parents, and students. With the negotiated interplay between the family and the teacher, teachers in virtual education are no longer "center stage" in a child's education. The role of the teacher must change from that of "deliverer to facilitator" (Collins, 1991, as cited in Cates, 1995, p 67). Increasingly, regard will be accorded to both the parent and the student as they take more active roles in decisions affecting education. This notion is supported by Clendening (1996, p 123) who notes that collaboration "is a major component of the success of home education programs in the province."

The dramatic rise in the number of students enrolled in home schooling both in Canada (Alberta Education, 1995) and the United States (Ohio State Legislative Office of Education Oversight, 1995) suggests that families are rejecting long-accepted notions of public education and turning in increasing numbers to alternative formats, using methods such as virtual schooling where they have more control over the education of their children. In a recent study by Gamble (1997, p 60), parents cite their two main reasons for home schooling their children: dissatisfaction with public education, and upholding their moral and religious beliefs. Parents in another recent study (Clendening, 1996, p 111) wanted more influence on their children's moral development, to make better use of time for learning, to increase their children's self concept, and to avoid negative influences their children would be exposed to in school. As well, they felt that home schooling enabled them to meet individual needs more effectively, and they enjoyed the opportunity to work with them.

Once we accept the shift in definitional parameters, the concept of who has the power and the freedom to make educational choices and decisions for students becomes an open issue. The parents in this study expressed an uneasiness about a variety of issues including the quality of education being

provided for their children, the amount of individualized attention children receive in classrooms, the level of skills students were obtaining, the negative peer pressure exerted on students, and their children's lack of a "love for learning". Parents wanted the best possible education for their children and felt that with their input this would be more likely to happen. In this virtual setting, parents had much more authority and freedom to make decisions regarding the planning and execution of learning than in traditional education. With that came enormously increased responsibility.

This freedom and autonomy allowed for greater individualization of instruction. Programs could be tailored specifically for each child with a high degree of one-to-one interaction. Different needs and special interests could be met more effectively, while still following government regulated objectives.

With the augmented status of the family bringing both new privileges and new responsibilities, we must consider who will be in control of the education of the student -- an issue that increases in complexity at a rate proportional to the number of participants involved in the decision making process.

Reconceptualization of Education

In order to transform the way we think about education, we must alter what we currently believe it means to be a teacher, a parent and a student.

Teacher

The role of the teacher is altered significantly with this reconceptualization. If we are to accept Greeno's observations (as cited in Cates, 1995, p 67), we will find that teaching today is exemplified by instruction that is divided

> into two approaches: the didactic-structural approach in which the teacher is the major source of information and learning, and the exploratory-situated approach in which students explore and investigate with support from the teacher as a guide or coach. Collins (1991) asserted that the dominant approach to instruction today in schools is didactic-structural. He asserted that a change in teacher role from deliverer to facilitator, in classrooms where technology is widely used, would have a marked effect on the nature of the interaction between student and teacher.

Both approaches of instruction are represented in the virtual classrooms detailed in Chapter 1, with the majority of the teachers continuing to employ didactic-structural approaches. Although a number of other virtual schools recognized the exploratory-situated model as one of importance and were attempting change, only the EdNet teacher was clearly identified as an instructional facilitator. Smith referred to this as "guide on the side" instead of "sage on the stage" (Smith, 1993, as cited in Cates, 1995, p 67).

Wilburg (p 118, as cited in Cates, 1995, p 67) agrees that "[t]eachers ... will need to become developers, managers, and facilitators of rich, individualized learning environments" and Cates (p 73) explains that the "role of facilitator is quite different from that of didactic deliverer." The EdNet principal related that teachers were "brokers", negotiating curriculum and assignments with the parent and student. Teachers developed plans, set goals and objectives, and outlined possible projects and resources that families could select from, shifting from "omniscient persona to facilitator" (Shipton, 1996, p 23).

With the change to facilitative teaching, there is a great investment in planning and preparation time. For teachers to respond to this change, new materials are needed. In EdNet, the teachers chose not to use traditional correspondence materials, opting instead to create project based lessons that they had to write themselves. The teachers in EdNet noted they were spending very long hours on material preparation, as did Electronic Busing staff members. Even when converting traditional correspondence lessons, teachers at ADLC On-Line experienced "burn-out".

Communication is different for virtual school teachers. In a classroom setting the majority of teacher feedback is to a group, whether large or small. With individualized programming, feedback that is provided to students is by e-mail or telephone, and comments are made mostly on a one-to-one basis. Parents and students in virtual settings appreciated the higher level of individualized attention that was given, and were aware of the greater investment on the part of the teacher in providing this.

In a virtual setting there is a reversal in dependency, with the teacher relying on the parent and the student to follow curriculum objectives that have been provided to them. The teacher no longer prescribes what will be done but assists the learner in the development of activities to meet specified objectives. This requires versatility in overseeing a wide range of projects on any given topic while ensuring that the work being done meets the objectives outlined in the curriculum.

Noted in EdNet, E-Quest and Electronic Busing, the teacher must also find ways to collect student work, one of the biggest frustrations encountered with virtual education. This increases teacher dependency on the family to meet deadlines and provide evidence of learning.

When work is submitted, the teacher remains accountable for the results that they are monitoring. In a home school setting the parent assumes this responsibility for results; in a blended distance education program, the responsibility for results reverts back to the school, even though the majority of the programming is still being delivered by the parent.

It is important to consider the effect of the physical location of the virtual classroom on teachers. Will they experience a sense of isolation when the majority of contact with their students is through telecommunications? If the virtual school is a stand-alone facility, will there also be professional isolation, working only with other virtual school teachers? E-Quest deliberately located their virtual school within a regular school, and found a lot of strength in this association in terms of facilities and resources available. The professional isolation of on-line teaching was reduced with teachers able to network in this setting.

An EdNet teacher in May of 1997 noted that their district was making plans for "converting a small school to a homeschooler's site. EdNet staff will work with homeschoolers and other students who are on the EdNet program. (Personal communication, May, 1997). Presently these teachers are integrated into a large junior high school in an urban area with a large staff providing other

professional contact. Will this proposed change in location have any effect on EdNet staff?

> Taitt (1993, p 3) commented that in this new role, teachers
>
> as facilitators, coupled with technology that allows different students to learn different things in different ways, will be much in demand. Teaching students how to learn rather than what to learn will require facilitators rather than lecturers. Teachers who can inspire, motivate, guide, create, and manage the educational process of their students will be in demand.

Parents

Parents will have increased responsibility and participation in the planning and execution of their child's education. While this provides parents with opportunities not normally present in a traditional setting, it will require strong commitment and motivation, excellent communication and organization skills, and a sensitivity about their relationship with their child.

In traditional distance education, the most frequently identified disadvantage is "the time commitment involved" (Ohio State Legislative Office of Education Oversight, 1995, p 8). The time required in a blended or virtual program where the parent takes on the role of "teacher aide" is tremendous. A number of the parents in the EdNet study selected the virtual school setting because they felt there would be less demand on their time as compared to other home schooling methods they had previously used. Although these parents agreed that this setting was less demanding, it was still a full time commitment. EdNet, E-Quest, Electronic Busing and ADLC On-Line all required a parent to be in the home on a full-time basis as the on-site teacher/facilitator. In EdNet and E-Quest, parents needed to be available to transport students to various locations for different activities.

Parents in virtual programs had increased choice available regarding curriculum, resources and projects. "Many parents believe that they can provide a better academic foundation for their children than the public school system" (Ohio State Legislative Office of Education Oversight, 1995, p 7). Parents interested in controlling the content, quality, and variety of their child's

experiences were required to plan and negotiate with teachers. This often meant sifting through options to select the components needed to compile an individualized program that would meet the needs of their child. With the ability to have curriculum requirements interwoven with individualized programs reflective of family values and student needs and interests, parents were afforded a higher degree of control and involvement. Once programs were designed, parents were the main facilitators of the program.

Ellis (1992, p 74, as cited in Cates, 1995, p 76) "contended that "since it is the learner who does the essential work, if the learner is given good learning tools and resources, and the incentive to use them, learning *can* happen without teaching", but the reality is that parents *do* teach their children. They are teaching them when they help them to select the learning tools and resources, and when they assist them in the organization and completion of their work.

This is supported by a report released by the Ohio State Legislative Office which noted that in home schooling "children are generally taught by their parents ... [and this] includes many of the same instructional methods used in conventional education such as direct instruction, oral reading by the teacher and student, textbook directed instruction, and independent projects" (Ohio State Legislative Office of Education Oversight, 1995, p 2). Parents in the four virtual schools were performing these and countless other tasks, often including those related to computer technology.

Parents play a large part in deciding how much work will be done, when and how it will be done, and to what level of competency. Both Clendening (1996, p 121) and Gamble (1997, p 63) note that home school parents do not agree with provincial achievement tests being administered to home school students. Gamble (1997, p 63) explains that the "plethora of self-designed programs taught to home education children make it difficult to evaluate and report learning outcomes in relation to the expectations and standards mandated in the Program of Studies." As well, parents placed in this monitoring role may experience conflict with their child. Most students in the EdNet program said that

they did not enjoy working with their parents. Some felt that parents were "too picky", others noted that parents interfered too much or had expectations that were too high.

When parents were unable to help their children, they referred them back to the teacher either by telephone, e-mail, or, as in the case of the EdNet program, taking them to the school for help. Although parents were committed to providing better programs, they were dependent on teachers and had to be able to recognize when they were in need of professional advice. A supervisor of home school students in one Alberta jurisdiction made the following comments about the parents he worked with:

> The first group consists of those students for whom their parents have made an educational and lifestyle decision to home school. They truly believe that ... delivering education at home is a preferable option to what the child would receive at the local school. ... The parents of these students tend to be concerned about the education received by their child, and are very involved in that education and supportive.
>
> The other group ... are "migrant home schoolers", even though some of them may stay at home for a considerable length of time. These students are overwhelming in the junior high grades and consist of students who ended up on home education for reasons other than a parental belief in the superiority of that system. Usually the decision to home educate in these cases was made in an attempt to avoid dealing with a problem ... that the child or parent was having with the school or school system. There problems are extremely varied. The parents of these children are not fundamentally interested in home education, they do not wish to be involved directly in their child's education and may not be present in the home during the school day. (Personal communication, May, 1997).

For this supervisor, these two groups of parents are both part of the reality of home education. Hence, it is important to note that with a reconceptualization of the role of parents in virtual schooling, much will depend on the parent's true motivation for entering into a home-schooling arrangement.

Students

Students also experience a major shift in their role in this reconceptualization of education. They must become "self-directed learners ... -- people who can select what to learn and then teach themselves" (Taitt, 1993, p 2), moving "along the path of conscious self-education" (Toeppen, 1993, p 85). This new type of student-directed learning is different from both the traditional classroom and distance education. Students will learn "how" to learn, focusing on process as well as content.

This exploratory-situated approach to learning was mentioned by both the Electronic Busing and EdNet virtual schools. Observations in the EdNet case study showed students having many opportunities to make decisions about their interaction with the curriculum. They were presented with objectives and outlines of ways to accomplish tasks but decisions were made by the students; parents and teachers were placed in consulting roles.

EdNet students enjoyed making these decisions about resources, project design, and presentation of learning outcomes. This method receives support from Means and Kerry (April, 1995) who note that "tasks that [are] grounded in activities that [are] challenging and [make] sense to students [elicit] a much greater level of student interest and understanding, as well as higher self-imposed standards for quality." Similarly, Kinzie and Sullivan (1989, as cited in Cates, 1995, p 70) noted:

> that learners should have a large measure of control over the materials with which they work, particularly computer-based materials. They based their argument on the findings of numerous previous research studies, including one of their own that concluded that learners learn more when they control their own learning.

The question arises as to whether students will show the same level of interest in all subject areas. Many EdNet students commented on subject areas that they did not like, and projects that they were putting off.

As well as project design, students schedule their own daily timetables. They can work at a pace and time of day they feel comfortable with. "This may

be an attractive option to those whose personal learning styles favor a more individual pace than is possible in traditional classrooms" (Benjamin, 1995, p 18). Students preferred this to the rigid timetables of traditional classrooms since they could work on subjects for as little or as much time as they chose or needed to. Gamble (1997, p 59) stated that without "bells, announcements, class changes and long bus rides, home education parents felt they [the students] were accomplishing as much academic work as their counterparts in school in half the time." For the most part, EdNet students were not accelerating through the curriculum and many of them had problems turning work in on time.

Students in distance education "must motivate themselves. They must provide their own incentives to complete assignments on time, locate appropriate resources and conduct research when necessary, actively participate in whatever type of class "discussion" is required, and seek assistance from the professor or instructor ... at a distance" (Benjamin, 1995, p 19). Further to this, he noted that this is "a function which in other circumstances rests with the teacher" (p 19). Personal motivation will affect the amount of time and the quality of the work completed.

One of the strongest incentives noted for students in the EdNet study was the increased interaction with technology. In a case study by Means and Kerry (1995, p 9) they suggested that "technology increased their students' motivation level." All EdNet students enjoyed completing assignments on computer and were animated when relating these experiences.

Students in a virtual setting must adjust to a different method of socialization. All students talked about wanting more opportunities to meet with their peers, and it seemed that students attended the labs, field trips, and classroom sessions more to see their classmates than because they were excited about the prospect of learning. E-mail and "chat rooms" provided some contact but it was often a lonely existence for students. Fisher and Fulton (1994, p. 14) noted that "[p]erhaps the most exciting aspect of working with a home schooling partnership is developing and implementing group activities and

programs for the students," supporting the notion that students in distance learning programs want to spend time together.

Although they have less contact with peers and commented about missing the "group discussions" of traditional schooling, students have greater access to one-on-one interaction with a parent who is available all day long to answer their questions and assist them. This private tutorial method is "an important part of the effectiveness of home schooling ... because [it] gives children a greater opportunity to obtain answers to their questions. ... In a home-schooled environment, the average child will receive from 100 to 300 responses daily" (Whitehead & Bird, as cited in Ohio State Legislative Office of Education Oversight, 1995, p 9).

As well, the child can access the teacher via e-mail or telephone, or by going in to the classroom. Students enjoyed the individualized attention.

With the change to a facilitative approach to learning, students are empowered with a process that enables them to learn as much as they want, at a time and location of their choice.

Place & Time

Virtual classrooms are available in many forms, challenging the idea that students must receive their education by attending a traditional school facility for a set number of hours each day according to a standardized calendar.

There is growing acceptance that "individualized learning settings... [allow] learners [to] maximize their responding" (McAvoy, (1986), p 16) and may be better alternatives for some students. Through virtual education, these can now range from the home to any number of alternate sites, including the school and can vary on a daily basis. Geographical boundaries become non-existent -- students can "attend" these schools no matter where they live.

Programs such as EdNet bring students into the school on an optional basis, blending the opportunity for students to have both home and school as learning sites. Holt (1986) recognized this opportunity when he called "for successful cooperative partnerships to exist between home and school, where

home schooling children are invited to use the schools, equipment and human resources as part of their learning experiences" (as cited in Common & MacMullen, 1986, p 7). Clendening (1996, p 114) recommends this type of cooperation between schools and home-school families noting that there "must be extended efforts made for involvement, especially in areas of curriculum and resource development, library and materials usage, testing and diagnostic work, and even extra-curricular involvement."

"Distance education students also have more flexibility in when they "attend" class" (Benjamin, 1995, p 18). They choose the time of day that they will do their work. With virtual schools offering information on-line, students now have access to the majority of their resources via the Internet or the local area network any time during the day or night.

In virtual settings, teachers do not control the number of minutes a student spends on a subject area. Because students are not required to be physically present, they can decide how much time goes into a project or learning activity. Virtual education allows the home to make decisions regarding amount of time "required", not "prescribed".

Lezotte (1996, p 241) notes that "it has always taken a major "leap of faith" to assume that attendance equates to learning. ... Public schools must leave behind outdated seat-time models and face the needs of the performance, outcome-driven world." Whether students require more or less time, virtual education allows them this opportunity. In order to reconceptualize the classroom we must be prepared to accept a variety of notions about when and where education can take place.

Curriculum & Instructional Methods

A virtual setting employing a facilitative learning environment will require a paradigm shift regarding the purposes and practices of curriculum and instruction. Lennox and Walker (1993, as cited in Lampert, 1996, p 5) predict that:

> Curriculum and instruction will shift from acquisition of a product to execution of a dynamic process . . . from the what (i.e., the content, the

> "correct" answer) to the how and the why, resulting in a renewed focus on questioning, careful and critical examination of phenomena, formulating hypotheses, identifying research strategies and methodologies, experimentation, thoughtful revision, and making connections from what is known to what is not yet known.

Their prediction is at the heart of a facilitative learning model.

Many of the other virtual schools were using correspondence materials that had been modified for on-line delivery, choosing to replicate traditional classroom models rather than attending to the new role of curriculum. EdNet teachers felt it important not to use currently available distance materials as they were too prescriptive, mostly imitating what had been done in traditional classrooms.

In order to recognize a reconceptualization of education, there must be more freedom in selection of curriculum content, resources and strategies. As long as prescribed objectives are being met, students and parents in programs such as EdNet are permitted to select how they will learn and with what materials. Facilitative programming allows the focus to be on the ultimate aim of education -- not always the teaching of facts -- but of intellectual processes. Wilson and Cole (as cited in Cates, 1995, p 68) state that in such a process the job of teachers would be "as masters to apprentices in helping students acquire cognitive skills." Similarly, Toeppen (1993, p 85) noted that curriculum must be seen as a tool and educators must use it to "guide and help students along the path of conscious self-education."

The teacher is a curriculum resource person, "setting project goals and providing guidelines and resources, ... providing suggestions and support for student activity" (Means & Kerry, 1995, p 11). With increased use of technology, students can "select learning goals and choose among multiple learning materials" (Jensen, as cited in Barker & others, 1995, p 2). The EdNet principal confirmed this saying "our core competency is teaching learning."

As schools move to facilitative learning, they leave behind the traditional classroom model based on demonstrations, seatwork, and homework. Although

this shift in philosophy may be evident in virtual classrooms, parents are partners in the teaching, and they may well refer to what they are most comfortable with, and this will likely be the way they themselves were taught. A number of the families in the EdNet study sought greater structure from the lessons provided to them. One mother said "It would be nice to know exactly what he is supposed to get instead of going through all the work to get it. I like that kind of teaching, right to the point instead of going around in circles and doing little experiments." Even when virtual classrooms employ exploratory-situated pedagogy, this may be beyond the capabilities of the parents who control much of the home learning environment.

The use of telecommunications will require meeting the challenges of "(a) learning new technology and (b) new technology learning" (Shipton, 1996, p 23). While the need to learn new technology is self-evident, new technology learning "will change educational systems dramatically -- from curriculum design to the role of the teacher in every subject area" (Shipton, 1996, p 23). Shipton (1996, p 23) sees this new technology learning requiring cooperation between departments in the development and implementation of curriculum noting that the key will be not just in learning to use the equipment, but "its integration into the curriculum." The core approach to teaching used by educators in the EdNet program recognizes this interdepartmental cooperation. Shipton (1996, p. 23) sees the educational system changing immensely,

> perhaps producing what the work force has always wished: qualitative change in the learning process. Telecommunications will evolve into programmes that will permit and encourage individualization, apprenticeship, diversity, co-operation, and increased data acquisition. One immediate result will be an increase in qualitative outcomes: instant access relates directly to increased productivity.

Change in Home-School Relations

McAvoy (1986, p 17) notes that today "the combination of knowledge about learning, accompanied by capable delivery systems, provide

unprecedented means for altering the structure of educational institutions. As these alterations occur, the role of home and school need to be revised."

Denham and Smith (1994, pp 58-59) see validity in combining home and school for educational purposes. They believe that computers today are capable of providing high quality education, replacing the instructional functions and roles of public schools. They still see a very "real need for public schools" (1994, p 58) and they "would like to present a new vision of the future, one in which school and home-based learning are combined" (p 58). Under their vision much of the instruction shifts back to the home, strengthening families by providing parents with more direct involvement in the education of their children.

> Education, under our scenario, will occur both at school and at home through the extensive use of computer technology. The home will be seen as an extension of school, the school will serve to coordinate home learning (1994, p 59).

Reconceptualizing education by changing the role of both home and school is demonstrated in virtual programs such as EdNet.

Who will be in control of the education of the student? In a virtual setting, the aim is for education to be directed by both the teacher and the parent, keeping the needs of the student paramount at all times. With home school publications projecting (in the United States) that "the number of home-schooled children will increase at a rate of 20% to 25% per year" (Ohio State Legislative Office of Education Oversight, 1995, p 4), it is important to have home and school working together, sharing the responsibilities. Should home schooling via a virtual setting be a family's choice, "educators need to flexible and willing to work with home schooling parents in a program that is mutually rewarding" (Fisher & Fulton, 1994, p 14).

It is fine to agree to work cooperatively, sharing this "control", but ultimately, this means sharing the responsibilities associated with success and failure. This was expressed clearly by a home school coordinator:

> In regular home education, the parent has accepted responsibility for the educational process and, when it fails, the failure can be largely placed at the feet of the parents. However, this is not the case with the virtual

> school. The virtual school has its students classified as "blended students". As such the school and jurisdiction is provided with the same funding as for regular school-attending students and the responsibility for the provision and success of the educational process is that of the teacher, school, and, ultimately, the jurisdiction, not the parents (Personal communication, May, 1997).

This leaves the school with less control but all of the responsibility. However, most of the parents in this study did not take this view. They varied between those who "monitored" and facilitated processes designed by the teacher to those who took the teacher's ideas and re-worked them to suit their own beliefs about their child's interests and what schooling should entail. This study demonstrates that the issue is more complex than the coordinator suggests. McAvoy (1986, p 17) foresees a future wherein the responsibility of school officials may well be one "whereby the major function of the educational establishment is to monitor or certify demonstrated competencies, rather than prescribing how these specified competencies are obtained."

Recommendations

Blended schooling brings a whole series of questions for educators, parents and society. Educators must consider what is teaching and learning. Society must consider socialization and what part it wants education to play in this. Parents need to think about the purpose of education for their children and how this can best be provided. All three need to reconsider the notion of school as a physical place.

Any jurisdiction considering the development of a virtual school will need to recognize a number of issues. First of all, they should consider the most appropriate technological infrastructure and associated costs. Secondly, the importance of the skills of the teachers selected to work with the program will have a large impact on its success. These teachers will need to be effective liaisons with the parents and students in the program. As well, there will be issues surrounding the integration of virtual programming with the regular school.

The Alberta Teachers' Association will need to consider changing how they define teaching, learning, schooling. Current notions may need to be expanded or changed and this will have implications for curriculum and instruction where the role of the school is concerned.

Parents must also consider that virtual education is "caveat emptor" -- let the buyer beware. This new and exciting educational option is not necessarily easier or simpler than traditional schooling and will not provide all the answers for every child. It brings with it new and unique problems and rewards and requires careful examination before deciding to venture forth into virtual education.

We are entering a time of great change in education and we must be willing to go forward boldly.

> The world is up for reinvention in so many ways. Creativity is born in chaos. What we do, what we belong to, why we do it, where we do it -- these may all be different and they could be better. Our societies, however, are built on case law. Change comes from small initiatives which work, initiatives which, imitated, become fashion. We cannot wait for great vision from great people, for they are in short supply at the end of our history. It is up to us to light our own small fires in the darkness. (Handy, 1995, pp 270-271, as cited in Lafleur, 1996, p 16)

The great thing in this world is not so much where we are,
but in what direction we are headed.
Oliver Wendell Holmes

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APPENDIX 1

Sample Survey Questions for Principals

1. What are your personal responsibilities in relation to EdNet?
2. What is the history of EdNet? Where did the idea start?
3. What are the challenges in providing the EdNet program within your school?
4. What are the rewards in providing this program?
5. What staffing considerations are there?
6. What expectations do you place on staff members involved in this program?
7. What difficulties do you anticipate regarding the collective agreement?
8. What challenges does this present regarding timetabling? supervision?
9. What funding aspects must be taken into account?
10. What expectations do you place on staff members regarding their physical presence in the school?
11. What resources are you providing in the way of training? release time for preparation? for program promotion?
12. Where do you see this program in one year? five years? ten years?
13. How do you deal with accountability issues regarding completion of work?
14. What is the maximum number of students your school can accommodate on this program?
15. Can students be part-time EdNet, part-time regular students at this school?
16. How will you deal with students who are not physically able to come to the school for the blended aspect of this program?
17. Explain the funding considerations in blended programs.
18. Will you provide any of the hardware? software? Will there be a charge for this?
19. Compare EdNet to ADLC.
20. Are there political considerations in offering EdNet?
21. Do you have time expectations of the students? parents?
22. What will you do if the students on this program aren't meeting provincial expectations of achievement?
23. Why are parents choosing this program over other methods of home schooling? over public education?

APPENDIX 2

Sample Survey Questions for Teachers

1. Why did you choose to become involved in this program?
2. What challenges has it presented for you?
3. What successes have you achieved?
4. How do you present your lessons differently than you would in a regular classroom?
5. What subject areas seem especially suited to EdNet? Why?
6. What subject areas seem more difficult for EdNet students? Why?
7. How much time do you spend planning lessons? Is this more/less than in your previous position?
8. How much time do you spend marking assignments? Is this more/less than in previous experiences?
9. How much time do you spend on-line with students? on the phone with them? faxing them?
10. What are the advantages of EdNet over other home school methods?
11. What are the disadvantages of EdNet compared to other home school methods?
12. How much computer experience did you have prior to this? How much experience/knowledge is required?
13. What personality characteristics would make a teacher suited to this method of teaching?
14. What planning skills are required?
15. How well do you feel you know your students?
16. Do your students attend face-to-face sessions enough/not enough?
17. Should some students attend more than others? Why/why not?
18. How can you improve this program?
19. What is your vision of this program in one year? five years? ten years?
20. What are the biggest frustrations in delivering this program related to students? to parents? to administration?
21. What resources do you need to deliver this program?
22. What types of students are best suited to this program?
23. How do you monitor student progress?
24. Do you use different evaluation strategies? organizational strategies?
25. What do you see as the most successful method of organizing EdNet classes?
26. What training/experience is required/desirable for teachers delivering this program?
27. How do you provide for individual differences in programming?
28. What do you find most demanding/rewarding about this program for students? for teachers? for parents?
29. What will you change about EdNet?
30. What will you keep the same?
31. How does this affect your relationship with other staff members at your school?
32. What do you do when students abuse this system?

APPENDIX 3

Sample Survey Questions for Parents

1. Why did you choose to enroll your child in the EdNet program?
2. What other educational options were available for your child this year?
3. Have you participated in other home schooling ventures? Compare them to this situation.
4. What things did you like about this program?
5. What things did you dislike about this program?
6. If you could make changes or recommendations about EdNet, what would they be?
7. If other parents were considering EdNet for their children, what advice would you give them?
8. How much help do you need from the teachers in order to assist your child?
9. How much time do you spend assisting your child with their work?
10. How much time do you spend driving your child to the school or other meeting places?
11. Is your child achieving at/above/below their potential? ... their previous performance?
12. Is this program meeting your child's needs? In what ways?
13. Is your child learning as much/more/less than in their other educational settings?
14. How much experience do you have with computers? Is this helpful or necessary?
15. What problems would EdNet present to parents with limited computer experience?
16. Is there a lot of technical/computer support from the school?
17. How well do you feel you know your child's teacher in EdNet? How does this compare to relationships with other teachers?
18. What specific things does the teacher do that helps your child to be successful?
19. Do you get enough feedback from the teacher?
20. How do you help your child organize his/her time?
21. What methods do you use to help your child complete and hand in work on time?
22. When your child is experiencing difficulty, what do you do to assist them?
23. How do you feel about the reporting methods used by the teachers in EdNet?
24. How much time per day does EdNet require of you? ...of your child?
25. What would help your child be more successful in EdNet that the school could provide? ... that you could provide?
26. Which subjects seem to be most suited to delivery via EdNet? Which subjects seem least suited? Why?
27. What recommendations would you make to the school regarding this program?
28. What recommendations would you make to your children?
29. Will you continue with EdNet next year?
30. How accountable do you feel for your child's success?
31. Describe a typical day for your child as an EdNet student.
32. What type of child do you feel would be most successful?
33. What qualities does a teacher need to have to be suited to EdNet?
34. How are you meeting the Fine Arts and Phys. Ed. portions of the curriculum?
35. What skills do parents need?
36. How important is the rapport between the parent and the child to EdNet?

APPENDIX 4

Sample Survey Questions for Students

1. Why did you choose to enroll in EdNet?
2. What other educational options did you have this year?
3. Have you taken other methods of home schooling? How does this compare? Are these lessons harder or easier?
4. What things do you like about this program?
5. What things do you dislike about this program?
6. Describe a typical day for me.
7. Do you miss having group discussions? going to school?
8. How much computer experience did you have when you started? How important is this?
9. If you could make any changes or recommendations about EdNet, what would they be?
10. What things do you need in order to be successful in this type of program?
11. How much help do you need from teachers? parents? other students?
12. Do the on-line support services help you? In what way?
13. Do you participate in student conferences? Why? What benefits does this provide?
14. How often do you attend group sessions? What factors are involved in your decisions to attend group sessions? Are group sessions helpful?
15. Tell me about the different ways you can present your work.
16. Do you do the optional units of work or just the required ones?
17. Do you work on every subject every day or just some of them?
18. If another student was thinking of enrolling in EdNet and asked for you help in making up their mind, what would you tell them? What things would you tell them to consider before accepting or rejecting this way of getting an education?
19. Do you participate in other programs offered at the school (sports teams, Phys Ed, drama, field trips, etc.)? Why?
20. Are you learning less/as much/more as you did when you were involved in other methods of education?
21. Have you made new friends through your e-mail activities? Have you also met with these friends in a face-to-face situation?
22. Will you continue with EdNet next year? Why or why not?
23. Do you get enough feedback from your teacher?
24. Do you feel you know your teacher quite well? In what ways?
25. Are you achieving at/above/below what you think you are capable of?
26. Do you get to spend enough time on your lessons? How much time do you think it should take each day?
27. Do you set up a daily plan every day? Does this help you? How?
28. Do you set goals for yourself? Do you set them by the day? week? unit? project?
29. If you are having difficulty, how do you obtain help?
30. How much help do you need from your parents?
31. What would help you to be more successful in EdNet?
32. Which subjects do you find the easiest? hardest? Why?
33. Is there a way to change to the lessons to improve this?
34. What is the most interesting thing about being an EdNet student?