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UNIVERITY OF ALBERTA

A STUDENT-DIRECTED FRENCH COMPUTER UNIT OF STUDIES

BY

John L. McQuay

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

Department of Elementary Education

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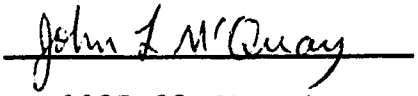

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled: A Student-Directed French Computer Unit of Studies submitted by John L. McQuay in partial fulfillment of the requirements for the degree of Master of Education in Elementary Education.

Dr. Warren D. Wilde
(supervisor)

Dr. Ruth Hayden

Dr. Douglas Parker

Dr. Peter Wright

Date: June 9, 1992

ABSTRACT

Prior to this study the researcher found that his students were highly interested in French computer units. He also learned that their was little encouragement for the use of computers in the study of French. This led the researcher to question as to whether a teacher with minimal experience with computers could present a computer unit to his class.

With these concerns in mind, the researcher commenced a study which had two objectives. The first was to determine if by participating in a French computer unit, student enjoyment of French would increase. The second objective was to determine if a French teacher with minimal computer background experience could successfully present a unit in French using the computer.

A student-directed computer instruction model was developed to involve the use of "student experts." These "student experts" learned the software programs and then taught them to their fellow classmates.

Data collected consisted of field notes, interviews, journals and of tape-recorded computer sessions.

Results of the study were:

1. All students enjoyed working at the computers with most preferring to work with a partner. They were focused on the tasks at hand, and spent additional time outside of class preparing for their computer assignments.

2. Students enjoyed the strategies they employed to complete their tasks. They appreciated the freedom to choose

their task.

3. The teacher gained confidence and competence in his use of computers. He acknowledged student satisfaction and achievement resulting from their interest in the unit. His assistance was more focused towards the individual instruction of French rather than the delivery of computer instruction.

4. The class, in spite of the teacher's feelings of personal inadequacy, viewed the teacher as a computer resource person.

5. The "student experts" were highly motivated throughout the study. They quickly learned the software programs and eagerly taught and assisted their classmates in their use. They proved to be of great assistance to the classroom teacher as he was able to direct all software questions to them.

ACKNOWLEDGEMENT

I am truly grateful for all who have encouraged me in any way to pursue and complete my university education. For this I give thanks.

I am especially grateful for Dr. Wilde who withstood my steady barrage of questions which continued right to the writing of this page. He also was highly supportive of my research and made sure that I knew, and always felt, that it was my research. It seemed appropriate to me that he serve as my advisor as it was Dr. Wilde who encouraged me in my undergraduate years to continue my education at a time when I seriously considered leaving the university. I have always been thankful for his timely advice.

I am also thankful for the enthusiasm and patience of Diane Fernet, who encouraged a teacher who was intimidated by computers to become more familiar with them.

Most of all, I am appreciative of the total support of my wife Sharon. She has been supportive of my continuing education, encouraging and inspiring me to continue at great personal expense. She shares in this accomplishment.

I am also grateful for my children, Jenel, Joelle, Jada, Javan and Jara who didn't quite know what to think when their dad went back to university. They patiently left their dad alone as he locked himself in the computer room. All seemed pleased when they learned that I was done!

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INTRODUCTION

The words from my colleague rang in my ears, "You are wasting your time using computers in your French classroom. Don't you know that the time spent on the computer reduces the amount of quality time that your students will have in the classroom speaking French? Your students are not receiving any benefit from using computers when they could be in the classroom reinforcing their spoken language."

Was the assessment of the use of computers in my French class accurate? If so, why were my French classes becoming so much more fun to teach for me? Why did my students want to spend additional time outside of class working on French computer projects and assignments? In spite of my colleagues's comments I was convinced that the introduction of the computer to my French classroom was a sound pedagogical decision.

In contrast to the views of my colleague, is the philosophy of Alberta Education (1987) which is that the primary use of computer's in schools will be that of integrated learning and teaching tools to be used throughout a student's school experiences.

Computers appear to be here to stay. They can provide a motivating atmosphere for learning and add variety to the classroom. Penso (1989) observed that, "For writers who

struggle with pencils and give up, and for those whose meagre results are too sloppy to share, computers offer a chance for success. Creations become neat and colourful. A child who is proud of his work is a child who tries again, tries harder, and does better." (p. 20)

Despite the believers there is controversy about the appropriate or inappropriate use of computers in our classrooms, especially in learning a second language. Underwood (1984) speaking about computer assisted language learning (CALL) states that, "the classic form of CALL recreates precisely those features of the classroom we are trying to avoid: it is teacher - (ie. computer-) controlled, evaluative and highly structured". (p. 49) Underwood (1987) later stated,

> There is still no reliable statistical evidence to confirm that using computers does in fact increase students' proficiency in the language, although we have accumulated plenty of informal or anecdotal evidence to suggest that this is the case. Some of us are not even certain that such confirmation matters perhaps; the value of practising with a computer is in fact some elusive gain of a sort which cannot be measured with an achievement test. What's more, with the current emphasis on teaching for proficiency, which is necessarily measured globally, it is no longer obvious that we should

be looking for results in terms of achievement on discrete-point tests at all... (p.35-36).

Perhaps computers do not help students learn. Could it be that a good teacher will adapt any program to meet the needs of the students and that even if the program is weak the curriculum will be successfully taught? This thought is echoed by Smith (1986), "Computers can make the things we already do badly in schools even worse, just as they can make many of the things we already do well infinitely better." (p. 206) Perhaps it is the teacher and not the student that determines if one's computer interaction will be successful or not.

It was becoming apparent to the researcher that having computers was not necessarily justification for teacher or student use. Jones and Fortescue (1987) have suggested that, "Work with computers is not an end in itself: the more it is integrated with normal classroom work, the more relevant it will be." (p. 101) It appeared as well that if computers are to be used successfully, they needed to be used in close harmony with the regular classroom experiences of the student.

My initial experiences with the use of computers in the classroom have revealed several concerns. Is the use of computers in the French classroom a good use of both student and teacher time? Can the use of computers help motivate students? Could any teacher regardless of training or

background successfully adopt the use of computers to supplement regular classroom learning? These thoughts and concerns have inspired the researcher to do further research in the use of computers in learning.

Statement of the Questions

At the onset, the researcher set out to find possible answers to the following two questions as they related to the teaching of French in an elementary classroom:

1. Will students' enjoyment of French in a French as a second language (FSL) classroom increase by completing activities on the computer?

2. Can a teacher with minimal computer background experience, successfully implement a computer program in a FSL elementary classroom.

Overview of the Study

The site for the study was an elementary school situated in a lower middle-class neighbourhood in a major city. Located at the school were 19 teachers and a student population of 370. The majority of students in grades four to six studied FSL.

The teacher who agreed to participate in the study, taught French to his grade six class. He also taught them all subjects in their regular English program with the exception of Science. He had been a teacher for thirteen years and had taught FSL for seven years. He was uncomfortable with the use of computers and did not use them in his teaching or for personal use. Prior to this study he had not spent any time with his students in the computer classroom.

The class participating in the research, contained 25 students of which 18 took French. Due to scheduling concerns, the seven non-French students participated in all aspects of the research with the exception being that they completed all tasks in English instead of French.

The computer classroom was located at one extreme end of the school beside a staff entrance door that was not used by students. It contained 14 Apple computers equipped with colour monitors and a printer. Also found in the room were 12 student desks and a table (see page 46 for diagram).

The four pieces of software selected for this study were of the productivity tool variety which consisted of a wordprocessor, a database program, a desktop publishing program and a program which allowed students to create a play. This means that the user had control of the programs to insert any appropriate information or data deemed necessary.

The students and the teacher were trained in the operation of the four software programs based upon a student-

directed computer instruction model prepared for this study. It included the training of "student experts" who were expected to share in the teaching of the software programs to their fellow students.

All students, including the student experts, were expected to complete four tasks in French on the computer. These tasks were selected from a series prepared by the researcher and the classroom teacher. A minimum of one was to be completed individually and one with a partner while the remaining two assignments could be completed either alone or with a partner.

The research began in the middle of December with the training of the teacher and the student experts. The remaining students were presented the software programs during the second week in January. Students were given four weeks to complete their tasks and were finished by the middle of February.

The research conducted was qualitative in nature. The researcher used his field notes as the major source of his data. This consisted of all observations made during the actual research along with interviews involving the students, the participating teacher and the school administrator. Journal entries from all participants also formed part of the researcher's field notes.

The data collected was examined each day for any emerging themes. Once identified, the themes and conclusions

identified by the researcher, were taken to the participating teacher for his comments and verification. The themes and conclusions were then taken to a computer consultant from the participating teacher's school district, and to another experienced elementary French teacher, to confirm that the data collected by the researcher supported his findings and conclusions.

Overview of the Thesis

This thesis is an attempt by the researcher to provide the reader with background information related to the study as well as the findings which resulted from his observations of all participants involved in the study.

Chapter one is an introduction to the questions to be examined in detail in the study. It explains why the researcher felt a need to undertake the study.

Chapter two is a report of the literature the researcher found relevant to computers and second language learning. Topics discussed in this review included: computers in teaching, computers and the second language classroom, group work and computers, productivity tool software, the teacher's role in the computer classroom, self-directed student learning, learner strategies and computer training of language teachers.

Chapter three provides the reader with a description of

all participants in the study. It includes the methodology used by the researcher in his attempt to report on the experiences and thoughts of all involved in the study. An explanation of how the data collected was analyzed is also included.

Chapter four reports and discusses the findings of the research. It also presents several themes which emerged during the analysis of the data collected.

Chapter five reports the findings and conclusions of the study and includes some recommendations as well as several suggestions for the future use of the findings of this research.

CHAPTER 2

LITERATURE REVIEW

The researcher explored many areas of literature in his attempt to understand better the prevailing beliefs about computers as it relates to the education of the child. With this goal in mind, this chapter was organized into eight sections. These sections are: computers in teaching, computers in the second language classroom, group work and computers, productivity tool software, the teacher's role in the computer classroom, self-directed student learning, learning strategies and computer training of language teachers.

Computers in Teaching

There are many educators who feel that computers have a definite role in our schools today. Lathrop and Goodson (1983) commented that, "Computers find a place in every subject area. ...Given the proper courseware a creative teacher can use the computer to enrich and extend many classroom activities" (p.13). Silver (1987) found that one advantage of having computers in the school was that, "...children are naturally drawn to computers and good software." (p. 8)

Guindon (1988) observed, "The computer, as a processor

of information, can be used to extend and complement a person's own capabilities." (p. 236) Davidson (1987) gave perhaps the strongest endorsement for the use of computers in classrooms when he spoke of the effect that computers have on students, "The computer gets them involved with learning and keeps them stimulated, excited, and thinking." (p. 3) Another strong statement in support of computers in education is the following made by Hawkins (1984), "Children share and collaborate more readily during school computer activities than during non-computer activities." (cited in Chen, p. 68) There has been a strong emphasis placed on educators to promote teamwork and cooperation among students. (Sharan, 1980) According to Hawkins, promoting computer activities for our students is one way of realizing this goal.

Straker (1989) stated that the purpose of integrating computer use into the curriculum was that,

> (1). It allows teachers to extend and enhance the education of the children in their care. (2). It allows children to acquire skills in the use of a computer as a tool for their own purposes. (3). It gives children a better understanding of the range of ways in which their own lives will be affected increasingly by information technology. (p. 6)

Bickes and Scott (1989) recognized that the computer has

a unique role in today's classroom but will not replace the teacher and concluded that, "Seen as a flexible communicational tool mediating among the teacher, the teaching material and the individual student, the computer is clearly distinguished from other teaching media without superseding them." (p. 31)

Many studies have provided insight into the benefits of using computers in our classrooms. Hutinger, Robinson and Johanson (1990) found in their research into computers in the schools that, "...computer activities spark conversation, movement, anticipation and teamwork." (p. 33) Messer and Light (1991) reported that, "...much of the strength of the computer as an educational device has been attributed to the facility with which it provokes a high level of task-related interaction and discussion between learners." (p. 156) Straker (1989) found that one of the most impressive aspects of computer use in the primary school was the amount of talk which it generated. She reported that, "When three or four children are sitting around a computer they have a natural focus for their talk, which encourages listening, reflection and participation." (p. 129)

We need not be alarmed at the employment of computers by our students. Hutinger, Robinson and Johanson (1990) observed that, "Despite adults' fears, children are not overly enamored with computers, but rather accept them matter-of-factly." (p. 33) Other researchers have suggested that the computer

workstation is now as appropriate to learning, "...as the quill pen was in other days." (Garrett, Noblitt & Dominguez, 1990a, p.38)

There appears to be no identifiable difference in the abilities of boys and girls to learn and use computers. In two separate studies, Webb (1985) discovered no differences in behaviour or learning outcomes between males and females in groups or as individuals. Similar results were found by Linn (1984) in a study of junior high students. Eastman and Krendl (1984) also found no gender-related differences in computer performance in their research on this same topic.

Although the importance of computers in education has been recognized by many as being valuable aids to the classroom, Jones and Fortescue (1987) offered the following caution,

> Like any other teaching aid, the computer is only effective if it is used as part of an overall lesson plan. The teacher should have a clear idea of the purpose of the lesson within the overall programme of studies, and the role he wants the computer to be playing in achieving that purpose....And as the most flexible classroom aid available to language teachers, computers demand correspondingly more careful thought if they are to be used to the best advantage. (p. 101)

Govier (1991) concluded that the primary school was the ideal place for the correct usage of computers. Students could come to see computers as, "...a basic learning tool, equivalent to a ruler or a pencil." (p. 164) He believed that if students were introduced to the computers at an early age, they would be able to develop their computer skills as they progressed throughout the school in all subject areas.

There is agreement among the researchers cited, that computers do have a definite place in teaching. They can enrich classroom activities, keep students interested and promote sharing and collaboration among students. Educators must realize that students do not have a fear of computers and accept them matter-of-factly and can be introduced to them at an early age.

Computers and the Second Language Classroom

The question remains as to how computers can best be adapted to meet the educational objectives and concerns of a second language program. It is accepted by language theorists that students need to speak in the language being learned. (Allen & Valette, 1977; Smith, 1990) A negative argument, heard many times, is that when students are placed before a computer in a second language setting, their spoken language will invariably suffer. This popular belief runs contrary to the following summation, "No computer in any classroom that

we know of has done anything to diminish the amount of spoken language in that classroom" (Higgins and Johns, 1984, p.13). Straker (1989) in her study on computer use in the schools found that, "Computers can provide a focus for children's talk." (p. 15) The use of computers in a foreign language setting does not mean that the amount of children's talk will diminish. It could, as Straker suggested, provide an additional focus for talk in the new language to be centered.

Smith (1990) suggested that computers promote collaboration and creativity among students in the foreign language classroom.

> It is possible to supplement foreign language classes effectively by constructing computer based communication environments that promote creativity, decision making, collaboration and interaction. Interactive tools whether word processing packages, computer conferences or a combination of both, enable students to break their isolation, share ideas, and benefit from increased contact with teachers and peers. (p. 81)

Jones and Fortescue (1987) believe that, "...because the computer is capable of playing so many different roles in and out of class, we believe it to be the most exciting and potentially useful aid so far available to language teachers." (p. 100) Garrett, Noblitt and Dominguez concluded that, "The

computer has the potential for effecting change at every level of teaching and research in foreign language education." (1990b, p.45) This potential for effecting change is, as Jones and Fortescue described, the responsibility of the language teacher. In commenting further they said, "The computer is a flexible aid that will lend itself to a variety of different purposes; that it is the teacher's servant, not the teacher's master, and above all that it can do nothing, good or bad, on its own. Whether or not it can help our students to learn a language is very much up to us" (p. 137). The classroom teacher, according to Jones and Fortescue, is largely responsible for the success or failure of the use of computers in his/her classroom.

In a government report examining the value of computers in language learning it was stated that, "...most interactions with computers are language experiences. Information technology and communication technology have to do with the storage, retrieval, processing and transmission of 'information', much of it linguistic.... And Information Technology should be seen as a way of encouraging pupils' language development." (DES, 1988, p. 14.15) Garrett, Noblitt and Dominguez (1990a) recognized that the introduction of computers to second language teaching enabled the teacher to, "...pursue traditional concerns in new ways, using the power not only to enhance, extend and expand on the values of a particular discipline but also to establish more productive,

principled connections among the disciplines of the humanities generally." (p.38)

In a separate study on computers in a foreign language classroom, it was determined that it was a mistake to "...underestimate the important role that word processing can play in the teaching and learning of foreign languages given the power and versatility of many word processors and the increasing availability of ever more sophisticated text processing software." (Kemble & Brierly, 1991, p. 171)

How then can we help our students use the computer to enhance their learning of French? Abrioux (1989) suggested the following guide for the teacher engaged in language teaching:

> Classroom instructors have at their disposal an assortment of media and methodologies which they can blend to meet the needs of their particular audience. The good language teacher picks and chooses from amongst these in order to develop a personal methodology which maximizes both his or her ability as a teacher and the student's potential as a learner. (p. 32)

There is a uniform message coming from the researchers cited above. Computers do have a role in the teaching of a second language. They can provide a focus for student talk, collaboration and creativity. It is the responsibility of the

teacher to pick and choose the appropriate software that will maximize the usefulness of the computers. The teacher's role is to determine the best methodology, as Abrioux suggested, by which second language learning may occur through student use of the computer.

Group Work and Computers

It appears that the ultimate success or failure of computer use in the classroom rests upon the teacher providing an environment conducive to success. Working in groups has been valued as a useful way of fostering student learning of a second language. (Allen & Valette, 1977; Bonomo & Finocchiaro, 1973) Research has shown that working in groups provides students with a stronger likelihood for success in their learning. Group work has also been shown to be successful with students working at the computer. Several studies have also shown that cooperative learning and group work improve student attitude and achievement. (Kacer, Rocklin & Weinholz, 1991; Johnson & Johnson & Stanne, 1986; Kulik, Kulik, & Shwalb, 1986; Sharan, 1980; Slavin, 1980; Rocklin, et al., 1985)

In a curriculum guide on word processing, Alberta Education (1988, 1-8) gave the following advice, "Students should be encouraged to use computers in pairs. This promotes talk and a sharing of ideas, it promotes peer editing and peer

response." (p. 1-8) Fernet (1988) in her research into computers and learning, noted that students benefit from small group settings and recommended that students work, "...in groups of two or three, with two being the optimum number." (p. 127) Mervarech, Silber, and Fine (1991) found in an extensive study of grade six students involved in cooperative work with computers that the most positive result of the experience was the interaction between children during the learning processes.

Spavold (1991) in a study of children's data entry and query formulation techniques while working at the computer, allowed the subjects to choose whether or not they would work cooperatively. The result is that we have an insight into how children prefer to work. "The children were first organized into groups of three: one to read the caption sheet, one to operate the keyboard and one to check the screen. In the second half of the project individual children... were choosing to work independently but the majority, by the 6th week, had settled into pairs." (cited in Messer and Light, p. 155)

Rysavy, & Sales (1990) conducted research on group work and computers. They concluded the following:

> There are many positive results that can be derived from cooperation in learning at the computer. Group work allows students to observe, imitate, and learn from each

other. Students keep each other on task and share a sense of accomplishment. The encouragement, support, and approval of peers builds motivation and makes learning an enjoyable experience. (p.78)

Broderick and Trushell (1985) writing up their experiences of working in English with 10 year old children, claim that these children were able to work cooperatively, support each other effectively, and that in the group situation were able to persist with tasks requiring carefully focused attention. There are other studies, for example, Jackson, Fletcher and Messer (1986) and Crook (1987) that show that the use of the computers by groups is widespread and that positive outcomes in terms of social and cognitive learning arise. In their study on the use of microcomputers in primary schools, Hall and Rhodes (1986) noted that valuable task-oriented social interaction occurred when children worked together at the computer, even in the absence of teacher input. Word processing in particular, they concluded, encouraged interaction between writing, talking, reading and exploration of the learning environment. Beatty and Bullough (1991) found that, "Students tend to be more cooperative and more social when working with computers. They exhibited greater independence and require less frequent assistance from teachers. They also tend to share knowledge and information freely." (p. 4)

Peer tutoring and group work have been cited as factors which increase student motivation and academic performance. (Fletcher, 1985; Chen & Paisley, 1985) This statement is further supported by Blease and Cohen (1990) who concluded that students, "...working in groups on computer-based problem-solving tasks gives a better performance than might otherwise be expected." (p. 27) Fletcher (1985) suggested that groups of students working on a task show 'markedly superior' problem-solving performance to children working individually. Working in groups was identified as a way in which students could realistically prepare for how they would be expected to work in the future. "Group work, where the emphasis is on teamwork, cooperation and discussion, with a minimum of teacher intervention, is a good example that directly parallels the way many adults normally work." (Blease & Cohen, 1990, p. 26)

There are many positive results that can be derived from cooperation in learning at the computer. Rysavy and Sales (1990) said, "Group work allows students to observe, imitate, and learn from each other. Students keep each other on task and share a sense of accomplishment. The encouragement, support, and approval of peers builds motivation and makes learning an enjoyable experience." (p. 78) The literature on group work and computers comes out strongly in support of its rightful place in the school.

Productivity Tool Software

Computers appear to be appropriately placed in schools. Once the computers are in the schools, teachers are faced with the decision of which type of software programs they will have in their computer classrooms. One type of software program that is worth considering is productivity tool software. Productivity tool software is the name given to a group of software packages that include word processors, spreadsheets, database managers and graphic packages. One uniting feature among these software packages is that the student or teacher using them determines how the program will be used and for what purpose. The same program may be used by students for totally different purposes. It may allow one student to create an advertisement for a product while serving as a graphics package or letter writer for another. Another student may use it to show the results of a survey that was conducted. The operator of the program is in complete control and is only limited by his or her imagination and the technical limitations of the program selected. The technical limitations of most productivity software usually exceed the uses and needs of the user.

The reference to productivity tool or generative software leads us to contemplate its potential in a second language classroom setting. Blease and Cohen (1990) reported that, "...the use of word processors and other content free software

has been seen as a way of encouraging those activities associated with a more progressive curriculum." (p. 26) Productivity tool software such as desktop publishers, word processors, graphics programs, and databases allow the student to be the true author and creator of work produced. When the computer does not control or evaluate "...it is a playmate, a tool or a resource, not a teacher." (Higgins, 1982, p. 140) Papert (1986), who has done extensive work researching computers and student learning, believes that, "Children learn best when they are encouraged to draw on their own intuition and put to use what they already know in developing new ideas." (cited in Solomon, p. 104) In describing the use of productivity tool software Vlahakis (1988) said that it was, "...an experiential, problem-solving approach that encourages students to question, discuss and analyze." (p. 61) Waern (1989) suggested that "...learning thus involves choosing a 'good' (if not necessarily the best) method." (p. 82) Schiffman, (1986) said, "The nature of productivity tool software calls for a substantially different kind of thinking about a subject than might otherwise be done." (p. 29)

Frommer (1989) described the versatility and interactivity found in these program types with the following comment:

> Learners interact with and control the computer to a greater extent than with other material, because they

enter into and become part of the story, determining to some degree its outcomes. Consequently it is possible for learners to use and reuse this material creating different stories with each passage. (p. 187)

In support of the worthiness of the word processor Higgins and Johns (1984) reported, "They make on-screen editing so easy that they encourage the user to try out the effect of changing or adding words, changing the order of sentences or even paragraphs... The pleasure of seeing instant 'clean copy' of one's corrected text or second thoughts has created a powerful motivation to write." (p. 83) Kemble and Brierly (1991) commented that, "...creative writing, using a machine which allows text to be entered, connected and manipulated without re-writing or re-typing is an emancipating experience with which all word processor users will be familiar." (p. 171)

Researchers into the use of database programs in schools have suggested positive reasons for its implementation into a second language program. Straker (1989) said, "...using a database enables children to deal with large amounts of information. They can hypothesise, ask questions, and test their conjectures out against what is stored in the database." (p. 33) Parker (1986) commented, "Computer tools [such as databases] hold great promise for providing students with activities that develop higher level thinking skills that

involve creating, analyzing, synthesizing, and evaluating." (p. 21) Typical of research reported in recent years is that of Smart (1988), supported by McMahon (1990), who concluded that after a year's work with QUEST, a database program suitable for use in classrooms, older primary school children had experienced a wide range of learning situations than might have otherwise occurred. The language of the children had moved to include a greater proportion than expected of exploratory conversation and the knowledge emerging was more valuable in motivating children to continue to study because it belonged to the children and was created by them rather than by the teacher.

Olson and Eaton (1986) felt that productivity tool software could be used in conjunction with projects "...as a basis for teaching about information management, not only in its own right but as a way of studying school subjects in an intellectually powerful way." (p. 56)

LaReau and Vockell (1989) provided insight as to how a computer program could successfully be implemented in a second language classroom, "Using programs such as, word processors, graphics programs, databases... can help any teacher to do his or her job more efficiently. The creative teacher will use a combination of these programs to enhance the academic learning time of students and thereby improve instruction in foreign languages." (p. 44)

There is agreement among the researchers cited, as to the

power and usefulness of productivity-tool software in the second language classroom as well as in any classrocm.

The Teacher's Role in the Computer Classroom

Much has been said in regard to the role of the teacher in the computer classroom. Abrioux (1989) and Jones and Fortescue (1987) have suggested that the success or failure of a computer language program of studies is very much up to the teacher. DeGroff (1990) believes that teachers must plan to use computers in their programs and have an understanding of how students learn. She also stated that teachers must take care to "...select software that supports their goals and facilitates teaching and learning." (p. 572) Blanch (1990) felt strongly that the key to success in a good computer program is the teacher allowing the active participation of the students in determining the outcome of their computer activities. Teachers should allow their students "...opportunities to develop their intellectual abilities by making personal discoveries through a continuous process of building on what they know." (Solomon, 1986, p.14).

Budin (1991) suggests some of the possible benefits that a computer classroom teacher can promote in his classroom with the following comment:

> Many aspects of technology itself have the potential to help transform education by offering tremendously enhanced sources of information to students; by helping the teacher become facilitator of learning rather than the dispenser of information; by helping students investigate long-term and actively involving projects; by demanding changes in spacial arrangements of classrooms and other learning environments; by promoting an open-ended and never-ending attitude toward learning; and by prompting students to collaborate in work and research. (p. 21)

According to Budin, and supported by Cetron (1985) and Taylor (1987), teachers need to take upon themselves the role of facilitator. They are to provide the background for student learning but are to allow each student freedom to explore and learn as they experiment with computer technology.

Self-Directed Student Learning

Dyson and Genishi (1983) voiced a concern about how students often learn at school. They wrote,

> ...the very way interaction is typically structured in schools makes it difficult for many children to participate in the reflection on, and reinterpretation

of, their own models of the world. Children are often limited to fitting into the teacher's interpretive context, rather than in creating their own. (p. 754)

According to research conducted, there are many advantages in placing students in charge of their own learning. Straker (1989) suggested that, "...the use of the computer needs to spring from and relate to children's own direct experiences. ...personalizing their activities." (p. 7) Straker (1984) also wrote that the computer should be used to support, enhance and change the existing curriculum by allowing children to be in control of their own learning. Bruner (1966) outlines the ultimate goal of instruction as follows: "Instruction is a provisional state that has as its object to make the learner or problem solver self-sufficient. ...Otherwise the result of instruction is to create a form of mastery that is contingent upon the perpetual presence of a teacher." (p. 53) Papert (1980) suggested that the best learning takes place when the learner is in charge. This philosophy is consistent with Krashen's (1982) popular input hypothesis theory which denounces the value of explicitly taught linguistic material in favour of implicitly acquired language or language acquired through experience. Other researchers have also concluded that language learning must be of a personal nature. "Internalization - working through the information - is an active process. Hence, students need to

work with new ideas and new experiences to make them their own. The learning environment must provide ideas and experiences as well as opportunities to work through them." (Rubin & Wenden, 1987, p. 18)

Researchers suggest that we should not be asking children to restructure their experiences to match those of the teacher but should encourage independent learning. Children should be encouraged to, "...adapt their own language resources to achieve new purposes which they see as important." (Searle, 1984, p. 482) Richardson (1986) reported that in his school, "...students take personal responsibility for the content of learning while the teacher adopts the role of adviser. ...much of this occurs within the context of group activities fostering discussion and planning skills that involve children in making a whole series of decisions individually and within groups." (p. 43) If questions and possible lines of enquiry come from the students themselves, so much the better. Straker (1989) commented that, "...a classroom where a range of activities is taking place and in which pupils express interests and asks questions can also provide on-the-spot problems. Teachers need to exploit these situations because there is greater motivation to solve problems which have been posed by the pupils themselves." (p. 67) Govier (1991) reported that, "...many argue that IT (information technology) is a powerful stimulus to groupwork, to collaborative learning, to investigatory activities, to

pupils taking control of their own learning. All these approaches to, and styles of, education have long been held to be a valuable part of the primary school curriculum." (p. 164) Wenden and Rubin (1987) state that, "language learning strategies are problem oriented and that learners utilize them to respond to a learning need." (p. 7) Chamot and Knowles' (1975) definition of self-direction in student learning was as follows: "In its broadest meaning, self-directed learning describes a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes." (p. 18) Holec (1981) described self-direction as it related to second language learners as follows:

> Let us remind ourselves that with total self-direction, action by the learner is concerned with:
>
> -fixing objectives
>
> -defining the contents and progression
>
> -selecting the methods and techniques to be used
>
> -monitoring the acquisition procedure
>
> -evaluating what has been acquired (p. 9)

If teachers want student learning to become personalized, they must allow students more opportunities to control what

they are going to learn.

Learner Strategies

As students take more control of their learning, they need also to be aware of the various strategies that need to be followed in order to complete a selected task. Chamot and O'Malley (1984) suggested that language learning strategies enable students to take command of their learning and to apply procedures that will assist them in retaining and using important language skills. O'Malley, Russo, Chanot, Stewner-Manzanares and Kupper (1983) provided us with an excellent definition of learner strategies. They concluded that, "Learner strategies includes any set of operations, steps, plans, routines used by the learners to facilitate the obtaining, storage, retrieval and use of information, that is what learners do to learn and do to regulate their learning." (cited in Rubin, p. 18)

Rubin and Wenden (1987) recognized the difficulty that teachers may have in identifying how students learn best. They wrote,

> Since teachers may find it difficult to determine how each student learns best, students must be taught to help themselves. Researchers of learner strategies feel it is essential for language students to begin to take control

> of their learning. Students who use effective strategies are better able to work outside the classroom by themselves, once the teacher is not around to direct them or provide them with input. It is essential for students to be able to control their own learning process so that they can learn outside the classroom once they are on their own. (p. 17)

Holec (1980) concluded that good learners are those who are capable of managing their learning. They know how to make all the decisions involved from planning to evaluation. In other words they know how to learn. Research conducted by Naiman, Fröhlich, Stern and Todesco (1978) identified a strategy that they believed all language learners should possess. They found that good language learners actively involve themselves in the language learning process by identifying and seeking preferred learning environments and exploring them. Rubin (1989) noted that, "Successful second language learners need to be independent, skillful, and informed problem solvers who can marshal the appropriate strategies to learn another language efficiently and well when faced with that challenge." (cited in Smith, p. 269)

Teachers have a major role to play in assisting students develop appropriate strategies in their learning. Straker (1989) emphasized the role of the teacher as students embark on student-directed tasks. She wrote, "...the teacher plays

a vital part in pulling things together from time to time in discussing with the whole class, encouraging the children to share ideas, teasing out further lines of inquiry by asking questions, and drawing attention to relevant suggestions which are worth pursuing." (p. 37)

Teachers must find an instructional approach in their teaching that will satisfy the various learning styles of the students. Chapelle and Mizuno (1989) wrote that, "...the context in which the activities are done undoubtedly influences the strategies that students employ." (p. 43) Rawitsch (1989) found that if educators do not allow students to use their own strategies in completing computer-based activities, "only 50 to 75 percent of them will be successful in the activity." (p. 35)

An awareness by teachers of the various strategies involved in learning a second language can assist in the language development of their students. Horowitz (1983) commented that when language classes fail to meet student expectations, students can lose confidence in the instructional approach and their ultimate achievement can be limited.

Computer Training for Language Teachers

It is important that teachers, wishing to employ computers in their language teaching, become trained in the

correct use of computers. This will increase the likelihood of their language classes reaping the benefits of computer use described thus far in this chapter. There is however an overwhelming obstacle inhibiting the advance of computer technology into the classroom. Numerous teachers do not have computer training and do not possess the skills or the confidence needed to successfully implement a computer program in their schools and in their classrooms. (Budin, 1991; Smith, 1986; Chapelle & Jamieson, 1986) Garrett, Noblitt and Dominguez (1990a) found that, "...language faculty are likely to be less technologically sophisticated than their colleagues." (p.37) Heywood and Norman (1988) concluded that the major cause of reluctance and concern regarding computer use among teachers involves a lack of confidence and competence. Gressard and Loyd (1985) identified lack of experience as a factor which contributed to teachers' fear of computers. Blease (1986) found that many teachers have the basic knowledge and skills necessary for computer use but have a fear of the apparent need, in their minds, to master the technical language associated with computers found in computer manuals and some computer journals.

Gressard and Loyd (1985) further found that as staff became more familiar with computers, their anxiety significantly decreased while confidence and liking were increased. They also found that age of the teacher was not a contributing factor in computer attitude. Research about

teachers' attitudes has generally found them to be positive about the idea of computers in the schools, but on the negative end of the scale as far as there own personal participation was concerned. (Smith, 1987 and Fahy, 1985) In other words they welcomed the computers into their school but were reluctant to use them in their teaching. Teacher attitudes toward computers and computerized instruction were also identified as a key factor in the successful implementation of a computer-based educational program. (Lawton & Gerschner, 1982)

If teachers are going to be able to overcome any fears about computers, they have to receive instruction and training in how to operate them. Straker (1989) suggested the following education programme for teachers new to the computer. The first steps should familiarize the teacher with the equipment. They should learn how to connect the equipment, load, save, use a printer, learn how to use a word processor and how to format a disk. Then she feels they are ready to try simple uses in the classroom. As teachers use the computers in their classrooms, they will discover new ways of working with them. Throughout the process the teacher should receive constant inservicing and have a person whom they could phone should they require immediate assistance.

Balajthy (1988) found that a "...significant improvement in attitude toward computers in education, and dramatic improvement in self-perceived knowledge about computers, can

be gained in a short-term module of instruction involving some hands on experience and classroom instruction." (p. 127) The value of extensive hands-on experience over what he called "quick-fix" inservice programs was suggested by Hoch (1985) as the only means of coming to grips with the value of computers in different disciplines and at different grade levels.

Becker (1989) provided the following insight into teacher training,

> More important than programming as an initial encounter with the machine, however, is for the novice to become comfortable with the ways the computer can enhance teaching and learning generally. The greatest challenge is for the teacher to explore what the computer can do best for language, then to become an expert in types of hardware and software and to learn how to integrate their use effectively in the classroom. (cited in Smith, p. 137)

Hutinger, Robinson and Johanson (1990) found it useful in teacher training to provide, "...a list of competencies to accompany training so that they can keep track of the skills they have acquired and those they need." (p. 32)

Wright (1987) suggested that before teachers can truly benefit from computer use they must change their existing conception of the teaching and learning process and their role

within it. In other words they must adapt their teaching style to take full advantage of the new opportunities for learning that computers bring into the classroom. Quinn (1990) commenting on the use of computers in teaching said, "When the use of a medium fails us, it is not necessarily the fault of the tool, on the contrary, the problem is more likely our lack of understanding how to use the tool properly and our failure to employ it well." (p. 303)

Cognitive learning theorists have found mounting evidence to suggest that, "...an ideal training package would consist of both practice in the use of task-appropriate strategies, instruction concerning the significance of those activities, and instruction concerning the monitoring and control of strategy use." (Brown & Palinscar, 1982, p. 7) Evans (1986) suggested that teachers do not have to become experts in the use of the computer, they need to be "...capable of using the tool that is provided to ease their work and make it more efficient." (p. 100)

Teachers need to raise their level of understanding of computers. An increase in understanding of this technology will invariably lead teachers and students to more effective use of their time spent using computers.

Summary of Literature

Computers seem to have a definite place in teaching

today. They can be successfully used in every subject area. Second language classrooms can be enriched through the implementation of carefully selected and prepared computer activities.

One effective use of computers in teaching involves group work. Numerous studies have suggested that as students work together at the computer, in any subject area, their enthusiasm and performance at that task will increase. Educators need to structure their classrooms so that this increase in performance and attitude can be attained.

Research has shown that productivity tool software allows for greater student control in the completion of computer-based activities. Teachers should familiarize themselves with these types of software programs so that they may be successfully implemented in their classrooms.

Several studies have suggested that giving students the opportunity to determine which activity they will complete and how they will complete it, personalizes the learning for that child. The child will draw upon his/her own experiences and develop personal strategies that he/she will follow in the completion of their task.

Classroom teachers should familiarize themselves with computers and as they do so their fear of them will decrease. As their knowledge of computers increases, their desire to use them in their classrooms will also increase proportionately.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

A large school district granted permission for this study to be conducted in its boundaries. "Northwood" School agreed to participate in the research. Northwood is not the school's real name but is the name that will be used for the purposes of this study.

The researcher had previously worked with the principal and was offered his full cooperation in implementing the research in the school. He informed the staff of the research which was going to take place and assured them that there would be no scheduling conflicts in the computer classroom for the class participating in the research or for the other classes in the school.

Funds from the school's budget were allocated to pay for two software packages specifically purchased for use in the research project. These programs were to remain at the school for continued use after the research was completed. Staff later commented to the classroom teacher that because of this purchase, and the attractiveness of the software, they felt very privileged to be involved in the study.

Description of the Site

Northwood School is located in, as the principal described, "a lower middle-class neighbourhood." It is a community where parents as a rule are hard-working and care about the education that their children receive. There are several low cost housing developments within the community based upon the family's income. Although the make-up of the school is 90% caucasian, found within the immediate community is a wide range of ethnic backgrounds. The different ethnic groups within the community have a harmonious relationship. Friendships within and out of school do not seem to be based upon ethnic heritage. Parents are aware of what their children do at school and willingly offer their support when it is solicited. As a community, the parental support is quite high. Parents are supportive of the education system and the educational activities in which their children take part.

There were 370 students attending the school and 19 teachers. Through the encouragement and assistance of the principal, the staff at Northwood are continually participating in inservice workshops. These are held after regular school hours, at the school, in an effort to remain up to date in the latest educational developments. For the last two years the staff have been involved in cooperative learning inservices. The fact that permission was granted for the

researcher to conduct his study at Northwood school did not come as a surprise to any of the staff members. Any attempt by any staff member to incorporate new methodologies into their instructional approach had always received the encouragement and backing of the school principal.

Description of the Sample

The grade six class selected consisted of 25 students of whom 18 took French. Twelve of the 18 students were girls. At Northwood School all students took French for the first time in grade four and continued through grade six. French is not intended to be optional at the school. There were, however, seven students in Mr. Jones' class who did not take French. This occurred as students transferred to the school who had not previously studied French and as parents requested that their child not take French. The reasons why parents requested their child not take French ranged, according to the teacher, from parent preference to student disinterest. In some cases the child was having difficulty coping with school work in English. Due to program scheduling concerns, the seven non-French students normally remained in class during French time and worked on individual assignments usually relating to Language Arts. Two of the seven non-French students were classified as adaptation students who received individual instruction from another teacher and would only

attend the computer sessions once or twice a week. It was decided that the non-French students would participate with the French students in all components of the research. This eliminated any problems regarding their supervision during the French computer time. The non-French students were expected to complete all assignments in English.

During the course of the research project one French student moved to another school and one non-French student was added. At the conclusion of the study there were 17 students taking French consisting of twelve girls and five boys and eight other students made up of seven boys and one girl.

The French students were in their third year of learning French. They had a beginning level understanding of French grammar and a French vocabulary limited primarily to the units and themes presented in class. They could speak with a wide variety of verbs in the present tense but had not yet learned how to speak in the future or in the past. When questioned prior to their introduction to the unit, the students commented that they enjoyed participating in French games and activities. Brad and Matt both agreed that the best thing about French was when they played French bingo. Four of the French students said that they didn't enjoy French. Diane said, "I don't like French at all except for French bingo."

Students were interviewed prior to the commencement of the study. Most expressed enthusiasm about their participation in the French computer unit. They were pleased

that they were going to be involved in research that they felt was going to be interesting and challenging. Some of their comments were: "I'll probably learn more French.", "I think it would be interesting because I'd be improving my French.", "It will be interesting working on the computer in French.", "I think it will be neat!" and "We get to use the computers!"

All but four of the French students, and all of the non-French students, were excited about the forthcoming study. They were enthusiastic about having an opportunity to work on the computers. Those who were reticent about the study gave the following reasons: 1. "I'm used to typing in English and it's harder in French." 2. "No, I won't enjoy French on the computer because I don't enjoy French in class." 3. "Not really because it takes more work to write it out than to talk it out."

The computer experience of the students in Mr. Jones' class was varied. Seven of the French students had a computer at home. Three of the seven had owned a computer for less than a year. None of the non-French students had a computer at home. Those students who did own a computer, used them for entertainment rather than for school work or assignments.

At school the students participated in a computer class held twice weekly taught by the other grade 6 teacher. This worked out to an average of one hour a week of formal computer instruction that Mr. Jones' class received. During these computer sessions the students had worked on a Science

software program called Discovery Lab, published by Minnesota Educational Computer Consortium (MECC). In this program they had to manipulate variables to solve prepared problems on the computer. They had also received some basic instruction in keyboarding through teacher prepared lessons and directions. The French students had also received instruction in grade five in the use of Fredwriter (see page 45, description of software) and some had conjugated French verbs using this program. On other occasions at school, the students were given freedom to work on the software program of their choice.

As a rule, the computer, whether at home or at school, was not used to complete school work but was used to play simulation and adventure games.

When the researcher was first introduced to the class most students remembered him, and appeared at ease with his presence in the classroom. As a school administrator three years previously, the researcher had often entered their classroom and had engaged freely in conversation with them while they worked on assignments at their desks. His presence in the classroom was a comfortable experience for them.

Description of the Classroom Teacher

Mr. Jones, not the teacher's real name, was an experienced teacher who had taught both German and French to elementary students. He had taught German immersion classes

for two years as well as French as a Second Language for seven. He had taught in two schools in the city as well as at an additional school in another province. He had taught a total of thirteen years. He had completed a fifth year of university and still expressed interest in completing additional courses at the university on a part-time basis. He was interested in new educational developments and he willingly participated in what he described as "live research." Another criteria which made his selection as the participating teacher a good one was that he had always wanted to use the computers in his teaching but was not at ease in any way with their use prior to this study.

He was a true novice on the computer. His computer experience was limited to the operation of a few software programs. These programs were of the drill and practice variety which required minimal interaction or computer knowledge on his part. He felt apprehensive about computers and did not use them for personal use or at anytime in his teaching.

Description of the Computer Classroom

Northwood School was in the enviable position of having an entire classroom set aside for the use of the fourteen Apple computers consisting of nine IIGS models, three IIe models and two IIc models. All computers were equipped with

colour monitors. There was also one Imagewriter printer attached to a IIGS computer. The computers were set up on long tables along the outside of three of the four walls in the classroom forming a u-shape (see figure 1. on page 46). The tables were long enough so that there were two or three computers on each table. There was enough space for two chairs to be comfortably placed in front of each computer. In the centre of the room were twelve student desks and a table. Here students could work, share ideas and prepare to use the computers. The computer disks were locked in a storage cabinet at the open end of the classroom. The room itself was located at one extreme end of the school beside a staff entrance door that was not used by students. This allowed the computer room to be in a location relatively isolated and free from student interruption or distraction.

Description of the Software

There were four pieces of software selected for this study. All software were designed for use in English speaking classrooms and were of the productivity tool variety (see explanation of various productivity tool software used in this study on page 48). These types of software programs are free of content allowing the user to have full control of the program and to insert freely any information or data deemed appropriate. All four programs provided instructions on the

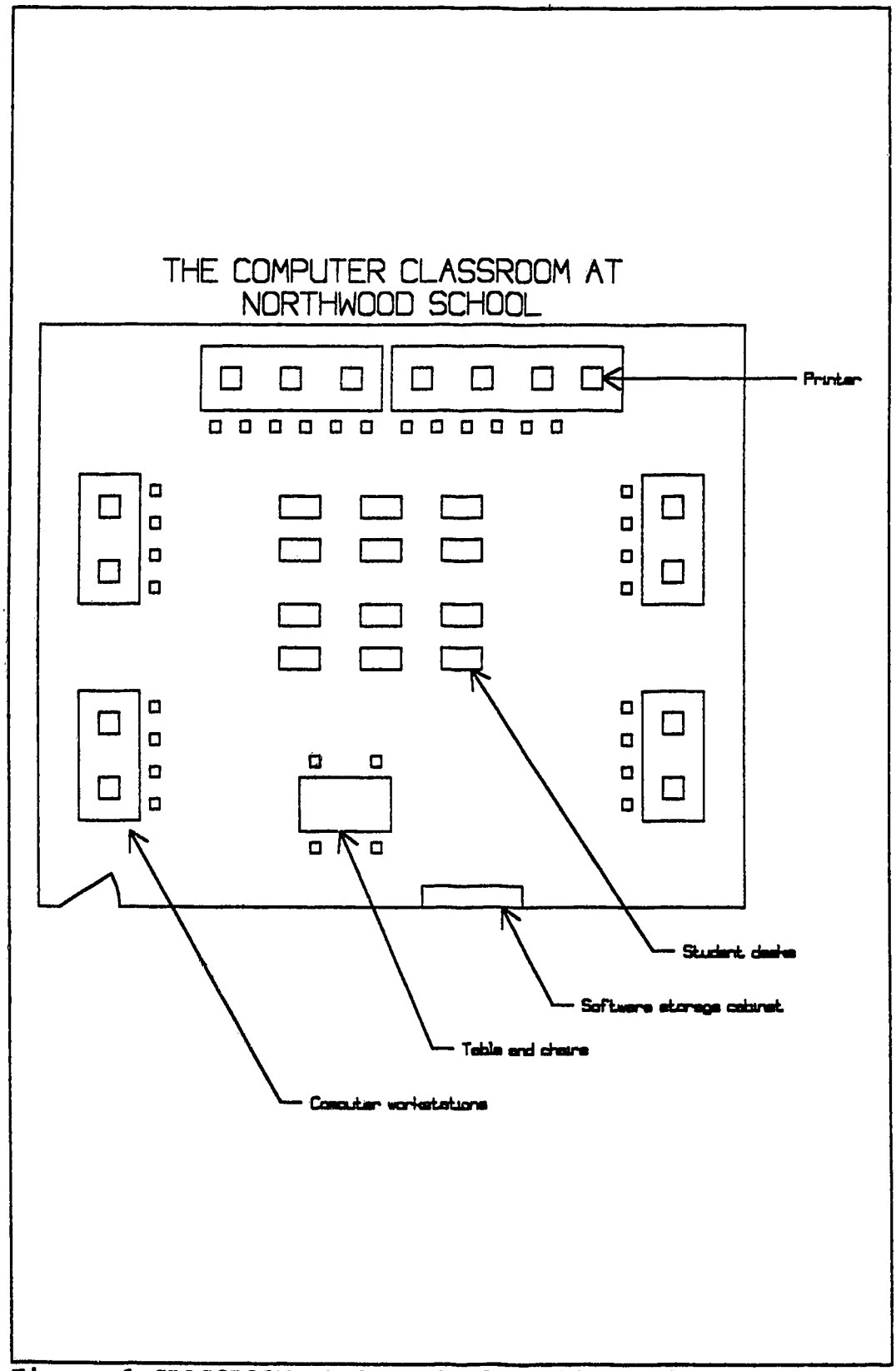

Figure 1 CLASSROOM LAYOUT AT NORTHWOOD SCHOOL

screen in English. Since the French students participating in the research had a beginning level understanding of French, it was considered to be an advantage to have instructions displayed on the computer in English. This would assist the students in understanding how to operate the computer.

The researcher was concerned about the ease with which French could be entered into the computer. Three of the four programs allowed French characters to be entered directly into the program. The Apple IIe computers had a switch underneath the keyboard which changed the display language from English to French or from French to English. The Apple IIGS computers could have the display language changed by entering the control panel of the computer as the computer was turned on and making the desired changes. In order to print the completed work in French the printer needed to be adjusted to receive French characters. This adjustment on the Imagewriter printer required the switching of a dip switch located under the cover of the printer.

The program that did not allow French characters was Children's Writing and Publishing Centre. This elementary desktop publishing program had other attractive features which made it an excellent choice for use in the research. This program allows the user to design pages with or without headings, columns and borders. It is also easy to change the font size and to insert pictures from those already described in the program or from pictures found in other compatible

programs. The instructions are always clearly displayed on the screen making this program quite easy to operate and fun to use for the students as the finished product is personally designed. Appropriate French accents could be added by the students after their work was printed on the computer. At no time during the class sessions conducted was there any concern expressed by the students, teacher or researcher about the insertion of French characters into any of the four programs.

Dataquest Composer (MECC) is a database program that allows the user to create fields such as name of restaurant, location, type of food served, cost of food and any field that the student could use to store information. If a student wanted to compare information about several restaurants the Dataquest Composer program would allow up to 50 files or records to be made in each field which could then be used to analyze and compare data inserted.

FredWriter is a public domain word processor that provides students with basic typing and editing capabilities. Public domain software can be freely copied or is available for a nominal fee from the creator. The advantages of Fredwriter are its cost and its basic editing features which are more than adequate for the elementary school student.

Showtime (MECC) is a program that allows students to write plays, create scenes, music and characters and then to program the computer so that up to three characters can move about the screen engaged in conversation. Three scenes can be

created and the final script can be printed. Students are attracted by the control that this program gives them.

Student-Directed Computer Instruction Model

The student-directed computer instruction model (see diagram on page 50) was prepared and followed so that the students and teachers could learn the software programs in a short period of time. Once these programs were learned, students would then be prepared to select the best software program required to complete their student assignments. The following is a detailed description of each of the five steps in this model:

1. Teacher Instruction - In order for the teacher to be in a position to supervise and facilitate student learning in the computer unit he needed to be familiar with how the programs operated and how they could be used. In this study the researcher personally instructed the teacher in how to use each of the four computer programs. This took place over three forty-five minute sessions in the computer room. The teacher was also encouraged to practise the programs as often as possible. This training took place in the computer classroom.

2. Instruction of Student Experts - "Student experts" were trained for each of the four computer software programs.

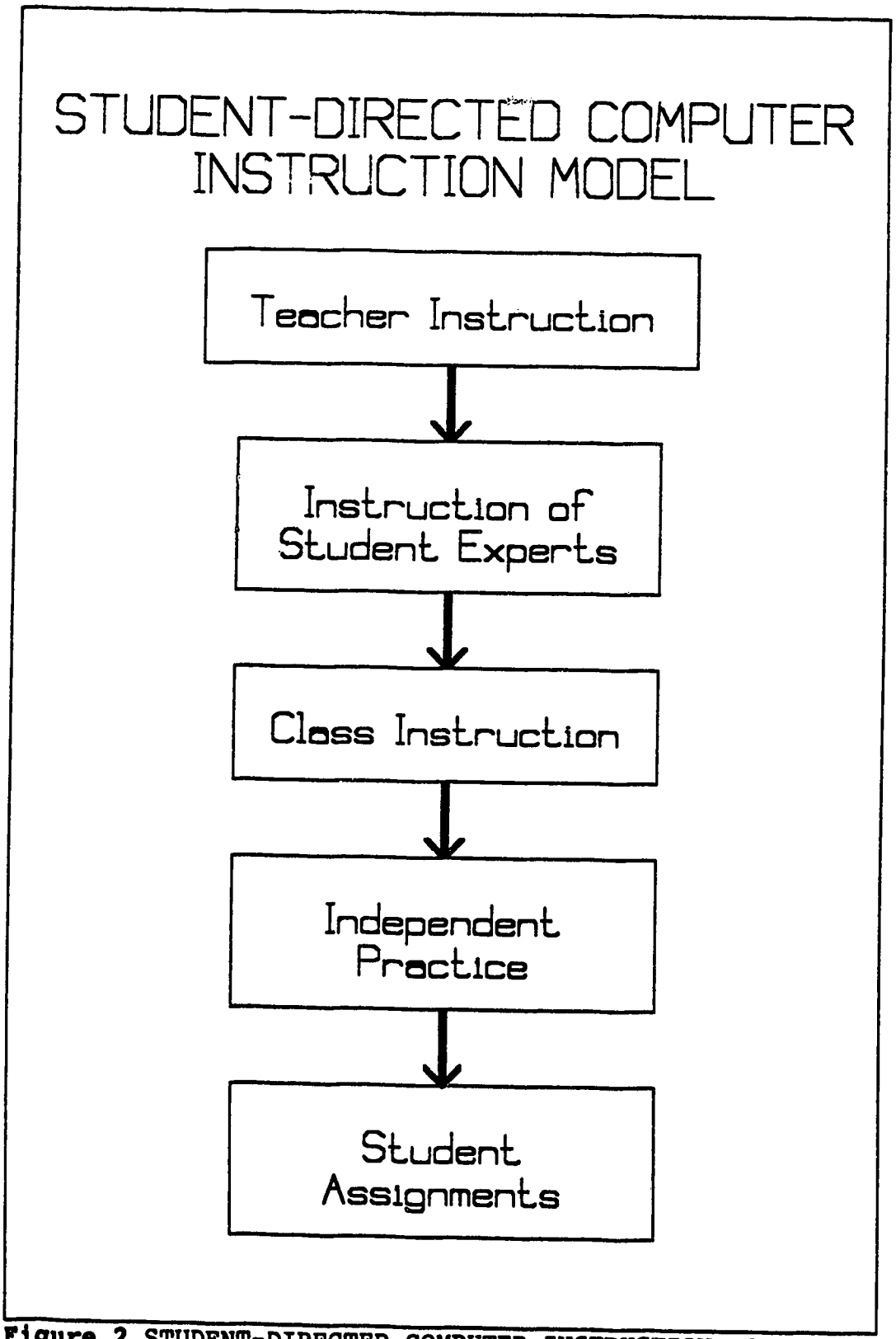

Figure 2 STUDENT-DIRECTED COMPUTER INSTRUCTION MODEL

Two student experts were selected to learn each program. Criteria important in this selection was the ability and willingness to learn and the ability to share what they know with others. Students who followed directions and who worked well on their own were also preferred. Following a brief presentation of the programs by the researcher, these student experts were given the computer programs along with their manuals and asked to explore the program's capabilities and to discover its possible uses and or limitations. They did this with the knowledge that they would become the resident "class experts" of that particular software for the rest of the class. The student experts were dedicated and eager to remain at school each noon hour to learn their assigned programs.

A self-test sheet was provided with each program which tested the students' understanding of the various components of the program. The self-test sheets (see Appendix A) were prepared by the researcher to assist the students to explore their program in depth. They also served to identify various functions of the software program that the student experts may not have explored if they had been left entirely on their own. Since the class experts were to become a critical part of the research, the researcher along with the teacher, supervised their training which lasted seven noon hours of forty-five minutes each.

During the first two noon hours the student experts asked a lot of questions. Questions such as, "How do you get from

the main menu back to the letter? How do you write the script for the play? How do you centre a word on the line? or How do you go from one file to another?" These questions were usually answered by the students or their partners before the researcher or classroom teacher could respond. Once they realized they could answer their own questions their confidence level increased dramatically and there were very few questions directed to the researcher from the student experts. They were intent on mastering their program and gaining this mastery on their own. Periodically, the researcher would ask an "expert" a question from the self-test sheet to check for their understanding. The researcher was pleased that if an "expert" couldn't answer the question, immediately he/she consulted the printed information and found the correct answer in a matter of a few minutes. The student experts had accepted the challenge to master their program and used trial and error and their manuals to answer self-test questions rather than ask the researcher or the classroom teacher for direction or help.

During the student expert training period, the classroom teacher continued his practise of the software programs on a computer next to them.

3. Class Instruction - The presentation of the four software programs to the entire class by the student experts is the next step in the student-directed computer instruction

model. The software programs were presented to the entire class to give them an overview of the variety of software programs they were going to be able to use. The class was not expected to gain mastery of the software programs at this point.

For this presentation, the class entered the computer classroom and positioned themselves on the floor and in the desks in the centre of the room, and listened as the student experts each presented their software program. The student experts explained what could be done on their programs as they demonstrated on a computer connected to a television monitor. Each group of experts presented their software program highlighting the advantages and uses of each program. These group presentations occupied one class period of 45 minutes. Each presentation was followed by a question and answer period.

Questions asked were easily answered by the experts. One student wanted to know how they got the picture for the program onto the page. Another student asked if the Dataquest Composer program was hard to learn. The expert presenting explained that it was pretty easy as long as you wanted to learn it. Most of the students were quite patient during each presentation knowing that during the next computer class period they would be able to explore each program individually. Some students appeared bored believing that they already understood all that the experts could explain to

them. This, as will be discussed in chapter four, was a premature assumption.

4. Independent Practice - Students were given twenty minutes to work independently at four computer stations on each of the software programs presented by the student experts. This was done under the supervision of the student experts who were available to answer any questions or problems raised. This step took two class periods. To help students explore the various components of each program, a self-test was provided at each station which, in order to complete, required each student to explore the program in detail (see Appendix A). The self-tests, prepared for each software program, asked the students to complete operations and procedures the researcher anticipated would help increase their understanding of the software programs so as to eliminate potential problem areas.

5. Student Assignments - Students were presented with a series of tasks to be worked on during the unit (see Appendix B). The tasks were selected in consultation with the classroom teacher. It was hoped that there would be a large enough selection of tasks presented to allow students control in their choice of tasks to complete (see research on student control of learning in chapter two). Potential student

interest in the tasks was also given strong consideration.

Since the students had minimal French background experience, ease with which the tasks could be completed in French was also important. Vocabulary expected to be used by the students needed to have been already learned, or easily obtained through the use of a French/English dictionary. In order to provide further assistance to the students in the construction of their tasks, two assignment guides (see Appendix C) with examples were prepared to provide students with help. All students were told that these samples were for their assistance and not there to indicate exactly what was expected. They were encouraged to be creative in how they completed each task and to use any of the four software programs.

Each student, including the student experts, was to complete four tasks during the one month unit. One assignment was to be done alone and at least one was to be done with a partner. Copies of the tasks were distributed to the students who were encouraged to study each one and prioritize them beginning with the one that held the highest interest. Final selection of the tasks to be completed, was based upon personal preference, dialogue with potential working partners and discussion with the student experts.

Student experts were asked by several students to determine if their task could be successfully completed on a

particular software program. Potential working partners provided new ideas and different possibilities for completing each task. The students were free to select, from the four software programs provided, the one they would use to complete each task. They were also free to choose with whom they would work, and on which assignment they would work alone. No attempt was made to interfere with the students' decisions as to how they would complete each task. The students were instructed that should they encounter any difficulty with a software program, they were to first receive assistance from the student experts before they were to seek help from the teacher.

Data Collection

Anecdotal records and observations made by the researcher along with observations made by the classroom teacher, the school principal and the students constituted the major portion of the data collected. This data provided the researcher with a valuable source of information used to help interpret and understand what was happening in the research. The researcher also looked for any other noticeable factors influencing the outcome of the study. The anecdotal records were divided into the following two areas:

1. Field Notes - These were the observational notes of what was seen or heard; a record of all happenings and events. Up to four tape recorders were used during each computer session to help gain further insight into the learning processes in which the students were involved. Transcripts of the audio cassettes and the field notes were examined by a computer consultant with a large school district, and by an experienced researcher who was also an experienced French teacher. These external examinations were made to check for accuracy and consistency in the findings of the researcher. The classroom teacher was also included in the verification of field notes.

2. Interview Notes - These were a record of conversations with key actors and participants. The researcher interviewed the teacher and the students in both formal and informal interviews. Formal interviews, which were tape recorded, were scheduled for seven students two weeks into the student assignment portion of the study. All French students were formally interviewed upon completion of the research unit. The classroom teacher was formally interviewed after the student experts were trained, two weeks into the task-completing portion of the study and upon completion of the unit. The interviews were scheduled two weeks into the task-completing stage so that any necessary adjustments to the unit could be made. The researcher also hoped that these interviews would shed additional light upon the themes that

were surfacing in the research. In addition to the formal interviews, many informal interviews with the students and the classroom teacher were conducted as the research was occurring. These interviews were recorded in the researcher's field notes. The school principal was also interviewed at the completion of the research.

Journals were kept by students, teacher and researcher and used to describe, interpret, reflect and evaluate each of the participants' personal experiences during the course of the research. The students were shown a sample journal entry by the researcher and were encouraged to comment freely on any positive or negative aspect of the French computer unit. They were also instructed to answer the question that the researcher would write on the blackboard at the conclusion of each computer session. The students were given time, usually five minutes, at the end of each computer class to make these journal entries including any experiences with the computer tasks worked on that day. The researcher was constantly observing the behaviour of the students to determine the type of questions that the students should respond to in their journal entries. The following are a sample of some of the questions the students answered in their journals:

Jan.28 - Do you prefer to do your French assignments on the computer or on paper?

Jan.31 - What do you remember the most about the last two weeks in your French computer time?

Feb.3 - Do you like having a choice in the assignments you have to do?

Feb.6 - Have you preferred working alone or with a partner?

Feb.7 - Has the French computer class time made your French class time more enjoyable?

Feb.13 - What are some of the things you have learned because of your participation in the French computer project?

The teacher was also asked to record his thoughts and impressions in a similar manner.

Student assignments were collected and evaluated (see Appendix D) according to the marking criteria that the researcher and classroom teacher had agreed upon. Since the students were being given control in the choice of tasks that they would complete and were being encouraged to be creative in their completion, a marking guide was established which would not penalize creativity. A mark of three out of five was given if the assignment contained a few awkward parts but

the meaning was understood. Higher marks were given if the assignment was creative and interesting and had appropriate use of French. An assignment was determined to be creative if it contained original ideas or structures formed by the student which added to the overall quality and appearance of the completed work. The French that the students were expected to use was not higher than the level at which they had received instruction.

DATA ANALYSIS

The researcher's personal field-notes were re-read each day and his thoughts, feelings, and interpretations were summarized at that time.

At the conclusion of each computer session, all journals of the participants were collected and read. The data collected was then grouped according to common themes which appeared in the data. Some of the common themes identified were cooperation, group work and student interest. These areas were further divided into three more detailed areas consisting of the teacher, student experts and the students.

At the completion of the study all data was re-examined and matched with its appropriate theme to confirm the observations of this study. All conclusions were then shared with the classroom teacher and the two external examiners to

confirm that the findings of the researcher were consistent and accurate.

CHAPTER 4

ANALYSIS OF DATA

The focus of this research was first to determine if the implementation of a computer program of studies would increase student enjoyment of French. The second objective was to see if a teacher with minimal background computer experience could successfully implement a French computer program in his classroom. The procedure consisted of eight students, called "student experts" learning four software programs who then taught their classmates the programs in a series of three computer class periods. Once the class was familiar with the software programs they received a list of tasks from which they chose four to complete in the French language. The student experts were available to assist students in any software difficulty. It was anticipated as well that as the teacher learned the programs, he would also be of assistance with any software concerns of the students.

With these goals in mind, the first area examined in detail was the experiences of the students from the moment they were first introduced to the computers until they completed the French computer assignments. Also examined were the behaviours of the seven non-French students who participated in all aspects of the computer program even though they completed their computer assignments in English. The behaviour and thoughts of the teacher were followed from

his introduction to the computer software programs through to the completion of the French computer unit.

The main sources of data consisted of the researcher's field notes and journal entries, interviews with the teacher and students, journal entries made by the teacher and the students, taped computer sessions where up to four students and or groups, were taped while they worked on their computer assignments and an interview with the school principal. Data collected were organized into developing themes and compared with all the other data sources to check for repetition and accuracy. The developed themes were then analyzed further, selecting specific incidences to support the themes described, and also to provide in clearer detail evidences supporting these themes.

Descriptive notes of the classroom observations, the interview transcripts and the recorded computer sessions were analyzed for recurring incidents or common assertions made by the teacher or students. These were then checked through further observation to gain increased insight and to confirm the accuracy of the findings. Data analysis was therefore ongoing during the observation period.

Introduction to the Computers

Teacher Instruction

The classroom teacher, Mr. Jones, was not comfortable with computers and did not use them for personal use or in his teaching. He was tentative and seemed overwhelmed by the software programs being presented to him. He spoke aloud as he followed the directions displayed on the computer monitor, and would not press any keys on the keyboard until he had confirmed with the researcher that he was correctly following the software program's directions. He was pleased when he was able to carry out simple procedures on the computer. Even after two or three noon hours working on the computer, he was concerned about his ability to conduct this unit on his own. Mr. Jones became a bit more relaxed when it was explained that the researcher would teach the student experts the software programs. Mr. Jones continued to learn the programs along with the student experts during their computer sessions prior to the class's introduction to the computers. Although Mr. Jones gained an adequate working knowledge of the software used in the study, he later stated that he had not worked on the software program as much as he felt he should have, prior to the onset of the unit. He felt that this was his own fault as the opportunity was there for him but he never took advantage of it. He stated that he would also like to sit

down and complete several assignments to gain the self-confidence he believed necessary in order to lead a future computer unit of studies independent of any outside influence. Mr. Jones' comments echoed concerns that the researcher had penned earlier in his journal.

> I was somewhat concerned about Mr. Jones' involvement in my research as he was hesitant in committing himself to "mastering the software" selected for the study. Today and yesterday he worked methodically through Showtime completing all the requirements of the self-test for that program. I told him that we would not proceed with the student assignments prior to his having completed three of the four self-tests for the software selected. He agreed. He lacked confidence but became more enthusiastic as he progressed through the program.

Mr. Jones had a certain degree of apprehension about the Dataquest Composer program and seemed relieved when the researcher said we would continue to the next stage involving the class "student experts" without requiring him to learn the database program.

Student Expert Instruction

The student experts were expected to learn how to work

with the software programs selected, present them to the class and supervise the training of their classmates in the software programs. They were to be available and respond at all times to any questions or problems that could arise with the software programs throughout the computer unit. They were to assist the teacher by answering all the software questions, thereby freeing the teacher to work individually with students.

When the student experts were introduced to the computers, they showed a high level of interest in their participation and role in the computer unit. Even though it was the last week before Christmas the students offered to come in every day during the noon hour to learn their assigned program. They were each assigned a partner and given a brief demonstration of their program. At this point the student partners were given the prepared self-test for their program which they were instructed to complete. They were then left to explore the capabilities and limitations of each of their individual software packages.

The journal entries made by the student experts while they learned their software programs, introduced several of the themes which surfaced time and time again during the course of the research. Val wrote, "I enjoy working with this program. I feel that I've learned enough of the program to teach others. I like the part where the computer sort of lets you take charge. The pictures really add to your story

or article." Wendy recorded that, "I enjoyed working in partners and working on Showtime. It was fun to see a play that I, we had made [sic]. It's fun making up the music and making characters and backdrops. My partner and I get along very well. I like doing things on the computer."

All of the student experts stated that they enjoyed learning their programs and expressed satisfaction in their involvement in this portion of the computer unit. They completed the respective software self-tests after five noon hour sessions. Following three additional noon hour sessions, held after the Christmas break, they were eager and ready to present their programs to the remaining students in the class.

Mr. Jones was always emphatic in his appreciation of the role of the student experts. He said prior to the introduction of the computer programs to the class by the student experts that, "It was nice that the heat was off. It was spread out over eight shoulders." He realized that the student experts were going to be able to answer most of the software related questions. This he had assumed would reduce the demands on his time and would have several students shoulder the responsibility of teaching the remaining students in the class. Later during the research he added that if he couldn't answer a question he was glad that the student experts could.

Shortly after the students had begun working on their computer assignments the researcher noted in his journal,

"that the student experts are really being useful. They are helping continuously and it is making it a lot easier for Mr. Jones to help others who have questions."

At the end of the French computer unit, all of the student experts were asked if they would be a student expert again knowing the demands that it could place on their time. All of the student experts said that should the opportunity present itself, they would be an expert again. Their comments ranged from, "I liked knowing more than the others," to, "I liked helping others and it was fun."

Class Teaching by the Student Experts

The big day finally arrived for the student experts. They were going to share their newly acquired "expertise" with their fellow classmates. They were nervous but anxiously waited their turn to present a software program to their classmates. They had learned the programs and were confident that they could share their knowledge with their peers. The student experts each in turn presented their programs to the class discussing in detail the various advantages and features of their program. The students were told that they would work with the programs being described during their next visit to the computer classroom.

Some of the journal entries made by the student experts after they had made their class presentations of their

software programs accurately reflected their feelings:

> **Val:** I thought that our presentation gave them a small idea of the program. ...I feel that the people will enjoy it more when they work on it.
>
> **Linda:** I think our presentation was OK but a little bit too long and boring.
>
> **Ted:** I was kind of scared today for the presentation, but it was alright! Our presentation was fine! I'm looking forward for teaching [sic].
>
> **James:** At the beginning of the presentation I thought they were not interested but when I got into it, it wasn't boring at all.

The next two class sessions were devoted to the student experts supervising and teaching their programs to groups as they rotated from one station to another. The teaching and interaction at this stage was tremendous. The experts assumed full responsibility for what happened at their stations. They assisted in all aspects of the instruction. Not once was Mr. Jones summoned for assistance. The experts answered all questions and directed the students in how to best use the program. The researcher recorded in his field notes for those days that the room was fairly quiet except for the busy work of the students. Throughout the class period the experts were

constantly providing insights into their particular programs and the students were listening carefully. At one point several students were observed to decline help as they said they did not need any. Moments later these same students were seen asking for help as they encountered difficulties with their computer program.

Another student was heard telling James (one of the student experts), "I don't really know how to do this. You're the teacher here, you have to explain it to me." James then provided the necessary assistance required by the student. The students had certainly accepted without hesitation the help and knowledge of the student experts. The student experts seemed to allow their peers the opportunity to use trial and error in their exploration of the software programs then wait for any questions before giving further help.

During the second class session Diane and Linda appeared tired of repeatedly explaining Fredwriter (perhaps the least visually stimulating of the four programs) but still were actively encouraging and watching over the shoulders of their classmates, instructing and giving tips on how to work the program. They both wrote later that they enjoyed their role today more than the last day.

The researcher recorded in his journal that on the second day of the student expert supervised computer instruction that, "The experts seemed even more confident, they realized that they were the experts of the program and that any

inhibitions that they may have had were no longer present. It was really nice to see every student on task."

To this point of the study two themes had surfaced. The students were truly interested in what they were doing and there was a lot of cooperation and teamwork which had enabled the class to progress as far as it had in such a short time.

The students left the two day training session with a basic understanding of their programs and the knowledge of who in the class was best prepared to assist them should they encounter difficulties in future computer classes. They knew how to load the software programs into the computer and had a general idea of each program's capabilities. The students had not as yet completed any activities or assignments on the computer but had developed an interest in, and awareness of, each of the software programs. The students also had started to understand the role of the student experts and had accepted that Mr. Jones was going to direct any software related questions to the respective student experts. They understood this to be the procedure for this unit and did not interpret this to be in any way a reflection of Mr. Jones' abilities on the computer.

Appreciation of the student experts' help and assistance can best be expressed by several student journal entries made during the two day instruction period:

Bill: I learned a lot of stuff about computers from the experts. I don't know that much about computers but the expert taught me lots about them.

Andrew: Today I learned a lot of computering from the experts... they are a great help. I'm looking forward to computering next time.

Mark: The experts were really helpful.

Brad: I learned a bit about the software because the experts helped me a lot.

Student Assignments

At this point in the unit the students were presented with the list of assignments (see appendix B) from which they were asked to complete four in French during the next four weeks. Students were asked to complete at least one of the four assignments alone and at least one with a partner.

The French assignments were made in consultation with the classroom teacher and were based on research (see chapter 2) indicating that the more control students have in their assignments, the more valuable the learning experience will be (Govier, 1991). The assignments were then prepared with the intent that they would foster group dialogue and interaction among learners (Hoyles and Sutherland, 1989). As suggested by Naiman et al. (1978), good language learners actively involve

themselves in learning a language when they explore an area in the new language. It was hoped that the prepared tasks would promote the involvement of the students in new areas of language learning. It was further hoped, that through the independent selection of the tasks presented to the students, they would involve themselves in the learning strategies described above.

Findings

Student Enjoyment

One sign that was strong evidence of high student interest in the French computer unit was the time on task by the students. Commencing with their first computer period and continuing right through to the last computer period was the eagerness of the students to begin the class immediately and not waste any time in the computer room. Several entries in the field notes reported that the students rushed in and immediately set to task working on their French computer assignments. They worked right up to the end of each period not wanting to stop work at the appropriate signal from the teacher. Any concern that the researcher had about maintaining student interest was removed with this regular and recurring pattern of student behaviour. It was interesting to note that not once after the assignments had been explained to

the class, was it necessary to start any of the following computer sessions with any sort of teacher explanation as to what was expected of the students. Students understood the assignments, were on task, and were interested in what they were doing. Even though the same preparation must be made to complete an assignment in French, be it in the classroom or on the computer, the use of the computers seemed to have increased student determination to do well.

The students spent time out of class preparing for their French computer classes. Mr. Jones commented that, "some of them (the students) ask me in class when they have some catch up time, if they can work on their French when they may have Math or Science to do." This was not a normal occurrence in his classroom.

An interesting observation was that even though the class and the experts encountered some technical difficulties with the Dataquest Composer program, the interest remained highest for that particular program. Students seemed driven not only by the program but by the challenge to get the program to work successfully for them. All who used Dataquest Composer as a program to complete one or more assignments, successfully completed all assignments started.

The researcher was concerned that since the French students would be working alongside English students on similar assignments, that there would be some complaining, by the French students, that the assignments had to be completed

in French. It was surprising to find that neither Mr. Jones nor the researcher heard any complaining of any kind about having to complete all assignments in French. A few students did mention that it would be fun to come to the computer room and complete some assignments on the computer in other subjects as well as in French.

At the completion of the computer unit all students were asked if they enjoyed French more in the computer room or more in the classroom. Their comments strongly endorsed the use of computers in their learning of French,

Wendy: I enjoyed French more on computers, in class we just speak it. ... it's funner to write it on the computer.

James: I enjoyed the computer classes, it's more funner than listening to a teacher and writing down stuff. You get to do it on your own, find it out on your own like what words mean and that from dictionaries and put them into sentences and stuff [sic].

Rebecca: It's fun to do everything on the computer.

Val: I like doing my French assignments on the computer because it makes it more interesting.

Nancy: I don't really like French so I liked the computers more.

Melissa: It's funner to be making a project than just listening [sic].

Mark: I like the computers because it's fun, even when it's an assignment!

All of the French students were asked at the end of the unit if they preferred to learn French in the computer classroom with the computers or in the classroom with a teacher. The students indicated that they preferred working on the computers during French class time rather than in the classroom in the more traditional setting. Three students however, expressed some reservations. Two of these students were among the four who did not initially want to work on the computers in French. Diane felt that doing a little bit of French on the computers would be okay, but more than that would be undesirable. Nancy felt that she would have to learn more French in order to make the whole experience more enjoyable. She felt she didn't know much French and that this lack of expertise made completing the assignments more difficult. Nancy was a student who struggled with French as a subject. Learning French did not come easily for her. Another student named Ann was concerned that as she learned more French, she would be expected to use more French on the computer. She said she wouldn't feel comfortable doing this. With the exception of the three students just mentioned, all of the students gave a strong endorsement for the use of

computers in their French class time.

There were four students who, prior to the onset of the study, stated that they were not looking forward to working on the computers in French. All four of the students stated that they did not like learning French. Erin commented, "I won't enjoy doing French on the computers because I don't enjoy doing French in class." At the completion of the computer unit Erin stated, "I hate French and this (working on the computers) was funner." Ann commented that working on the computers in French was more fun than in the classroom, "you get to choose your assignments and stuff... at the beginning I thought I couldn't finish because it was too hard, but then when I started it was fun." Ann qualified her comments later when she added, "if the French gets harder I don't want to work on the computer." Diane wrote that she "...wouldn't mind doing some assignments on the computer in English and some in French." All four of the students were observed to be on task throughout the entire unit and all four stated that they had enjoyed the unit. This was in contrast to their initial position when they had all stated they were not looking forward to the computer unit.

It is worth noting at this time that all of the non-French students, when questioned before the unit began, believed that they would enjoy completing assignments on the computer. They did not have the challenge of completing their assignments in a foreign language. Their biggest challenges

were learning the software programs and planning how to complete the assignments. They were given the opportunity as well, to work individually or with a partner. Only Dave said that he didn't like working with a partner. He said he, "liked doing things his way." Later, after completing two assignments with a partner, Dave commented that he didn't mind working with a partner or alone.

Amy, a special education student, who had difficulty retaining information and recalling instructions, was especially thrilled with her participation in the unit. She stated that she enjoyed the unit because she, "got to do it." She was pleased whenever she was able to see a portion of her work completed. While she was creating a script she was happy when the set was completed, the characters created and the script was written. Each successful step along the way towards the completion of a task was an accomplishment that she celebrated.

When the non-French students were asked what they liked about the computer unit, Clint said that he, "liked a challenge." Other comments were, "I like everything in computers," and "I like all software programs." The most powerful comment in favour of the computer unit was once again when Amy said, "I enjoyed it because I got to do it." There was a powerful intrinsic feeling of accomplishment which Amy felt whenever she was able to look at any portion of a computer related task that she had created and finished on her

own. Mr. Jones mentioned to the researcher several times during the unit that the students seemed to have a strong feeling of accomplishment whenever they had completed a task on the computer.

The teacher was quite pleased that the students were working hard at task during the computer classes. He was also impressed with the pride that they showed in their completed work. He reported, "When they handed in their finished product for each assignment, the hard copy from the printer, (they would say) 'Here I've got another one done,' or, 'Here's one and I've just got three more to go.' They weren't complaining about it, it seemed to be a sense of accomplishment that they felt."

The school administrator echoed Mr. Jones' comments. He described the students in the computer class as follows, "They had happy looks on their faces and that look of having accomplished something, and they were intent on typing out their sentences and making stories. You could tell that they were fully occupied and were proud of what they were doing. They appeared to be working at their level and appeared to be achieving."

Teacher Reaction

Listening to Mr. Jones, and observing his actions as he

assumed his role as teacher in the French computer unit, provided further insights for the researcher. During the presentation of the student assignments to the class Mr. Jones appeared to be overwhelmed by the barrage of questions that the students asked. He seemed to cope well with their questions and established himself as the person in charge of the project even though he admitted to the class that it was the researcher and not he who had prepared the handouts on the evaluation of the assignments and the help sheets for the restaurant and resumé assignments. (see Appendix C)

During the first few sessions when the entire class was together working on the assignments, Mr. Jones was directing all computer questions to the student experts. This changed as he became more and more comfortable with the computers and the software packages. He was soon observed giving individual computer instruction. He was heard explaining to Amy that she must format the disk to the program being used. This was a concept he did not have an understanding of prior to his introduction to this unit. He then helped her get started and worked through the instructions with her on her Showtime disk. He then told her that if she needed further assistance to, "ask the experts and not me. The experts probably know more than I do."

From about the third class session onwards Mr. Jones was seen going from group to group answering questions in French and resolving any minor questions concerning the software

programs or the assignments themselves. He did, however, always encourage the use of the student experts and would often ask the students if they had asked the student experts first before he would attempt to answer their questions. The researcher noted in his journal that during this same time period, "I am pleased that Mr. Jones has taken an increased amount of ownership in the French computer unit. He is visibly more comfortable with his role now than he was a week ago. He is familiar with the name and capabilities of each program and can discuss their possible uses with the students. He seems quite pleased that the students have accepted their role in this research. The students view him as a teacher who is familiar with the software and understands their use."

Mr. Jones was more critical of his own abilities with the software programs than the students were. The students asked him questions, knowing that if he didn't have the answer immediately, that he, through a student expert, would help solve the problem. In conversation with the researcher Mr. Jones expressed the need for, "...more practice myself and I would like to be able to sit down with the kids, do the assignments and here I am doing the facilitating! I think I will have to take some noon hours on my own, sit down and practice on the program myself." He later added that he was not where he would like to be in regards to his computer knowledge but was extremely pleased with the high level of student participation in the unit. He also commented that the

students were learning a lot of French through the completion of their computer assignments and through the use of the French dictionaries.

The school administrator, when asked what he had observed Mr. Jones doing in the computer classroom said, "I saw him going from computer to computer making notes and observing, he was facilitating as opposed to doing any instructing, he was facilitating because they had already been instructed. ... He was dealing with individual students with problems that had come to him."

Mr. Jones, in describing some of the demands on his time in the computer classroom, described the following scenarios, "Well it's mostly, 'How do you say this in French?' They come to me with a dictionary and they've looked it up, looked up a word and ask if this is the right word that I use or should they use another? 'How do I say this?' They don't ask me too much about the actual programs themselves, just if they have a glitch or something. Like this morning, two girls couldn't get the percent sign to come on so I told them to just type *pour-cent*."

In a final interview the teacher described what he remembered the most about the French computer unit:

> The most I remember is that after a week, approximately a week after the orientation to the programs, is that the kids knew just what to do for their assignments. They

got right down to work. They had some questions but I was pleased with the way they got right down to work and they were focused and stayed on task almost 100% of the time, 100% of the class. That's what I remember most, the enthusiasm and diligence with which they worked on their assignments.

Cooperation Among Students

Mentioned earlier was the fact that cooperation had emerged as a theme in the research. There are many examples which illustrate how this characteristic revealed itself repeatedly throughout the entire research period.

During a taped computer session in the computer classroom, Joelle and Linda were heard reading the instructions displayed on the computer monitor to each other. They then verbalized what the instructions asked them to do, in order to complete their desired task, by repeating those instructions aloud. As they worked, they continued correcting each other's French so that the product had a minimal amount of error.

The researcher noted that partners were helping each other with the French language. They also were actively engaged in dialogue, planning strategies to facilitate the completion of their chosen assignment. The following taped conversation between Linda and Val illustrates how two

students helped each other with the French language. Val was reading out the letters and words to be typed aloud and Linda was doing the typing,

> **Val:** *les loisirs les loisirs, J'aime* travel. How do you say travel in French? (Linda looks up travel in the French English dictionary)
>
> **Linda:** travel, *voyager, J'aime voyager*

They were later heard in conversation discussing the days of the week and deciding amongst themselves the true meaning of *l'heures à travail.*

When the researcher observed that some students or groups went directly from one assignment to another he asked them how they were able to do this. They responded that once they had completed a computer assignment they were able to immediately begin a new computer assignment because of the preparation they had done previously outside of class. They had selected the assignment they were going to do, and had planned how they were going to complete it at home or in dialogue on the telephone with their partner, in the days leading up to the computer class period. The classroom teacher had also commented to the researcher that the students were working on their French computer unit assignments during any free time at school and at home after regular school hours. The students had taken responsibility for their work and had developed

individual plans or strategies by which they could complete their French computer assignments.

All of the students interviewed at the end of the computer unit indicated that they had followed a plan en route to completing their tasks. A lot of this work was done outside of the computer class in either the students' free time at school or at home. Joelle indicated that she, "planned it out, took a French Eaton's catalogue, took out the French vocabulary needed and then planned the task on a separate sheet." Julie's course of action was typical of many of the students in the class. She explained that as she proceeded to complete a task she, "thought it out, wrote it down, translated it into French, and then wrote it down into the computer." Ted who said at one point in the research that he never liked to do any more work than was required, used a slightly different approach to complete his assignments. He explained his strategy as follows, "my partner and I thought about what we knew the most of and then we did the assignment." Although not necessarily the same, all of the strategies employed by the students to complete the French computer assignments worked. The assignments were completed on time and there seemed to be a high level of interest maintained by all students throughout the study.

Dictionaries were constantly in use and a lot of questions being asked were of the "how do you say" form. Cindy asked how to say "am" or "is". Someone shouted out être

while another person shouted out that you must use the right form of être to make the verb tense agree. She then corrected her sentence with the help of her friend.

Scenes of students helping students were visible everywhere. Matt, Brad and Ted were working well together on a Children's Writing and Publishing program. Brad was saying the words aloud while Ted was entering them into the computer. Matt was monitoring both of their actions.

Joelle asked Mr. Jones how she could find a file she had saved. Bruce, not a computer expert but had heard the question, intervened and told her how to find it on her disk.

The students were working well together. Most were working in pairs and all students were on task. The student experts were still being asked to help out but only when there were technical problems. Most software problems were solved with a short explanation from a student expert to the student having requested assistance. Other minor problems were being solved by partners, or friends, or by classmates who happened to be in the vicinity. In all cases the time required to receive assistance was minimal. All of the students willingly shared their expertise with their fellow classmates.

An excellent example of the cooperation exhibited during the research was when some paper got jammed in the printer and the paper needed to be cleared and then rethreaded. Before Mr. Jones came to clear the jam, Joelle, Erin and Linda arrived on the scene and solved the problem. Only Linda was

a student expert and none of the three students had need of the printer, but all felt a responsibility to help. This help at the printer extended as well to the assistance of several students who felt uncomfortable at the printer. The researcher realized during the course of the research that the only people that had been instructed in the use of the printer were the student experts and the classroom teacher. As a result, without any prompting from the classroom teacher or from the researcher, the student experts and other students familiar with computer printers, volunteered their services to help teach their classmates how to print their programs. These volunteers did not just help print the student's work, they taught the student how to print her/his own work.

Another example of the cooperative effort displayed by the students was when Bruce, a non-French student, saw that Bill, a French student, was having difficulty operating Children's Writing and Publishing Center. Bruce walked over to where Bill was seated and said that he would help him with the program if Bill would provide the French. This help was given for an entire class period. Bill later completed the assignment on his own without any further help from Bruce.

Student Experts

The student experts had a special role in this research. They were selected and trained so that they would be able to,

and expected to, help others during the French computer unit. They agreed to be of assistance to their classmates from the onset of the unit. Although the frequency of questions directed to the student experts decreased as the computer unit progressed, their role and cooperative nature was clearly visible throughout. It was a normal and regular occurrence seeing a student expert provide assistance to a member of the class.

Rebecca in describing how she solved problems encountered in the unit explained that, "I try and think about it and if I can't get it, I ask someone else or I ask the teacher or I look it up in the dictionary." She felt comfortable enough with her peers to ask them for any assistance that they could provide.

Val a student expert, was asked at the mid-point of the research what it was like being a student expert. She responded that, "It's been fine, kids come to me and ask their question then don't come back! They know the program." She later indicated that she wasn't getting near the same number of questions as she did when the unit first started.

It was further noted in the researcher's journal that, "the enthusiasm of the student experts has been invaluable, they had been actively involved in the class discussions and in the teaching of the programs, always ready to lend a hand."

Ted, a student expert, spent several class periods almost exclusively helping others. When asked what were some of his

memories of the computer unit, he emphatically stated, "I remember that I had to help tons of people!"

Student Preference - Working Alone or With a Partner

The students themselves supported the cooperative nature of the unit. When asked if they preferred working alone or with a partner, comments made by the students in their journals and in taped interviews warranted a closer examination. Some of their observations were as follows:

Matt: I like working in partners better because what they say two heads are better than one [sic].

Brad: I like working with a partner because if you don't know something, he can help.

Val: I like working with someone because if I'm stuck my partner can help.

Ted: Partners, because it is easier to work.

Mark: I prefer working with a partner because there are some things you may not know and your partner might know what to do. Then you could ask them for help.

Melissa: It's fun with a partner, you get more work done and funner to talk more ideas [sic].

Linda: I like working with a partner because if you run out of ideas your partner can help and if you don't know how to spell something your partner can help too.

Julie: I like to work with a partner because they help you and if you don't know something, and they know it, they can tell you what to do.

Nancy: With a partner it's easier because then it's not as hard because you have two ideas and when you're working alone you don't.

Ann: With a partner you can get more ideas than when you're alone.

Joelle: With a partner so if you get stumped you can ask a friend.

There were a few students whose preference was to work alone. James stated, when asked if he preferred to work alone or with a partner, "...alone because it's more easier, I think." Bruce wrote that he liked working "...alone because I like to work alone and then I have no one to tell me what to do [sic]." Nancy wrote, "I like working by myself because then you get to do more on the computer." Diane stated first that she "preferred working on my own because it goes faster." At the conclusion of the research Diane changed her opinion somewhat when she said, "When I work alone things went faster. When I worked with a partner things went easier. You didn't

have to type as much and you got more ideas from your partner than you'd have if you were on your own."

The opinion of the students surfaced strongly in support of working cooperatively with a partner. The benefits ranged from, "...a sharing of ideas..." and "...reducing the work load..." to "...the enjoyment of working with a friend or partner." Working cooperatively with a partner gave the students the opportunity to share their knowledge of the French language in a way which complimented their partners' knowledge. It also helped in the completion of the French computer assignments which they had selected. Students shared with their partners the responsibility of successfully completing each task selected. The students when completing an assignment in a group, worked cooperatively towards a mutually agreed upon final product.

Student Control of Assignments

Control over which assignments were to be completed, how they were to be done, and with whom they would work was also a learning experience for the students. Cindy commented that some assignments were not as much fun as others and, "...if you didn't like it you didn't have to do it."

When Val was asked what made doing French on the computers more interesting she replied, "You don't just do something the teacher asks you to do, you can just about do

anything as French." Val was pleased that she could select an area in which she had a personal interest and complete the assignment using an area of her interest as the focus. Melissa commented further on this matter when she said, "I liked that you could control what you were doing, you could pick what you wanted to do." Wendy commented that, "It was better to pick what you wanted to do instead of Mr. Jones telling you what to do."

The students truly took control of their learning. During one computer session when Mr. Jones was absent, the supply teacher asked for clarification of the nature of the assignments. She was impressed that the students had come in on their own, got right on task and were quite actively engaged in their work. She was further impressed that all this happened without a single word of instruction from herself. She was surprised at their involvement in the assignments and the ownership and pride that they showed in their work. Her comments corresponded with what Mr. Jones stated during a conversation in the computer session following the class with the supply teacher. He said, "It's (the French computer unit) pretty well running itself." The students had clearly understood their responsibilities in the computer unit and were actively engaged in fulfilling them.

Mr. Jones commented that, as a result of their involvement in the French computer unit, the students had definitely learned how to ask questions, had learned how to

successfully operate four computer programs and had increased their French vocabulary knowledge through the completion of the computer assignments.

Student Learning

There were several indications that working on the French computer unit provided a variety of learning experiences for the students.

When asked what she liked about the assignments Joelle said, "...putting them together, you are not working by yourself. ... you always have somebody to back you up and it's just fun working and writing and everything." James reported that he liked using the programs in French because, "It's more of a challenge, in English you know all the words and in French you have to find them, it's just more of a challenge." Joelle offered the following insight, "On a computer you get time to think about what you are doing." When asked to comment further, Joelle added, "In class you don't have much time to think about what you are doing, the teacher asks the question and then you have to answer quickly or he doesn't think you have the answer. At the computers no one is seeing how long it takes you to do the work." Cindy commented that she, "...learned a lot more about French and now I'm great at going into the French dictionary." Cindy and Val credited the French computer unit with helping them increase their

French vocabulary. Many others also shared this observation.

When asked if she felt her time was being used well in the computer room Ann replied, "Yes, because you learn lots and you also enjoy what you are doing."

Ted, Brad and Matt commented that they learned that you cannot translate English expressions directly into French. They had tried to translate an English dialogue full of idiomatic expressions into French only to find out when they asked Mr. Jones for help, that not one of their many attempted translations was correct.

The students learned that having a partner aided in the preparation and completion of student assignments. It was previously noted that the majority of the students preferred to work on the assignments with a partner rather than independently. The students wanted to maximize their productive time at the computers and came to the computer sessions quite prepared for each class. If they had not finished their preparation, they went to the inner desks in the room and quickly set about completing preliminary preparations for the French computer assignment. From there they went to the computer where they entered their information and made any further revisions required.

Conclusion

Several conclusions can be made based on the findings of this study. Most students found their French computer unit to be enjoyable, and if given a choice would prefer to work in French on the computers over traditional classroom work. They enjoyed the challenge of working on the French assignments on the computer and spent additional time outside of class preparing and planning how they were going to best use the next computer class period.

There was a great amount of cooperation shown in the unit. Student experts were constantly seen helping their peers. This help was appreciated by their peers and considered valuable. All students willingly took upon themselves the responsibility to help one another. This help was demonstrated in the learning of the software programs, strategies to use in the completion of assignments and in how to use the printer.

It was also found that most students, when given the choice, worked with a partner rather than alone on an assignment. Students had realized that input from their partners aided in the completion of the student tasks. The students found the assignments to be challenging and developed personal strategies used in their completion. The students enjoyed the assignments, remained on task and required minimal teacher supervision throughout the unit. The students were

proud of their work and pleased that they could determine how they would complete each task selected.

The classroom teacher, critical of his own abilities, was looked upon by the students as a facilitator and a useful resource in the French computer unit. The students did not perceive him to be inadequate with computers in any way. He was quite comfortable with his role of providing individual assistance to his students, and was pleased with student effort and enthusiasm displayed in the unit. He had started as a true novice on the computer and had become familiar with several software programs. He had observed how enthusiastic the students were in the computer classroom and how much they were prepared to help one another. He had determined in his own mind that he would conduct future computer activities upon completion of this study. He had realized that with student help he would be able to conduct a future computer unit on his own.

One of the most significant observations of this study was the role of the student experts. They exhibited a high level of enthusiasm for the software programs, and this enthusiasm spread to the students. They successfully learned and presented their software programs to their classmates. Their assistance continued through to the completion of the unit, decreasing in frequency as the students became more proficient in their use of the software. The student experts were accepted by their classmates in their roles and were

considered a valuable resource. Mr. Jones was highly appreciative of their role in the computer unit. Their commitment and dedication to their roles allowed him to spend the majority of his time providing individual instruction to the students in the use of the French language. Mr. Jones willingly referred students to the student experts when they had a software related question or problem. This was made possible by the high level of trust and confidence he had in the student experts.

CHAPTER 5

CONCLUSION

Summary and Recommendations

The researcher had used computers in his grade 6 French classes for four years prior to this study. He found that his students were highly motivated, appreciated learning the software programs and enjoyed completing the tasks assigned in the French computer units. During this same period of time he had received criticism from a few of his colleagues who were concerned that time spent on the computers was time spent not learning French. The researcher also discovered in those four years that very few French teachers in his school district used computers in any aspect of their teaching. With these thoughts in mind, the researcher commenced a study which had two objectives: The first was to determine if by participating in a French computer unit, student enjoyment of French would increase. The second objective was to determine if a French teacher with minimal computer background experience could successfully teach a unit in French using the computer.

A French teacher with limited computer background experience teaching French to 18 grade six students agreed to participate in the study. The teacher had experience in teaching both French and German to elementary students for a

total of nine years. In all, he had taught for twelve years. He was not comfortable with computers and did not use them in his teaching or for personal use.

In order to facilitate the implementation of the French computer unit a student directed computer instruction model was developed which consisted of the following five steps:

1. Teacher Instruction: Individual computer instruction was provided for the teacher to familiarize him with the four productivity tool software programs being used in the study. The researcher instructed the teacher in the operation of the software programs. These programs included a wordprocessor, a database program, an elementary desktop publishing program and a program that allowed the students to make a play on the computer complete with music, characters, sets and dialogue all created by the user.

2. Instruction of Student Experts: Eight class "student experts" were trained in the use of each of the software programs. These students were placed in pairs and each was given the responsibility to learn one of the programs. They were trained knowing that they were going to play an active role in the teaching of the respective software programs to their classmates. Included in the responsibilities of the student experts was the teaching of the selected software programs to their classmates. They were to be available to

offer assistance to the students throughout the French computer unit in the learning and operation of the four software programs.

3. Class Instruction: This was the presentation and introduction of the software programs by the student experts to the entire class. The class entered the computer room and observed as the student experts presented their programs on a computer connected to a television monitor. The purpose at this point was to give each of the students a general overview of each of the four programs. The various capabilities and functions of each program were described and demonstrated by the student experts. A brief question and answer period followed each presentation.

4. Independent Practice: Each of the students rotated through four computer stations where they were allowed to operate the software programs under the direction and supervision of the student experts. The experts ensured that each student could load the program into the computer and then use the various features of each program. Self-tests for each software program were provided (see Appendix A) and when completed, ensured that each student had experienced most aspects of the software programs that the researcher anticipated that they would need.

5. Student Assignments: The students were provided with a list of nine tasks (see Appendix C) of which they were each instructed to complete four (of their choice) in the next four week period. A minimum of one was to be completed individually and a minimum of one was to be completed with a partner. Included among the list of tasks was writing a letter to a friend, completing a resumé, conducting a survey and advertising a product. Other tasks were also included so as to provide the students with the opportunity to select a task in which they were most interested. No attempt at any time was made by the teacher or researcher to determine which assignments or which software programs were to be completed or used.

During the implementation of each of the five steps described, the researcher attempted to detect any developing patterns of behaviour which surfaced. Students were observed, interviewed and had their journals examined by the researcher. Computer sessions were recorded in the researcher's attempt to determine the answer to the research questions previously described and to discover any common themes which presented themselves. The teacher was also observed, interviewed and had his journal examined for any insights which could be obtained by the researcher on the study.

Summary of Findings

Question #1 Student Enjoyment

1. Evidences of increased student enjoyment surfaced continually throughout the study. The students all enjoyed working at the computers. They were all focused on the tasks at hand and consequently time not on task in the computer room was minimal. Students, according to the teacher, for the first time in the year were spending time outside of the regular French class working on French projects and assignments. Many found the challenge of the French computer activities personally motivating. The students expressed satisfaction in their freedom to choose assignments and partners for each assignment. The students exhibited a great deal of pride when they presented their finished computer assignments to the teacher. At no point in the study was there any frustration expressed related to the assignments. All of the students wanted to continue using the computers on a regular basis not only in their study of French but in conjunction with their study of other subjects as well.

2. Students also expressed satisfaction in the strategies they employed to complete their tasks. They enjoyed all aspects of the computer assignments from their freedom to select an appropriate and interesting task to the

manner in which they were free to determine how their assignment would be completed. They enjoyed the time they had to think about what they were doing and to make necessary changes without re-doing the entire assignment. The students also seemed to enjoy asking other students for help in any problems encountered, not always relying on the teacher.

Question #2 The Classroom Teacher and the Computer Unit

The researcher found that the teacher enjoyed his role in the French computer unit. He was able to go from group to group and to provide individual attention to student needs. His assistance was more focused towards the instruction of French rather than the delivery of computer instruction. In the beginning the participating teacher felt he would need further experience on the computers before he would feel comfortable in being solely responsible for his class's progression through the five steps followed in this study. The teacher acknowledged tremendous growth in personal understanding and knowledge of computers. He provided individual computer instruction to several students and demonstrated through his dialogue with students that he understood the strengths and weaknesses of the various software programs. As the computer unit progressed he became more comfortable with his presence in the classroom and did not hesitate to offer assistance when student experts were not

immediately available or when the experts themselves had a question. Although the teacher felt he would need additional time to complete the assignments personally, before he could contemplate attempting to initiate a French computer unit on his own, the researcher felt that the teacher could easily implement the unit using three of the four software programs described. The only software program that he had difficulty in assisting the student experts in learning was the database program. This is the one program that the teacher did not feel at ease with at any time during the unit.

This lack of expertise is due to two contributing factors admitted to by the teacher. The first is that he did not spend any time working on this program on his own, and secondly he had a personal fear of not being able to understand or master the program in a specified time period. The class, in spite of the teacher's feelings of personal inadequacy, viewed the teacher as a resource person who did have an understanding of the software programs and was capable of providing any needed assistance.

Mr. Jones enjoyed his participation in the study. He learned that student experts are of tremendous value to a teacher weak in computer background or experience. He also felt that he would participate in future computer units with his students. One requirement that he would insist on, in his future computer use, would be that he first have student experts trained in the use of the software programs that he

would use.

Additional Findings

1. The student experts provided the researcher with some additional interesting findings. They were highly motivated to learn their software programs and learned them in a relatively short period of time. Not only were the student experts highly interested in their role of sharing their expertise of the software programs with their classmates, they were highly concerned that their classmates learned the programs and could successfully use the various features of each software program. They shared the common goal of helping their classmates. They all commented that it made them feel good when they were helping other students. They did not just do the required minimum. They showed examples, they instructed, they supervised and at times went back to be sure that their instruction had been understood.

The student experts were accepted in their roles by their classmates and were considered a valuable and useful resource. They were proud of their roles and all said that if given an opportunity to be a student expert again, they would do so.

The classroom teacher spoke very highly of the role of the student experts and appreciated their assistance in all aspects of the French computer unit. He felt that their presence and knowledge of the software programs had allowed

him to spend his time working with individuals or groups providing needed assistance with the French language. He felt that having student experts would always be a part of his future computer units.

2. Cooperation was another theme that surfaced continuously throughout the research. Students helped students whether they were student experts or whether they were helping friends or partners. The students helped each other in all phases of the French computer assignments, the actual work, the language, the selection of the software program to use through to the printing of the final copy of the assignment. It did not seem to matter who they were helping, they were all willing to share what knowledge they possessed. The students relied heavily upon each other for help and received it.

3. When given a choice to work alone or with a partner most students preferred to work with a partner. Very few students completed more than one task working alone. The preferred method was to pick a partner and then with the partner select a task in which they were both interested.

4. The non-French students completing the unit and the tasks in English expressed the same concerns and feelings as the French students participating in the unit. They had a

high level of enthusiasm, liked the control they had in how they completed the tasks, appreciated the assistance of the student experts and also preferred to work in pairs. They also expressed a desire to continue to complete future assignments on the computer.

Conclusion

Careful examination of the experiences and reflections of all participants in the study have aided the researcher in arriving at several conclusions.

1. The findings of this study, according to the students interviewed, indicate that there was a great amount of student enjoyment in French gained by working on a French computer unit. Enthusiasm was high and students worked hard and remained on task throughout the unit. Computers in and of themselves seemed to offer a certain immeasurable motivation to students in their daily learning. The students in this study all expressed enjoyment in the French computer unit and wanted to continue the use of computers on a regular basis.

2. The students were quite capable of learning four software programs in a relatively abbreviated period of time. This suggests that we should not underestimate the learning capabilities of our students. The students learned the

programs well enough to take advantage of the capabilities of each program. Students carefully planned how to take advantage of the strengths of each program as it related to their task. Having personal interest in the task selected and an understanding of the software programs allowed the students to select the program that best met their needs.

3. It could be concluded that it is not absolutely necessary (although preferred) that the classroom teacher be knowledgeable in all the software programs used in the class as long as there are students who are knowledgeable in these programs and who are prepared to take upon themselves the role of the teacher in the presentation and implementation of these programs. One could draw the conclusion that a teacher knowledgeable only in the subject matter is sufficient. But this conclusion is not warranted. Rather a teacher trained in both the use of the software and in its correct use with students, would be better prepared to guide student projects and to make better use of the computers than a teacher who was not trained in these areas.

4. It was also found that when students (student experts) were given specific responsibilities to share in the teaching of the software programs to their classmates, they took this responsibility seriously. They were happy to help their peers and provided clear and useful instruction which

assisted their classmates greatly in the learning of the software programs.

Recommendations

1. All French teachers should examine how computers could be incorporated into their teaching units to take full advantage of the increase in student enjoyment experienced by students working on computers in French.

2. Students should be given more responsibilities in determining the nature of assignments they are expected to complete. When students choose a task to complete which has personal interest to them, they are likely to work harder to ensure that the finished product is satisfactory. The interest and knowledge that they have in the selected task will surface in the finished product.

3. Students should be given opportunities to work in groups and share responsibility for the success of fellow students. It was found that grade six students are willing and quite capable of assuming responsibilities and working as a team towards a common goal if that goal is clear in their minds.

Significance of the Study

1. There is a need to train educators to become more computer literate so that they can take full advantage of the possibilities that computers bring to a teaching methodology. The teacher in this study certainly felt a need to become more knowledgeable with the software programs so that he would feel more comfortable in future computer units.

2. As was discussed in chapter 2, learning, computers and group work seem to go hand in hand. (Blease & Cohen, 1990; Spavold, 1991) Students in this study truly appreciated the opportunity to share with their peers any knowledge or expertise they had while completing the computer unit. Working in partners and the use of student experts helped to make this process a success.

3. There is a place for computers in the learning of French. Students were not frustrated that the assignments were to be done in French and all appreciated the opportunity to work on the computers during their French class. Allowing the students to select the assignment of their choice allowed them to increase their likelihood of success at that assignment.

Limitation of the Study

1. No attempt was made by the researcher to measure the amount of learning during the research. Aside from the classroom teacher's comments, feelings of the students and the researcher's observations, there is no way to confirm in the study, that student understanding of French increased.

Suggestions for Future Research

1. This same model of student-directed computer instruction could be followed by a teacher who is quite comfortable in the computer setting. The teacher could simply omit step one in the model and begin the computer unit with the training of the student experts.

2. The research for this study was conducted over a relatively short period of time. It might be interesting to observe whether there is a difference in interest in achievement when time is not a factor. Software programs could be introduced gradually, one at a time, allowing for student mastery of each before an additional program is introduced. An appropriate set of tasks could be created which could be completed on the software program being examined. Later in the year a set of tasks could be prepared with the students given the freedom to select the appropriate

software program to use for their completion.

3. A variation of this model would be to have students selected from each classroom receive computer instruction from a computer proficient staff member or the classroom teacher. These students could then return to their respective classrooms and assume the role of student experts in the presentation and implementation of the software programs studied.

4. French students participating in a future computer unit of studies could be tested prior to and after the unit to measure the amount of learning taking place. They could also be tested in their overall attitude of French.

5. A future study could have a combination of teacher-directed and student-directed computer instruction.

6. Older students from higher grades could serve as student experts for teachers of younger children.

7. A future study could concentrate on comparing students working in groups with students working individually.

8. Another study could compare a class completing a unit of studies on the computer with a class that completes the same unit without the assistance of the computer.

9. A future study could use the student-directed computer instruction model in a junior or senior high school.

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APPENDIX A

CHILDREN'S WRITING AND PUBLISHING CENTER SELF-TEST

Place an X on the line when you can complete the task described.

I can select the style of page that I want. _____

I can change the size of the letters being typed. ____

I can select a picture. _____

I can place the picture on the screen and move it. _____

I know how to make page numbers for my work. _____

I can save my story. _____

I can load my story to the computer. _____

I know how to format a storage disk. _____

I can print my work. _____

I can make a border for my work. _____

I can print more than one copy at a time. _____

I can move freely from the main menu to the heading and to the main body of my work. _____

I feel comfortable working with this program. _____

DATAQUEST COMPOSER SELF-TEST

Place an X on the line when you can complete the task described.

I can change the disk-drive set up. _____

I can format a database diskette. _____

I can create categories for my database. _____

I can select freely from number, word, date, and paragraph entries in the categories created. _____

I can enter information into the categories. _____

I can change or edit information already entered into the database. _____

I can move freely from place to place. _____

I can select records to be compared. _____

I can sort the records selected. _____

I can print the current selection to the screen. _____

I can print the current selection on the printer. _____

I feel comfortable with Dataquest Composer. _____

FREDWRITER SELF-TEST

Place an X on the line when you can complete the task described.

I can load a file from a storage disk to the computer. ____

If I have forgotten the name of a file, I know how to look up the file names on the storage disk. ____

I can save a document. _____

Once a file is on a screen and I have added more information I know how to save the file again without changing the file name. _____

I know how to erase errors. _____

I know how to center a word or a sentence. _____

I know how to move the cursor to the beginning of the document.____

I know how to move to the end of the document. _____

I know how to print a document. _____

I know how to print using double-spacing. _____

SHOWTIME SELF-TEST

Please place an X on the line when you can complete the task described.

I can make a play diskette (storage disk) for my play.

_____

I can select a background. _____

I can place props into the background. _____

I can make three characters and name them. _____

I can select music for the play. _____

I can write my own music for the play. _____

I know how to make a character enter into the play.

I know how to make him\her talk. _____

I know how to make a character walk to a specific area. _____

I know how to make a character leave the scene. _____

I can have music sound between characters talking. _____

I can change scenes in my play. _____

I can go into rehearsal and run my play. _____

I can print the script of my play. _____

APPENDIX B

Student Assignments

All students are to complete a minimum of 4 computer assignments in French. At least one assignment must be completed individually and at least one must be done in a group (2 or more).

All assignments must be printed and will be marked according to the scoring guide provided. You will need to complete one assignment a week in order to complete the required number of assignments.

The proposed computer activities to be done in French are the following:

1. Write a letter to a friend.
2. Create or choose a product and advertise it in the paper. Make the ad as it would appear in the paper.
3. Collect information for a food magazine describing a minimum of eight different restaurants. Provide details on the quality of food, the price, speed of service, and type of food served. Include any other information that you feel is important. A sample vocabulary sheet is available.
4. You are to hand in a resumé for a job that you would like to have.

Information that should be included in your resumé is the following: job applied for, your age, sex, years of education, why you want the job, why you would be good at that job, and any other information that may help you get the job. Remember to be as creative as you can. (A sample resumé will be provided.)

5. You are the owner of a store. Make a document that will include the store's name, type of merchandise they will carry and the manager's name. Add any other information that you feel is important.

6. Write a French play.

7. Make a class inventory list and make comparisons and display the findings.

8. Conduct a class survey and display the results.

9. Choose a task of your own.

BONNE CHANCE!

APPENDIX C

RESUME

You are to send a resumé to the business of your choice applying for a job that would typically be available there. You may make the resumé on the software of your choice. Please include in your resumé all of the categories found below. You may add categories if you wish. The completed resumé must be completed in French.
On the right of each category is a sample entry.

1.Nom de Compagnie	Taco Time Restaurant
2.Adresse	13208 rue 82
3.Position désiré	vendeur (sales person)
4.Nom du candidat	Mr. Northwood
5.Age	11 ans
6.Numéro de téléphone	466-6666

7.Expérience au travail - Donnez les noms, les numéros de téléphone et les adresses de <u>trois</u> personnes pour qui tu as travaillé. Donnez le salaire que tu as pour ce travail et ta position. Aussi, combien de temps est-ce que tu as travaillé a ce travail.

1. Nom: Le Restaurant McDonald

Adresse: 4624 rue 66

Numéro de téléphone: 461-FRIES

Position: vendeur

Salaire: $4,25 l'heure

Durée de travail: 6 mois

8. Education 1986-1992: l'école Northwood

les grades 1 à 6

9. Les loisirs J'aime le hockey, le ballet et le ping-pong.

9. Commentaires personnels (anything else that you would like to say that may help you get the job)

10. Quelle heures est-ce que tu peux travailler?

Je peux travailler:

Lundi- 4 heures à 12 heures

Mardi- 4 heures à 12 heures

Mercredi- Je ne suis pas libre.

Jeudi- 4 heures à 12 heures

Vendredi- 4 heures à 12 heures

Samedi- Toute la journée

Dimanche-Toute la journée

Les Restaurants

Nom:

Adresse: 1246 rue 78, 6912 avenue 11, 1414 rue Northwood Sud

Nouritture: américaine, italienne, japonaise, la pizza, le rosbif, les biftecks, méxicaine, chinoise, canadienne, française, les hamburgers

Qualité de Nouritture: excellente, fantastique, superbe, bonne, moyenne, pas mal, pas bonne, horrible, terrible

Plat Préféré: les hamburgers, les tacos, le rosbif, le spaghetti les frites, un sandwich au biftek, le poisson, les sandwichs, la pizza

Qualité de Service: excellente, bonne, moyenne, pas bonne, terrible

Prix: très cher, cher, moyen, pas cher

Commentaires:

APPENDIX D

FRENCH ASSIGNMENT SCORING SHEET

STUDENT_____

	CIRCLE THE MARK
The assignment reads smoothly and meets task objectives. The content is clear and is extremely well developed and organized. Very few errors if any. Interest level is high. The French used is appropriate and correct. EXCELLENT WORK!	5
The assignment reads smoothly. The content is clear, well developed and organized. Errors do not interfere with the reader's understanding of the writing. Interest level is very good. VERY GOOD WORK!	4
The assignment reads smoothly but there are some awkward parts. There are some errors but the meaning is understood. The interest level is okay. GOOD WORK.	3
The assignment is hard to read. French errors interfere with the writer's intended meaning. THIS ASSIGNMENT COULD HAVE BEEN WRITTEN BETTER!	2
The assignment is difficult to read. Errors make the assignment hard to understand. GREATER EFFORT IS REQUIRED!	1

COMMENTS: