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ABSTRACT

A project was undertaken to provide computer-assisted instruction (CAI) to 92 native adult students in the Keewatin region of the Northwest Territories of Canada. The project's principal goals were as follows: attract and maintain the interest of a greater segment of the target population, produce faster progress in academic training, help program participants develop job readiness skills, increase participants' chances of getting employment or improving their level of employment, and create a more effective educational model for Inuit students that may be used throughout the Arctic. A year after the project began, it was evaluated both quantitatively and qualitatively through such data collection instruments as attitude assessments, journals and logs kept by program participants, and onsite interviews with the adult educators and students involved in the project. The adult educators participating in the project agreed that the CAI format increased (sometimes dramatically) the numbers of students in programs. Comparisons of participants' performance on pretests and posttests showed average grade equivalency gains of 0.63 and 0.92 grade levels after 3 and 6 months, respectively, for 26 students for whom complete test results were available. Students and teachers alike felt that the CAI enhanced students' general computer literacy and specific job skills. (MN)

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Year One Report

Keewatin Region Educational Authority

Pilot Adult Education Project: Computer-Assisted Learning

June, 1988

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(This report concerns the first year of a two-year CEIC Innovations project)

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Year One Report

Keewatin Region Educational Authority

Pilot Adult Education Project: Computer-Assisted Learning

June, 1988

P. Fahy

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Alberta Vocational Centre, Edmonton

EXECUTIVE SUMMARY

In the first year (1987-88) of this innovative project in computer-assisted learning (CAL) for native students in the Keewatin region, Northwest Territories, 5 anticipated outcomes were evaluated, as described below. The evaluation methods combined quantitative and qualitative measures, including objective pre- and posttesting, attitude assessments, journals and logs kept by participants, and onsite interviews and observations with adult educators and students.

The findings and conclusions for each of the 5 anticipated outcomes were as follows.

1. Attracting and maintaining the interest of a greater segment of the target population.

The adult educators participating in this project agreed that the presence of CAL increased, sometimes dramatically, the numbers of students in programs, especially in evening programs, and enrollments by employed persons and others who would not normally have been accommodated in regular full-time programming. Also, one community (Chesterfield Inlet), which had not been able to sustain interest in traditional programs in recent years, was successful in the first year of this project in attracting and maintaining students because, in the opinion of the adult educator, of the presence of CAL.

On a daily basis attendance rates were about the same as in the previous years; however, given the fact that, compared with Kitikmeot region students, the Keewatin programs were attracting more students and students with more varied backgrounds (as described below), the fact that there was no difference in attendance rates may be taken as an indication of the power of CAL to maintain students' interest.

Regarding client characteristics, the following differences were noted: Keewatin students were older, academically higher (as measured by the TABE and average levels of previous education), had more recent work history, and were more often parents and spouses.

Overall, the adult educators reported increased interest in the Adult Education Centres in the communities in the Keewatin region, and more registrations by employed persons in special work-related CAL courses, as evidence that CAL had helped achieve this objective.

2. Producing faster progress in academic training.

Because of its familiarity to students and staff, and its historically wide-spread use in the Northwest Territories, the Tests of Adult Basic Education (TABE), 1976 version, were used to assess the speed and magnitute of academic progress. The TABE tests skills in reading, math and language, with scores in Vocabulary and Comprehension, Computation Concepts and Problem Solving, and Spelling and Mechanics. There is no written component.

TABE results showed average grade equivalency gains of 0.63 and 0.92 grade levels after 3 and 6 months, respectively, for 26 Keewatin students for whom 3 sets of tests (pretest, posttest 1 and posttest 2) were available. A comparison of the pretest grade equivalency average (6.5) with the April, 1988, posttest grade equivalency average (7.9) showed an increase of 1.4 grade levels. Data from the previous year in the Keewatin region showed an average increase of 0.8 grade levels, and results from the Kitikmeot region for the 1987/88 year indicated an average gain of 1.2 grade levels. No correlation was found between time spent in the program and gains in grade equivalency level for either group.

A large majority of both the adult educators and students in the Keewatin region attested to the efficacy of CAL as a learning enhancer. Specifically, self-pacing, privacy of results, freedom of choice, and the availability of various specialized subjects (word processing, data base, and spreadsheets, as well as advanced academic subjects such as math and science, and job search skills) were cited. Motivation was also increased by CAL, as were self-confidence in learning ability. Learning by CAL was perceived as prestigious and more effective.

Overall, the conclusion was reached that while CAL did not result in a major difference in grade equivalency as measured by TABE, it did contribute to significant increases in enrollment, enrollment of a wider variety of students, notably better success

in communities where previous adult education programs had failed or had done poorly, improved retention of students, and a greatly improved self-image for participants and image for adult education in the participating communities.

3. Providing job readiness skills

Students gained computer-literacy skills as a by-product of their use of CAL, and some students who pursued specialized training (word processing, data base, spreadsheets and advanced topics such as higher math, physics and chemistry) also gained specific technical skills. Most users appeared to develop enhanced self-confidence and reduced reservations about computers as tools in daily life and employment.

Student attitudes were affected by the total adult learning experience, including but not limited to CAL: relations with supervisors, awareness of the job market, ability and willingness to seek employment, economic responsibility, family support, and cooperativeness were all rated higher after completion of the program. Students and adult educators attributed some of these changes to experiences made possible by the presence of CAL.

4. Increasing chances of getting employment or improving level of employment

Acquisition of greater academic skills and credentials was regarded as prima facie evidence of greater employability. In addition, students' attitudes and plans were surveyed to show their specific intentions regarding employment: these proved to be very firmly oriented towards full-time jobs in the students' present communities, chiefly in trade and clerical positions. Expected starting salaries seemed to be within reasonable limits. As well, some adult educators recounted cases where employers who knew of the computer element in the adult education program contacted the Centre seeking computer-literate, trainable employees. There were numerous cases of employed persons who formerly would not have accessed the Centre enrolling in computer-based academic upgrading and other training related to their jobs, thus increasing their promotability and potential level of employment. (The second year of the project includes a student follow-up element which will evaluate the degree to which this objective was actually achieved.)

5. Creation of a new, more effective educational model for Inuit students that may be used throughout the Arctic

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Interviews and questionnaires indicated strong support for CAL both as a component of upgrading and as a tool for enhancing computer-literacy and specialized applications (chiefly word processing, data base and spreadsheets but also including advanced math, physics and chemistry, and job search skills). Both adult educators and students appeared to adapt successfully to this innovation though technical problems in some communities impeded early adoption to some extent. The adult educators reported adjustments in their role as instructors, chiefly due to a reduction in routine clerical, recordkeeping and instructional demands, and increased time and opportunities for individual and small group student interaction. In general, the difference was regarded more as a change in tasks and operations rather than a true change in role.

As they became familiar with CAL's potential, both the adult educators and the students identified needs for courseware development. Topics for development included both supplements to existing materials, and new materials, especially in the areas of native language and culture. The adult educators requested that they be permitted to participate closely in the design and development of these materials, in year 2 of the project.

In sum, year 1 of this project showed some of both the problems and exciting potentials of CAL in the North. Where it was most successful, CAL and the availability of the related sophisticated hardware and telecommunications equipment produced notable attitudinal and behavioral results and effects. Where it was less successful causes were most often related to technical failure or unrealistic expectations. Throughout the year, the incidence of these latter were fewer, and by year-end all adult educators involved in the project reported optimism for year 2.

Year One Report

Keewatin Region Educational Authority

Pilot Adult Education Project: Computer-Assisted Learning

June, 1988

P. Fahy

Director, Research and Development

Alberta Vocational Centre, Edmonton

INTRODUCTION

This report summarizes activities and outcomes of the first year of this 2-year project period (August, 1987, to May, 1988).

BACKGROUND

This project is a pilot innovation in the education of young adult Inuit in the Keewatin Region of the Northwest Territories. The use of Control Data PLATO hardware and software in adult basic education and high school equivalency upgrading programs comprised the main thrust; a secondary but important additional use of the MS-DOS compatible PLATO hardware was in training of students in business and financial software applications and in advanced topics such as higher math, physics and chemistry (termed "specialized" usage in this project).

PROJECT GOAL AND OBJECTIVES

The overall goal of the project was stated in the Program Proposal as follows:

1. The main objective of this project is to conduct a pilot program which will include computer-assisted training. The project is designed to address the training needs of young native northerners and the underlying problems of their high unemployment rates and lack of suitable qualifications. Including computer-assisted training in adult programs will permit:

    a. Individuals who have not been successful in traditional education programs to work independently at their own level and to receive regular constructive feedback; and

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b. Individuals requiring specialized training to get it in their community, improving their chances of obtaining employment or improving their employment or trainability.

These goals were further elaborated in schedule A of the Proposal as follows ("anticipated results"):

a. Attracting and maintaining interest of a greater segment of the target population in education programs.

b. Producing faster progress in academic training.

c. Providing job readiness skills.

d. Increasing chances of getting employment or improving level of employment.

e. Creation of a new, more effective educational model for Inuit students that may be used throughout the Arctic.

ORGANIZATION OF THIS REPORT

This report contains: 1) findings related to each of the anticipated results, 2) preliminary conclusions, where appropriate; 3) supplementary tables, and 4) attachments (the data-gathering instruments).

FINDINGS

Anticipated Result 1: Attracting and maintaining the interest of a greater segment of the target population.

Demographic Characteristics

Tables 1.1 (Attachment T, page T1.1) and 1.2 (Attachment T, page T1.2) show demographic characteristics of Keewatin region program participants. (See also Figure C, and Attachment C).

The following observations are based on Table 1.1:

1. The average age of participants in the Keewatin region was 23.8 years, with a range from 21.4 years (Coral Harbor) to 26.2 (Baker Lake). The minimum age recorded was 16 years (4 cases) while maximum was 42 years (2 cases); the mode was 20 years. (Twelve individuals did not provide age information.)

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2. The average number of dependents was 2.4, ranging from 2.0 (Whale Cove) to 2.8 (Baker Lake and Repulse Bay). The mode and median values were 2; the maximum was 7.

3. Weekly income from employment consistently averaged $300 to $350 (the small number of cases from Repulse Bay affected that average). The range was $50 to $840.

4. Levels of prior education averaged grade 7.4, but averages ranged from grade 6.8 (Repulse Bay) to grade 8.5 (Baker Lake). Individual ranges were grade 3 (2 cases) to grade 11 (3 cases). The mode was grade 8 and the median grade 7.

5. The last year of attendance was 1987, but one student had last attended in 1958. The median value was 1983, the average was 1984.

6. For those who had been employed, the average length of employment in the previous year was 19 weeks; the average range was 28 weeks (Rankin Inlet) to 10 weeks (Whale Cove). Overall, the mode was 52 weeks (18 cases); the median was 11 weeks.

These overall observations are based on Table 1.2 (page T1.2; note local variations):

7. The majority (56%) of students were classified as "new" to adult education, while one-third were classified as former students.

8. Single students comprised approximately two-thirds of enrollees, married comprised one-third.

9. The gender ratio was 55% male to 45% female.

10. Approximately one-third (29%) of students identified GED as a goal of their upgrading.

11. CEIC sponsored approximately three-quarters of students, while one-quarter were self-sponsored.

12. Family provided additional financial support (36%), followed by employment earnings (32%), social assistance (18%), UIC (10%), and savings (4%).

Tables 1.3 (page T1.3) and 1.4 (page T1.4) show demographic characteristics of Kitikmeot Region controls, supporting these observations:

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13. The average age of Kitikmeot participants was 20.8 years, with a range from 18.2 years (Holman Island) to 22.6 years (Gjoa Haven). The minimum age was 16 years (2 cases) while the maximum was 39 years (1 case).

14. The average number of dependents was 2, ranging from 0 (Holman Island) to 7 (Gjoa Haven). Only 11 participants in this region reported any dependents.

15. Weekly employment income averaged $326, ranging from $405 (Cambridge Bay) to $247 (Holman Island). The range of individual earnings was $50 (Coppermine) to $640 (Pelly Bay) per week.

16. Levels of prior education averaged grade 6.5, but ranged from 5.0 (Pelly Bay) to 7.7 (Holman Island). The range of individual prior educational attainment was grade 3 to grade 10.

17. The last year of attendance for the majority of Kitikmeot students was 1984, ranging from 1982 (Spence Bay) to 1988 (Gjoa Haven). The individual range was 1958 to 1988.

18. Those students with employment histories averaged over 12 weeks of work in the previous year, with ranges from 7.4 weeks (Pelly Bay) to 17.1 weeks (Spence Bay). Individual averages were 1 week to 49 weeks.

These observations refer to Table 1.3 (page T1.3).

19. In the Kitikmeot 59% of the students were classified ongoing, while one-quarter were new.

20. A large majority (86%) of Kitikmeot students were single.

21. Males comprised 62% of students in the Kitikmeot region.

22. Approximately one-third (36%) identified GED as a goal of their upgrading.

23. Three-quarters (77%) of Kitikmeot students were CEC-sponsored.

24. Employment earnings (33%), family (31%), and social assistance (25%) were the most common sources of financial support for students in the Kitikmeot Region.

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Overall the two regions compared as follows on demographic characteristics (see Tables 1.5 and 1.6, pages T1.5 and T1.6).

25. Keewatin region students were on average three years older than Kitikmeot students (23.8 years to 20.8 years respectively).

26. A higher proportion of Keewatin students had dependents (32% to 23%), and Keewatin students with dependents averaged more dependents than Kitikmeot students (2.4 dependents to 2.0 dependents, respectively).

27. Average weekly salaries were virtually identical ($328 to $326).

28. Keewatin students averaged nearly one grade level more of previous education (7.4 years to 6.5 years).

29. In both regions, the average time since leaving school was three years (1984).

30. Keewatin students averaged one-third more weeks worked in the previous year (19 to 12.2).

31. The Keewatin region had twice the proportion of former (33% to 16%) and new (56% to 25%) students as had the Kitikmeot region. The Kitikmeot region had far more ongoing students than the Keewatin (59% to 10%).

32. One-third of Keewatin students were married, as compared with 14% of Kitikmeot students.

33. Both regions had a majority of male students (Keewatin = 55%, Kitikmeot = 62%).

34. CEC sponsored 77% of students in both regions.

35. There were slightly more social assistance recipients in the Kitikmeot region (25% to 18%); employment earnings and family were the usual sources of financial support in both regions.

Summary: Demographic Characteristics of Participants

It seems clear from the above that the Keewatin programs attracted a wider segment of the target population: Keewatin students were older, were more likely to be married and have dependents (and to have more dependents), had accumulated more weeks of employment in the previous year, and had completed more

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previous education than had Kitikmeot students. In addition, CAL permitted work-release students, employed persons, and others with restricted schedules to access the Centre's offerings.

Student Attendance

For the September to December, 1987, period the overall daily attendance rate in the Keewatin region was 88.6%. From January to April, 1988, it was 79.5%. (By comparison, in three previous years the average autumn daily attendance rate was 81%, and the spring rate 84%.) (See Attachment E).

In the group interview conducted with Keewatin participants in February, 1988, the adult educators disagreed regarding the exact extent to which CAL had affected daytime attendance rates: some adult educators were definite it had, others saw no effects.

There was agreement, however, that the total number of registrations was boosted both by upgrading via CAL and by the availability of the specialized programs. (One community reported an increase of several hundred percent in registrations during the year due to these two factors.) There was also a feeling that some students were planning to continue in the program in the next year who would otherwise have dropped out after one year.

Overall, the adult educators concluded that: 1) CAL increased community awareness of their Centre's activities; 2) CAL increased registrations in some programs, especially evening programs; and 3) CAL initially attracted and subsequently helped retain students in their programs longer than they otherwise would have.

Summary: Student Attendance

While daily attendance rates were only marginally higher in the project year as compared with previous years, there was agreement that CAL had enhanced students' impressions of the Adult Education Centre (see below), and had helped increase community awareness of and interest in the Centre's offerings. The adult educators were convinced that CAL had substantially increased registrations and had promoted students' persistence in their programs.

Attitudes Towards Learning with CAL

Attitudes of students towards learning with CAL were assumed to have a large bearing on attraction and retention of students. Attitudes were assessed with the following instruments: Learning Readiness Scale (Attachment H), Computer Adaptation Scale

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(Attachment B), Student Writing Journal (Attachment G), Instructor Log (Attachment F), and student and adult educator interviews.

Adult educators made the following comments in interviews and logs about students' learning attitudes:

1. Students were more positive about learning and spent extra time on the computer beyond what was required.

2. Use of the computer for some students resulted in improved self-image.

3. It was necessary to assure social interaction as well as efficient study of academic materials.

4. Some students responded to CAL as if it were a game; i.e., they attempted to "beat the system".

5. Some students attempted to specialize; i.e., they spent all their time in one curriculum.

6. Students wanted challenge; improper placement in material at a too basic level resulted in complaints.

The following ten observations were those most commonly made by students in their Journals:

1. PLATO CAL was helpful, friendly, enjoyable, and fun (21% of total comments received in the student writing journals).

2. PLATO CAL helped learning because it was challenging and interesting (15%).

3. PLATO CAL was a faster way to learn (5%).

4. PLATO CAL was too easy, should be more challenging (5%).

5. PLATO CAL was fatiguing, especially to eyes (5%).

6. PLATO did not explain wrong answers on tests, did not give the opportunity for a second try on wrong answers (4%).

7. There were bugs in both the hardware and the software (4%).

8. PLATO provided a relaxed and comfortable way to learn (3%).

9. Self-pacing with PLATO was a benefit (3%).

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10. Using computers to learn was helpful in preparation for future computer use in employment and in later life (3%).

The Learning Readiness Scale and the Computer Adaptation Scale showed some changes in students' attitudes over the course of their exposure to CAL. (See also Figure A and Figure B.) These items of the Learning Readiness Scale showed the greatest changes in students' attitudes:

	Item	Percent Agreeing, Pretest	Percent Agreeing, Posttest
6.	I usually do poorly on tests.	61%	49%
9.	It's usually ok with me if other people see my mistakes.	73%	33%
10.	Computers make me nervous.	23%	8%
16.	Math is hard for me.	69%	46%
17.	I read a lot on my own for enjoyment.	69%	46%

The following items produced the highest levels of agreement on the Learning Readiness Scale:

	Item	Percent Agreeing, Pretest	Percent Agreeing, Posttest
1.	I enjoy learning new things.	97%	100%
12.	The more I learn the better job I might get.	96%	98%
13.	I like going to school.	95%	98%
3.	Math is useful.	97%	96%
14.	I think tests are a good way to find out how much I have learned.	95%	96%
5.	I like to work with numbers.	89%	89%
4.	I like to read.	83%	79%
15.	I expect to use computers in my job after I finish upgrading.	88%	77%

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With specific reference to computers, there were high levels of pre- and posttest unanimity on the following items from the Computer Adaptation Scale (See Figure A).

Item	Average Pretest Agreement	Average Posttest Agreement
4. Using computers [was] too unfriendly.	14%	5%
8. Using a computer [was] satisfying.	90%	89%
10. Using a computer [was] interesting.	91%	90%
11. Using a computer [helped] me like the work more.	89%	89%
12. Using a computer [was] enjoyable.	88%	95%
13. Using a computer [was] boring.	9%	14%

(More will be said about students' views of the appropriateness of CAL to their Native culture in relation to outcome 5.)

Student interviews and student Writing Journals resulted in comments such as the following.

Q What's better here about the Centre this year?

A Since the computer came it's more comfortable.

Q Do you feel relaxed when you use the computer?

A Yes, I would say so. I don't like sitting in a class when the teacher is writing stuff. I just ignore it. But it gets so exciting with computers that I don't want to stop it.

Q If they decided to take the computers away would you be happy?

A I'll quit school!

Adult educators' views varied, but the following represented the opinion of those who found PLATO CAL a useful tool for attracting, motivating and retaining students:

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> I feel the computer has been excellent in my Centre in helping me meet the specific needs of students who have very specific employment goals. I would not have the capability of working with work-release people that I am working with because traditionally I would have had to try to bring them together in a group at the same time such that I could afford to have an instructor for them. Now I can have them working independently on very separate agendas and I just managed those agendas individually, providing supplementary material as need be. That has been something that I think has been very positive about this program. And I think in that area alone I have seen great improvement.

Overall, the adult educators recognized these advantages to CAL:

1. Motivation was increased, especially in math, among students who usually found math tedious.

2. CAL provided greater confidentiality and privacy in learning, again benefitting those with learning problems and phobias.

3. The presence of the computers enhanced the prestige of the Adult Education Centre, and made upgrading more attractive.

4. CAL provided a more efficient experience for those with specific learning plans and limited time (employed people).

5. CAL generally produced more consistently high quality of achievement by students.

6. The computer literacy skills gained were highly prized by the students themselves, and were expected to be helpful in assisting them to eventually find employment.

Summary: Attitudes toward learning with CAL

Overall, the presence of CAL was credited with increasing and maintaining the initial interest of the community in adult education, though the extent to which this was perceived to be true varied across the seven communities. There was more agreement that the "specialized" offerings made available on the CAL hardware (chiefly word processing, data base and spreadsheets but including higher math, physics and chemistry, and a job search module) accounted for increased participation by those with such interests. Enrollment figures supported the perception that enrollments and persistence of students were enhanced.

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Conclusions Regarding Anticipated Results #1

Analysis of the demographic characteristics of students showed that Keewatin adult education programs attracted a wider spectrum of the target population: Keewatin students included more older students, more students who were married and had families, students who had more recent work experience, and students who had completed more education previously. Keewatin region adult educators believed CAL had resulted in greater community awareness and increased participation, especially in evening programming. Actual student attendance rates in the Keewatin region were approximately the same as in previous years. The adult educators in some communities felt that students persisted longer in their programs, and were more likely to complete larger portions of the program, than previously. Comments by students supported this perception.

Students' attitudes towards adult education and CAL were very positive, resulting in more positive attitudes about learning in general and about the relation of learning to their future employment prospects. Attitudes toward computers also became more positive. Though fatigue and some technical problems occurred, the chief response of students to PLATO CAL was strongly appreciative and supportive.

Anticipated Result 2: Producing faster progress in academic training.

TABE Test Results

Speed of academic progress was measured by analysis of TABE test results. The Tests of Adult Basic Education (TABE), 1976 version, were used because they have historically been used throughout the Northwest Territories. The TABE is a timed test, focusing on three skill areas: reading, math and language. There are three levels, easy, medium and difficult, and a locator test to determine which level is most appropriate for each student. There are two forms of the test available at each level. The tests, and the time required for completion of each level, are shown below.

Skill Area	Test	Time in Minutes Level E	Level M	Level D
Reading	1. Reading Vocabulary	9	8	8
	2. Reading Comprehension	31	42	60
Math	1. Math Reasoning	21	20	31
	2. Math Fundamentals	33	50	47
Language	5. Mechanics of English	-	20	20
	6. Spelling	-	12	10
Total		54	158	176

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The test manual contains the following description of the purpose and limitations of the TABE:

> . . . the TABE series is specifically designed to measure basic skills, not content of the various subjects pursued in school, to the end that the student may progress toward greater proficiency in using the basic number and language skills required of him daily in our society. (Administration Manual, 1967, p.6)

In this study no attempt was made to assess the cross-cultural validity of the TABE. (Its producers note that the TABE was based directly on the California Achievement Tests, with "few alterations" [ibid., p. 4]. Interestingly, in the newly-produced 1987 version of the TABE specific mention is made of the developer's efforts in the new test to remove "content bias" in regard to age, gender and ethnicity.) Finally, no content validation was done between the TABE and the PLATO basic skills curriculum used in the pilot project.

In addition to the above reservations, one other fact should be noted in interpreting TABE results. As indicated in the previous section, a major effect of the presence of CAL in the Keewatin region was an increase in overall registrations and a greater retention of students. This resulted in the testing of more students, and of a wider variety of students, than had historically occurred in the region, or than were tested and reported for comparative purposes in the Kitikmeot region. The Keewatin region TABE results thus include a wider range of abilities and motivations than is historically typical for it or, perhaps, for other regions with which it might be compared.

TABE pretest and posttest results from the Keewatin region are shown in Tables 2.1 to 2.4 (pages T2.1 to T2.4). (See also Attachment D).

From Table 2.1 the following observations arise:

1. The average grade equivalency was 6.5; however, the range was 1.8 grade levels, from 5.8 (Eskimo Point) to 8.0 (Baker Lake).

2. Even wider ranges were noted in the Reading and Math subsections, signified by the observed significance levels indicated in the Table. The actual differences:

Vocabulary	3.0 grade levels
Total Reading	2.7 grade levels
Math Concepts	2.0 grade levels
Total Math	1.5 grade levels

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3. The highest average grade levels were in language: Spelling (8.3) and Mechanics (6.8); the lowest was in Math Concepts (5.9).

These conclusions are based on Tables 2.2 and 2.3:

1. In three months, the average overall gain in grade level equivalency among students for whom both pretest and posttest scores were available was 0.63; in six months it was 0.92.

2. The largest increases at three and six months were in Math; the smallest were in Spelling.

3. At three months the greatest ranges in individual pre- and posttest scores were in Math Computation (7.6 grade levels); the least was in Math Concepts (4.9 grade levels). At six months the greatest range in individual pre- and posttest scores was in Math concepts (6.8); the least was in Vocabulary (2.7).

Table 2.4: Further TABE grade equivalency comparisons

Keewatin	N	Avg.	Minimum	Maximum
Listwise				
Pretest	26	7.1	3.3	11.1
Posttest 1	26	7.7	3.5	12.2
Posttest 2	26	8.1	3.0	12.6
All tested students				
Pretest (Oct.)	135	6.5	2.0	12.9
Posttest 1 (Dec.)	75	7.4	1.0	12.9
Posttest 2 (April)	27	7.9	3.0	12.6
1986-87 (Former students)				
Pretest	44	7.6	4.2	10.9
Posttest	39	8.4	5.0	11.2
Kitikmeot				
Pretest	59	6.1	NA	NA
Posttest	59	7.3	NA	NA

Table 2.4 contains further analysis and comparison of TABE results. The "listwise" analysis shows only those averages of 26 students who had three TABE tests scores available for consideration (pretest, posttest 1, and posttest 2, administered in October, December, and April, respectively). Among these 26 students, the average gain was one grade level. The "all tested students" analysis shows results for all students who were tested

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during any of the three test events during the year, October, December, or April. This analysis shows a gain of 1.4 grade levels from the pretest (October) to the second posttest (April) cohort. Information on students from the previous academic year (1986-87) in the Keewatin region was reviewed to provide some historical perspective. That analysis showed an average gain for former students of 0.8 grade levels between pretest and posttest. Finally, Kitikmeot region results for 59 students indicated an average gain of 1.2 grade levels for that group.

Adult Educators' Views

The Keewatin region adult educators noted several benefits of CAL related to student progress and speed of learning. For example:

> Our adult educators appreciate it because they can look at the individual problems the students are having and design a communications or lifeskills course, or whatever, around the individual, because they now have the time to plan for individual curricula.
>
> I would think even furthermore to add to that factor is that you also now have a lot more one-on-one time even during the computer time. When the individual has a problem you have a lot of individual time where you have a chance to take different approaches with a problem with a person. T[illegible] both for planning and time during practice, I would s[illegible] proved.

Other comments by the adult educators included the observation that PLATO CAL had helped standardize the ABE curriculum, and that the transfer of routine clerical instructional functions to the computer was helpful to them.

In response to a question about which non-CAL components were responsible for student gains noted on the TABE and other less formal assessments of academic growth, the adult educators' answers included the following: student aptitude and ability; relation with the sponsors; students' level of prior computer literacy; maturity and dependability; and students' memory and concentration ability.

Asked what might be added to the CAL materials to enhance their impact on student learning the adult educators made these suggestions: more reading and writing (students made relatively smaller gains in the Reading and Language portions of the TABE, as compared with Math, supporting this point); more review, including more and different types of application problems and examples; a lower-level science component; and more first language interaction.

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Some global comments made by the adult educators were:

1. Acquisition of computer literacy and CAL is both a problem and a benefit to the speed of learning: it slows the learning of content while computer-literacy skills are being acquired, but it overall enhances self-image and interest in the subject matter once acquired.

2. Word processing (a specialized element of the program available on the hardware but not a PLATO component) was thought to enhance willingness to write and to revise.

3. Students' communication skills were enhanced by the need and desire to describe their PLATO experiences and to seek assistance.

4. Students' maturity and independence as learners were enhanced as they became more adept at CAL self-management.

5. Some students had difficulty adjusting to traditional instruction after their experiences with CAL self-direction and self-pacing capabilities.

Summary: Speed of Academic Learning

Regarding the Keewatin region, the following was noted (see Table 2.1):

1. Communities differed, sometimes widely, on TABE pretest results: the highest average grade equivalency was grade 8.0 (Baker Lake), while the lowest was 5.8 (Eskimo Point).

2. The highest subscores were in the Language portion of the test (Mechanics and Spelling).

3. The range of variance in the Reading and Language areas was greater than in the Math.

4. Significant differences for the communities were noted in Reading and Math, but not in Language.

Magnitude of learning as measured by the TABE was addressed by comparing pretest and posttest scores. From Tables 2.2 and 2.3, which include only paired pre- and posttest results, the following observations can be made:

1. Overall, the gain in grade equivalency from pretest to posttest was 0.63 grade equivalencies; from pretest to second posttest it was 0.92 grade equivalencies.

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2. The greatest increase in three months was 2.7 grade levels; in six months it was 3.1 grade levels.

3. The greatest three-month gains were made in Rankin Inlet and Baker Lake; Baker Lake had had the highest average grade equivalency at the time of the initial pretest, while Rankin Inlet was third highest.

4. After six months, Chesterfield Inlet had made the greatest average gain; Chesterfield Inlet had been second lowest in initial pretest results. (Note: the small number of cases associated with results in Table 2.3 preclude definite conclusions.)

5. The largest average gains in three months were in Reading Vocabulary (4.1 grade levels); for students who persisted for six months, the greatest gains were in Math and Language Mechanics.

In order to determine the relation between total time spent in the program and gains on the TABE a correlation was done between these 2 pieces of information. The results showed an overall correlation between TABE grade equivalency gain and attendance of 0.03 for three months, and 0.06 for six months; that is, no correlation. Further analysis was done for the community with the largest number of three month and six month TABE test cases, Eskimo Point. The results of that analysis showed a correlation of 0.24 after six months between total time spent in the program and gains in TABE grade equivalency. (A correlation of this size means that less than 10% of students' gains on the TABE could be explained by the amount of time they had spent in the program.)

Conclusions Regarding Anticipated Result #2

Keewatin region average grade level gains as measured by the TABE using paired results were 0.63 and 0.92 grade levels after three and six months, respectively. When testing groups were compared, the difference between the pretest (October) group average and the second posttest (April) group average was 1.4 grade levels. (In comparison, the change in the Kitikmeot region was 1.2 grade levels from pre- to posttest.) The greatest overall six-month gains were achieved by communities which initially had relatively high grade-level equivalency pretest scores; the areas in which these gains were greatest were Math and Reading. No correlation between time spent in the program and TABE grade equivalency gains was noted for group results from either the Keewatin or the Kitikmeot region.

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In interpreting pre- and posttest results, note was made of the lack of cross cultural content validation data for the TABE, and of the discrepancy in learner demographic characteristics between the Kitikmeot and Keewatin regions. These caveats about the TABE seemed warranted as interviews and logs conveyed the conviction that CAL facilitated learning for students, and teaching for the adult educators, by removing routines from the instructor and permitting greater decision-making on the part of the student. The adult educators reported a wide variety of positive learning effects from CAL. Both PLATO and "specialized" programming were cited as resulting in greater or more accelerated student learning.

Anticipated Result 3: Providing job readiness skills.

The PLATO CAL system made available a Job Search Skills package for students designed to enhance general employability. Initial use was made of this material in some communities, resulting in promising enough results that a more detailed use and evaluation will be made of these materials in year 2 of the project.

This objective was addressed by the Employability Assessment Scale pre- and posttests, and by the comments of staff and students in the interviews and writing journals (see Attachment I). Tables 3.1 and 3.2 (Attachment T, pages T3.1 and T3.2) show pre- and posttest results on the Employability Assessment, by community, for the Keewatin region. Table 3.3 (page T3.3) shows the items on which the greatest gains were reported from pretest to posttest. (Note that the Employability Assessment was completed by the adult educators after they had become acquainted with the students, and again after the students had left the program. It is thus an assessment based on their impressions and observations.)

From Table 3.3 come the following observations:

1. Students were perceived by the adult educators as increasing in the following characteristics:

    1.1 Relations with supervisors (31% increase; Item 11d)
    1.2 Awareness of job market opportunities (22%; Item 10a)
    1.3 Ability, willingness to look for work (18%; Item 6a)
    1.4 Economic responsibility (17%; Item 6e)
    1.5 Ability to write correctly (14%; Item 2b)
    1.6 Ability to understand spoken instructions (14%; Item 2d)

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1.7 Presence of flexible family support (14%; Item 11f)
1.8 Cooperativeness (14%; Item 12f)

2. Students were perceived as <u>decreasing</u> in these characteristics:

2.1 Availability for seasonal work only - job not in season (-26%; item 10c)
2.2 Realistic wage expectations (-17%; item 10d)

Overall, on the posttest the following 6 characteristics were attributed to 70% or more of the project's participants (increase over pretest is also shown):

1. Cooperativeness (81%; +14%)
2. Appearance (79%; +6%)
3. Understand spoken instructions (71%; +14%)
4. Follows rules (76%; +1%)
5. Responds appropriately to criticism (74%; +11%)
6. Flexible family support (71%; +14%)

Some comments by the adult educators in the group and individual interviews reflected their assessment of students' job readiness, and the degree to which it had been enhanced.

> I think that question [of the students' potential for employment after program completion] is going to be answered more in the future than it can be right now.

> It's very useful to be able to put on a resume that you've worked with computers. Any computer literacy is an advantage.

Regarding trainability, and level of aspiration of students, one adult educator made this comment:

> Students are progressing, not just on a statistical basis but they are getting further and that's expanding their goals. Their potential for further training is enhanced. They are setting higher goals.

Another adult educator made specific mention of elements of the CAL experience which he felt were particularly supportive:

> When something does finally become completed or mastered, especially at the end of a particularly hard section like Basic Skills Reading or Math, or Fractions or Binomials, there is a real sense of joy on the part of the student - <u>real</u> accomplishment - that's really nice to see.

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Another comment by an adult educator in the group interview session addressed the degree to which the learning environment was altered by CAL, permitting more student independence and self-direction:

> The initiative is with the learner. I think that's a really enabling part of this. You don't get the personality conflicts that can enter into it.

Conclusions Regarding Anticipated Result #3

Students acquired or increased several specific skills affecting employability, in the opinions of their instructors, including proper relations with supervisors, awareness of available job opportunities, ability and willingness to look for a job, personal economic responsibility, ability to write correctly and to understand instructions, family support, and cooperativeness. At the same time, they appeared to decrease in their employability because, by course end, they were more reliant on seasonal work which might not be available, and had less realistic wage expectations. Overall, the effects of increased computer-literacy, and increased independence, as well as the skills learned in the "specialized" portion of the program, were those chiefly regarded by students and adult educators as enhancing job readiness.

Anticipated Result 4: Increasing chances of getting employment or improving level of employment.

General Comments on Student Job Readiness

As noted previously from information gathered by the Learning Readiness Scale, students experienced a number of significant changes in their self-image as learners. In addition, comments such as the following were noted in student interviews:

Q What are your plans?
A I don't know. . . become a mechanic or something. But I think I'll never get there.
Q Why?
A I don't know. . . takes too long.
Q Do you know what it takes to get it - is it apprenticeship?
A I'm not sure. I never looked into it too much.

This exchange involved a 28-year-old male from Chesterfield Inlet:

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Q What is your goal?
A Carpenter.
Q Where would you like to work as a carpenter?
A Anywhere.
Q You'd be prepared to move?
A No.
Q You want to stay here? The ideal thing would be to stay here and be able to earn a living as a carpenter?
A Yeah.
Q How is the job situation in Chesterfield Inlet?
A Not enough jobs.
Q Could you earn a living here as a carpenter, really?
A No. I don't think so. Maybe.

This from a 20-year-old male from Eskimo Point:

A After graduation I'll be looking for any job, I'm not to sure what.
Q Do you want to stay here in Eskimo Point?
A Yes, but there isn't much open right now. I would try Fort Smith for a course but I've never been there.
Q Do you know anybody who has gone there for a course?
A No.

These exchanges indicate a potential problem among students at this stage of their progress: lack of a realistic view of requirements for obtaining further training and, ultimately, steady employment in the real world. (As was shown in the preceding section, the adult educators believed this problem had largely been solved by the time students had finished their program.)

Specialized Programs

For purposes of this objective, "specialized" was defined as those programs which "are available largely because the computers are available. The program would not normally have been possible, or would have been quite different in form or content, without the computers." Another definition of specialized which emerged in the interviews referred to the kinds of students who enrolled in adult education courses, and persisted, because of the computers. Both of these uses of the term "specialized" are discussed below.

Specialized programs included word processing, spreadsheets and databases, computer-literacy, and a variety of other subjects such as higher math, physics and chemistry, and the job search module. While some of these topics had been offered in the past, the scope of the offerings with the network and file server present was greatly expanded.

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Table 4.1 shows the proportions of specialized programming undertaken by daytime program students who were enrolled in both regular and specialized courses.

Table 4.1: Proportion of "specialized" program usage among students in programs with both regular and specialized elements

Jan., 1988* Community	February #	February %	March #	March %
Baker Lake	9	50%	10	55%
Coral Harbor	20	35%	20	35%
Chesterfield Inlet	0	-	0	-
Eskimo Point	15	41%	17	68%
Rankin Inlet	0	-	9	30%

*This data not collected prior to January, 1988.

While this information is clearly not exhaustive, and reflects only three months of the project, it shows a consistent tendency for specialized programming to comprise an average of one-third to two-thirds of the students' programs. (The range of individual values for students who had any specialized programming was 10% to 100%; the median was 50%.) It appears, then, that students who take both types of courses find specialized courses more than a minor supplement.

Specialized programs accounted for a large part of the adaptability of this innovation to local needs. As noted by the adult educators, the presence of high technology hardware and software enabled them to serve a wider range of clients with traditional programming interests, and to provide state-of-the-art subject matter for those with specific interests. Both of these developments were interpreted by students, employers and other community members as evidence of the Adult Education Centres' increasing currency and relevance.

The Course-End Questionnaire gathered more specific information on students' plans for employment or further training. Table 4.2 shows students' specific employment plans at the conclusion of their course.

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Table 4.2: Students' Employment plans at course-end

	Item	BL	CH	CI	EP	RI	WC	Total #	Total %
1.0	I already have a job where I will keep working.	-	-	1	18	3	-	22	23%
1.1	I will look for a job right away.	2	9	-	12	6	1	30	31%
1.2	I will look for a job later.	1	6	-	10	2	3	22	23%
1.3	I will stay home.	1	-	-	1	1	-	3	3%
1.4	Other	4	4	-	8	2	1	19	20%

These observations are based on Table 4.2:

1. Nearly one-quarter of the students (23%) already had a job at course-end, which they expected to keep.

2. Of those who did not have a job the majority intended to look for employment either immediately (31%) or later (23%).

3. Of those not employed, and not intending to look for a job, the majority (20%) were intending to take further training.

Table 4.3 presents information about students' educational plans as they completed their program:

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Table 4.3: Students' educational plans at course-end

Item	BL	CH	CI	EP	RI	WC	Total #	Total %
2.1 Do you plan to take more training?								
Yes	7	13	-	37	9	3	69	72%
Maybe	2	4	-	9	5	1	21	22%
No	-	3	1	1	-	1	6	6%
2.2 When?								
Within 1 month	1	-	-	20	3	-	24	31%
1 to 3 months	-	3	-	8	1	-	12	16%
3 months or more	7	10	1	13	6	4	41	53%
2.3 What course?								
Medical	-	-	1	1	-	-	2	3%
Upgrading	3	8	-	17	5	-	33	53%
Trade	1	2	-	2	2	2	9	15%
Technical	-	-	-	1	-	-	1	2%
Business	-	-	-	2	-	-	2	3%
Other	4	2	-	6	2	1	15	24%
2.4 Where?								
NWT Adult Ed.	6	8	-	27	3	2	46	82%
Arctic College	1	-	-	2	1	-	4	7%
Other	1	2	1	-	2	-	6	11%

These observations follow from Table 4.3:

1. About three-quarters (72%) of these students definitely intended to take further training, while another 22% replied "maybe" to this question. Only 6% definitely did not intend to train further.

2. Most (53%) of the students intended to postpone further training for three months or more, but 31% intended to commence training within one month.

3. The most commonly-mentioned course for further training was upgrading (53%).

4. The most commonly-mentioned source for further training was the community Adult Education Centre.

Students' longer term employment intentions are presented in Table 4.4.

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Table 4.4: Student's employment plans at course-end*

Item	BL	CH	CI	EP	RI	WC	Total #	Total %
3.1 Do you expect to use this training on the job?								
Yes	8	12	1	27	11	1	60	71%
Maybe	1	4	-	13	1	2	21	25%
No	0	1	-	2	1	0	4	5%
3.2 Do you intend to work fulltime?								
Yes	8	16	1	31	13	-	69	81%
Maybe	1	3	-	9	1	2	16	19%
No	-	-	-	-	-	-	-	-
3.3 In what settlement?								
Baker Lake	7	-	-	-	-	-	7	12%
Chesterfield Inlet	-	1	-	-	-	-	1	2%
Coral Harbor	-	7	-	-	-	-	7	12%
Eskimo Point	-	-	-	26	-	-	26	43%
Rankin Inlet	-	-	-	2	9	2	13	21%
Other	-	3	-	2	1	-	6	10%
Cape Dorset	-	1	-	-	-	-	1	2%
3.4 Expected starting average pay per month.	$817	$1800	$1322	$1603	$1916	$1280	$1472 $1400 (median) $ 300 (minimum) $3600 (maximum)	

*Includes only students who expected to work outside the home.

Table 4.4 leads to these conclusions:

1. Most students expected to use their adult education training on the job; only 5% definitely did not.

2. Over 80% of students definitely intended to seek fulltime employment; no respondent did not intend to do so.

3. Most students intended to seek work in their home settlements.

4. The expected monthly starting salary for the group was $1472, with averages ranging from $817 in Baker Lake to $1916 in Rankin Inlet. (The range of individual averages was $300 to $3600; the median was $1400.)

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The types of jobs preferred by the respondents are listed alphabetically in Table 4.5.

Table 4.5: Types of jobs preferred by students at course-end

	BL	CH	EP	WC	Total #	Total %
4. Type of job.						
Bookkeeper	-	-	2	-	2	3%
Carpentry	-	-	11	2	13	21%
Cashier/Sales	-	1	3	-	4	7%
Cook	-	1	-	-	1	2%
Electronics/ Electrician	1	-	2	-	3	5%
Instructor/Teacher	-	-	1	-	1	2%
Janitor	-	-	1	-	1	2%
Laborer	2	1	1	-	4	7%
Law/Court Worker	2	-	-	-	2	3%
Manager/Owner	1	-	1	-	2	3%
Mechanic	-	2	6	-	8	13%
Mining	-	-	1	-	1	2%
Painter	-	-	1	-	1	2%
Secretary	2	7	2	2	13	21%
Stock Clerk	1	-	-	-	1	2%
Teaching Assistant	-	1	1	-	2	3%
Water delivery	-	1	-	-	1	2%
Other	-	1	-	-	1	2%

The most popular jobs were carpentry and secretary (21%), and labourer and cashier/sales (7%).

Although invited to do so (see Attachment J, item 6, 7 and 8), very few students made supplemental remarks on the Course-End Questionnaire.

Conclusions Regarding Anticipated Result #4

Some students appeared to be relatively poorly informed of career opportunities and requirements outside their home communities, and to be determined to remain in their local area despite the paucity of jobs. The will and confidence to leave familiar locales, even temporarily, to seek outside employment or training was apparently lacking. At the same time, students were positive about employment as a goal, and believed that their adult education experiences would help them eventually. (The follow-up study proposed as part of this project should be a good measure of success of this objective.)

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The presence of CAL and of specialized learning opportunities in the communities resulted in increased numbers of enrollments and greater retention of students (as noted earlier), and a wider interest in Centre offerings, especially among already-employed people. Again, the proposed follow-up of students was regarded as important to a final decision about the success to which this objective had been achieved.

Students' attitudes and plans at course-end indicated a strong interest in employment: many already had jobs, and among those who did not intend to continue their training a very large majority planned immediately or shortly to seek work. Most had further training (usually upgrading at the Adult Education Centre) as a longer-term goal. Large majorities expected to use their training on a (usually full-time) job, in their present community. While the expected starting salary was probably not unrealistic for the group, the wide range of expected salaries may have reflected different levels of familiarity on the parts of the students with actual conditions in the job market, and different meanings attached to the term "starting salary" for those with previous experience.

As noted earlier, and elaborated below, there was sound evidence of students' improved attitudes towards learning, toward computers and toward themselves as capable people and effective learners, all of which would have a direct bearing on their employability and their aspirations for employment enhancement.

Anticipated Result 5: Creation of a new, more effective educational model for Inuit students, that may be used throughout the Arctic.

Adaptation

This objective, was addressed by the Learning Readiness Scale, the Computer Adaptation Scale, the Instructor Computer Attitude Scale, and the student and instructor interviews.

Figure A (Attachment T, page T5.4) shows results obtained from the Computer Adaptation Scale (CAS). As noted earlier, Keewatin students regarded use of the computer for learning as a satisfying, interesting, enjoyable and helpful experience, and rejected the notion that the computer was unfriendly or boring.

To some extent the Keewatin students' views based on their experience with PLATO were similar to the views of Kitikmeot students who did not use PLATO or any other computer for extensive CAL. However, though the posttest differences between the two groups were sometimes small, two CAS items did suggest how the PLATO experience had affected Keewatin students differently, as compared with the Kitikmeot group (see Figure A):

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1. On the posttest, Keewatin students were more emphatic that PLATO was easy to use (Item 2), and that PLATO had helped them like the work more (Item 11).

2. Keewatin students were more likely than Kitikmeot students to agree that they had experienced frustrations using the computers (Item 9).

The Learning Readiness Scale (LRS) produced these findings in regard to Keewatin students:

1. Keewatin students increased their agreement between the pretest and posttest, that they enjoy learning new things, that math is useful, that learning will enhance their job prospects, and that tests are a good way to tell how much they have learned.

2. Keewatin students decreased their agreement that they have trouble learning, that they like to read, that they like to work with numbers, that learning is hard, that computers make them nervous, that math is hard for them, that they read a lot for pleasure, and that writing tests makes them nervous.

3. The highest levels of agreement on the posttest were expressed on these items: I think that tests are a good way to tell how much I have learned; I like to learn new things; Math is useful; the more I learn, the better job I might get; I like going to school; and, I like to work with numbers.

Kitikmeot students' pretest results only for the LRS are shown in Figure B; posttests on the LRS were not available for the Kitikmeot region. It is clear that Kitikmeot students did not differ from Keewatin students on attitudes measured on the pretest.

Results from Computer Adaptation Scale, already mentioned, indicated that students found PLATO CAL interesting, enjoyable, helpful and satisfying, and not unfriendly or boring (see Figure A, page T5.4).

In the interviews these comments indicated that acceptance was high but not uncritical.

(From a 33 year old student, Eskimo Point):

I like the computers but sometimes they don't have enough explanation. The tutorial is sometimes too short, without enough examples. I like a lot of practice before I go on. I like the tests. Usually we have two or three tests each week and I like it that way.

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When I do the tests I sometimes have a problem. Like right now I'm having trouble with the computer math and High School skills. They give us some problems and they do them a little different from how I learned before. It's a little harder.

My suggestion would be to let students go back and do things until they figure it out. I like to go through things until I get the answer on my own without being rushed.

A 19-year-old from Rankin Inlet made these comments:

I was a bad influence when I was in school. I didn't like it much. I like it better here than back there at the school. Since the computers came along it's more comfortable. I don't like sitting in class. When the teacher's writing stuff, I just ignore it. But it gets so exciting with computers that I don't want to stop it. I end up sitting there.

These views were expressed by students in their Journals:

1. I feel more comfortable learning from a computer. Not because it doesn't tell you what to do - it's more challenging and makes you want to go on and do more work on it.

2. Today the computer was all right. I find it more interesting day by day. The tests are a lot of fun. What's more fun is passing the tests and as it gets harder you want to learn more and it's more like competing against the computer. Since I have started computers I've gained more knowledge in my math. I guess I find it very challenging to beat the computer -- I should say, outsmart it.

3. Sometimes, or most of the time, it's boring because it's a bit too easy. Sometimes there is only one or two hard questions.

4. One of my major dislikes I have about PLATO is it bothers my eyes. I find if I take a short break every hour the discomfort goes away.

5. Does not supply you with the correct answer to a problem on a test after you enter a wrong answer.

6. Today the computer was all right. This time I didn't see any computer errors. I guess who reads my journal finally got my message!

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7. I thought using a computer would be uncomfortable, but after doing the computer I felt a lot more comfortable knowing how to use it. At first I didn't want to learn to use or to touch computers, but after using one now I know we can all get used to computers. I know I can.

8. I don't like computers because they can't talk to me.

9. Would be nice if the little robot wouldn't go dancing all over the screen.

10. I think only the computer should be the one teaching. Also a little help from an instructor, not by a bossy student! That's what I really hate, and this business on computer work is supposed to be private!

11. One thing I don't like about it is it's a little bit bossy. But I think it's alright because it's not human.

12. The reason I don't like them is we are going too fast, like the South. I wish we could slow down and calmly take it as it came. Do not throw it as us and say this is good for you. Give us time.

In the adult educator group interview, these comments were made regarding adaptation by staff and students to CAL.

Comment #1: It puts more demands on the instructor to gain more skills. Where in the past the traditional instructor would be basically doing most of the bullwork in the classroom to a large number, now the instructor has to be far more flexible and has to be able to meet individual needs. We found that our instructors enjoy that challenge.

Comment #2: One of the things I've noticed in my area, the most significant success I see in the program, is the bridge to overcome the fear of failure. Whether the fear is cultural or from an earlier educational experience they have overcome that fear, it is a bridge that has stepped over that. It's non-judgmental.

Comment #3: I've noticed here that particularly introverted students or people who definitely wouldn't come for any kind of program here have come and expressed interest in computer-based learning. I suspect it's because there is not the contact with the instructor

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they seem not to want. And there are those individuals who previously hadn't successfully completed any of our previous programs, as much as two or three years before, now are beginning to express interest again. Basically they hadn't had anything to do with our program, and now they are thinking about it again.

Comment #4: I find it's easier now to get instructors. They don't have to have great pedagogical skills because you train them on the computer and they go to it. And they can manage the one-on-one help, with the computer giving the tutorial. They don't have to be intimidated by having to stand up in front of a classroom and teach.

Comment #5: They (students) are still very group dependent. They don't want to leave mother and the gang to go work independently. With our students that's their biggest problem. Maturity, and how they socially interact.

Comment #6: With our students it is just the opposite in fact. We found our students taking more control and becoming more independent. In fact, because we're able to chart the students' individual progress, they are no longer able to slough off so easily as they do in the traditional classroom, to just sort of fall asleep. On the computer, though, we're doing an analysis on a weekly basis, he's confronted with his own behavior while he was on the computer, in a very exact form. And I think that has helped mature some of our students.

Comment #7: Two of the things that were emphasized with PLATO were speed of learning and retention. Speed, in my mind there is no doubt, is increased; I have serious doubts about retention. One of the suggestions I made in reference to the Algebra course which I've looked into and had some students work with: retention and speed are increased in that course because of a comprehensive and different course-end re . w. It's not the exact examples identical to what was just done. It's different questions on our course-end test which occurs no where else in the PLATO system. And finally the backup material is good, with practice and good variety and new examples. Course-end is a real problem, that's where retention is needed.

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Comment #8: My feeling is that the acceptance of traditional learning technology has been slower than what I have experienced with this computer technology. In that traditionally, I am standing there lecturing, asking for homework, etc., and I'm hearing from the community that that style was a much more agonizing experience than their experience with the computer since September. This is a much more accepted thing.

Comment #9 I think that's a really critical point of this whole system, that it really does give the instructor the time to be innovative in lesson planning to meet the needs of their students. They are not doing the bull work anymore.

Comment #10 I noticed that the TABE showed an overall better gain in Math than in comprehension. I took note of that particularly. Therefore I must conclude the same as others that the PLATO program relies heavily on the ability of my students to read and comprehend in English. They are doing much better in math, where they understand the numbers or symbols without having to read. They can do that, but when they have to comprehend in English they don't do as well.

Secondly I believe what the computer system is providing a different attitude toward learning in the hamlet. In the sense that now we are going to a high tech situation, we're seeing people master that high tech and gain skills. Not only getting one skill - they go away with a pocket full of skills at the end of any program. Not only computer-based learning but word processing, spreadsheets, various skills outside of that related to technology. The new technology has been difficult to assimilate, but I don't think that is the case here. I think this technology is being accepted quietly by many different users.

The students made these observations about the effect of CAL on their individual needs:

Q If they had had computers in the school when you were a kid would it have made any difference to you?
A I think so, yes, I think it would.
Q What difference would it have made?
A I could have worked on more different details, more math and all that. Probably the teacher wouldn't have had too much to do with us. I would have liked that better.
Q Some of the others said they would quit if the computers went. Do you think that is true?

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A I think some of them like the computers. I think they would, a lot of them, just drop out. There are definitely more students because of the computers.
Q Does it appeal more to the younger ones?
A I don't know. I don't think so. There are older ones, too. There is something for everybody.

The Instructor Computer Attitude Scale provided information on the adult educators' views of Computer-Assisted Learning in their professional lives and in their communities. Table 5.1 (page T5.1) shows those items on which the Keewatin group's views changed from September to February. Briefly, the changes showed:

1. Less concern or uncertainty that students would be nervous or isolated with CAL.

2. More certainty that CAL had not changed the fundamental role of the instructor.

3. More concern about possible negative effects on teaching from CAL.

4. Mixed feelings from the group about whether CAL provided more time for individual students' problems, the level of information provided to instructors about the project, and whether the need for CAL had been clearly established in the communities.

Table 5.2 (page T5.2) compares the views of the adult educators with those of their students, regarding the students' opinions of CAL. (The students' opinions are from the Computer Adaptation Scale; items 1 - 12 of the Instructor Computer Attitude Scale paralleled these items.) Overall, Table 5.2 shows the adult educators were more likely than the students to rate these items unanimously: on 10 of the 12 items the adult educators' ratings were either 0% or 100% in agreement, and on the 2 exceptions only 1 adult educator demurred from the group consensus.

The adaptations needed to further refine PLATO CAL for use in the North were gleaned from adult educators' comments in interviews and their logs. These included:

1. More complete documentation for use by adult educators in their communities, including trouble-shooting advice. (The suggestion that Control Data install an "800" number [technical hotline] in its Toronto office, made at the January adult educators' conference in Rankin Inlet, was acted upon in February, and produced a "200% improvement", according to the adult educators.)

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2. More equipment and software, to ensure availability and back-up capabilities in the event of failure.

3. Development of an orientation for students that would emphasize the computer as tool and reduce student tension.

4. Development or acquisition of offline materials and activities to supplement the computer based elements, both to provide variety and to assure mastery of skills. Among these should be topics of interest to northerners.

5. Planning for and commencement of activities to produce learning materials in the Inuktitut language.

6. Investigation of the feasibility of providing an audio component to the language instructional materials.

7. Identification of the optimum combination of CAL, group work, life skills, individual instructor student interaction, and oral language development for typical students. (Assure materials are learner centered, interactive, and appropriate in reading level.)

8. Acquisition or development of additional materials: trades related; business related, especially current, popular accounting packages; access to data bases and telecourses offered by distance learning institutions using technology; courses in topics of local utility, i.e., renewable resources.

9. Development of standards or benchmarks for measuring the efficiency and rates of student learning, both to counsel students in advance and to monitor subsequent progress.

10. Overall, input of the adult educators in the Keewatin region toward the future of program development and revision activities was strongly argued.

Attitudes about the program at Course-End

Table 5.3 contains results of the 10 questions on the Course-End questionnaire designed to assess students' views of the adult education program they were about to conclude (see also Attachment J).

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Table 5.3: Students' attitudes toward the program at course-end

	Item	BL A	BL D	CH A	CH D	CI A	CI D	EP A	EP D	WC A	WC D	Total #A	Total %A	Total #D	Total %D
5.1	My courses prepared me well for a good job.	6	1	12	1	1	0	35	3	3	0	57	92%	5	8%
5.2	My courses prepared me for other things besides a job.	7	0	12	2	-	-	35	5	2	1	55	87%	8	13%
5.3	I enjoyed the program.	9	0	17	2	1	0	43	1	5	0	75	96%	3	4%
5.4	I feel better prepared to succeed. . .	9	0	15	0	1	0	38	2	1	1	64	96%	3	4%
5.5	I had to work hard to succeed in the program.	7	1	17	1	1	0	35	6	5	0	65	89%	8	11%
5.6	My home life suffered because of my studies.	1	6	2	9	1	0	10	23	1	3	15	27%	41	73%
5.7	The instructors were helpful.	9	0	20	0	1	0	41	3	5	0	76	96%	3	4%
5.8	I was treated like an adult.	8	0	19	0	-	-	39	2	3	1	69	96%	3	4%
5.9	I would like to return to the Centre. . .	9	0	17	1	1	0	40	0	2	1	69	97%	1	3%
5.10	I would recommend this to a friend.	9	0	17	0	1	0	38	5	4	0	69	93%	5	7%

Ninety per cent or more of the respondents stated that they:

1. Would like to return to the Adult Education Centre at some time in the future (item 5.9; 97%).
2. Were treated like an adult (item 5.8; 96%).
3. Found the instructors helpful (item 5.7; 96%).
4. Felt better prepared to succeed because of the training program (item 5.4; 96%).
5. Enjoyed the program (item 5.3; 96%).
6. Would recommend the program to a friend (item 5.10; 93%).

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7. Believed their course had prepared them well for a job (item 5.1; 92%).

As well, a majority of respondents (73%) disagreed with the proposition that their home life had suffered because of their studies (item 5.6).

Conclusions Regarding Anticipated Result #5

Data from a variety of sources indicated that PLATO-based CAL had provided experiences perceived by students and staff alike as enjoyable, effective and adult. Students and staff also regarded CAL as enhancing the prestige of the Centre, and as a genuine alternative to traditional instructor-paced learning.

As a result of their experiences in CAL students left their programs with positive attitudes about learning, and possessing a variety of plans to continue their education, usually in the Adult Education Centre's upgrading program. They expressed the conviction that their present learning would, in the meantime, be valuable.

A viable educational alternative for the North must be both technically viable in that environment, while being compatible with students', potential students' and staff's expectations. From objective and subjective assessments it seems clear that, despite some technical problems and the need for adjustments by all concerned, PLATO CAL met these tests in its first year.

CONCLUSIONS

In this first year of the innovations project, a variety of data were gathered and analyzed in an attempt to address the 5 anticipated project outcomes. For some of the outcomes the data were quite consistent and definitive; for others, especially where numbers were small or return rates low, conclusions were tentative until year 2 data become available.

Overall, the following conclusions are based on the available information for year 1 of the project.

1. Attracting and maintaining the interest of a greater segment of the target population.

The adult educators participating in this project agreed that the presence of CAL increased, sometimes dramatically, the numbers of students in programs, especially in evening programs,

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and enrollments by employed persons and others who would not normally have been accommodated in regular full-time programming. Also, one community (Chesterfield Inlet), which had not been able to sustain interest in traditional programs in recent years, was successful in the first year of this project in attracting and maintaining students because, in the opinion of the adult educator, of the presence of CAL.

On a daily basis attendance rates were about the same as in the previous years; however, given the fact that, compared with Kitikmeot region students, the Keewatin programs were attracting more students and students with more varied backgrounds (as described below). The fact that there was no difference in attendance rates may be taken as an indication of the power of CAL to maintain students' interest. Regarding client characteristics, the following differences were noted: Keewatin students were older, academically higher (as measured by the TABE and average levels of previous education), had more recent work history, and were more often parents and spouses. Overall, the adult educators reported increased interest in the Adult Education Centres in the communities in the Keewatin region, and more registrations by employed persons in special work-related computer courses, as evidence that CAL had helped achieve this objective.

2. Producing faster progress in academic training.

Because of its familiarity to students and staff, and its historically wide-spread use in the Northwest Territories, the Tests of Adult Basic Education (TABE) were used to assess the speed and magnitude of academic progress. The TABE tests skills in reading, math and language, with scores in Vocabulary and Comprehension, Computation Concepts and Problem Solving, and Spelling and Mechanics in respective tests. There is no written component.

TABE results showed average grade equivalency gains of 0.63 and 0.92 grade levels after 3 and 6 months, respectively, for 26 Keewatin students for whom 3 sets of tests (pretest, posttest 1 and posttest 2) were available. A comparison of the pretest grade equivalency average (6.5) with the April, 1988, posttest grade equivalency average (7.9) showed an increase of 1.4 grade levels. Data from the previous year showed an average increase of 0.8 grade levels, and results from the Kitikmeot region for the 1987/88 year indicated an average gain of 1.2 grade levels. No correlation was found between time spent in the program and gains in grade equivalency level for either group.

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A large majority of both the adult educators and students in the Keewatin region attested to the efficacy of CAL as a learning enhancer. Specifically, self-pacing, privacy of results, freedom of choice, and the availability of various specialized subjects (word processing, data base, and spreadsheets, and academic subjects such as higher math, physics and chemistry, and job search skills) were cited. Motivation was also increased by CAL, as were self-confidence in learning ability. Learning by CAL was perceived as prestigious and more effective.

Overall, the conclusion was reached that while CAL did not result in a major difference in grade equivalency as measured by the TABE, it did contribute to significant increases in enrollment, enrollment of a wider variety of students, notably better success in communities where previous adult education programs had failed or had done poorly, improved retention of students, and a greatly improved image for adult education in the communities.

3. Providing job readiness skills

Students gained computer literacy skills as a by-product of their use of CAL, and some students who pursued specialized training (word processing, data base, spreadsheets and advanced topics such as higher math, physics and chemistry, and job search skills) also gained specific technical skills. Most users appeared to develop enhanced self-confidence and reduced reservations about computers as tools in daily life and employment.

Student attitudes were affected by the total adult learning experience, including but not limited to CAL: relations with supervisors, awareness of the job market, ability and willingness to seek employment, economic responsibility, family support, and cooperativeness were all rated higher after completion of the program. Students and adult educators attributed some of these changes to experiences in the Centre made possible by the presence of CAL.

4. Increasing chances of getting employment or improving level of employment

Acquisition of greater academic skills and credentials was regarded as prima facie evidence of greater employability. In addition, students attitudes and plans were surveyed to show their specific intentions regarding employment: these proved to be very firmly oriented towards full-time jobs in the students present communities, chiefly in trade and clerical positions. Expected starting salaries seemed to be within reasonable limits. As well,

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some adult educators recounted cases where employers who knew of the computer element in the adult education program contacted the Centre seeking computer literate, trainable employees. There were numerous cases of employed persons who formerly would not have accessed the Centre enrolling in computer-based academic upgrading and other training related to their jobs, thus increasing their promotability and potential level of employment. (The second year of the project includes a student follow-up element which will evaluate the degree to which this objective was actually achieved.)

5. **Creation of a new, more effective educational model for Inuit students that may be used throughout the Arctic**

Interviews and questionnaires indicated strong support for CAL both as a component of upgrading and as a tool for enhancing computer literacy and specialized applications (chiefly word processing, data base and spreadsheets but also including advanced math, physics and chemistry). Both adult educators and students appeared to adapt successfully to this innovation though technical problems in some communities impeded early adoption to some extent. The adult educators reported adjustments in their role as instructors, chiefly due to a reduction in routine clerical, recordkeeping and instructional demands, and increased time and opportunities for individual and small group student interaction. In general, the difference was regarded more as a change in tasks and operations rather than a true change in role.

As they became familiar with CAL's potential, both the adult educators and the students identified needs for courseware development. Topics for development included both supplements to existing materials, and new materials, especially in the areas of native language and culture. The adult educators requested that they be permitted to participate closely in the design and development of these materials, in year 2 of the project.

In sum, year 1 of this project showed some of both the problems and exciting potentials of CAL in the North. Where it was most successful, CAL and the availability of the related sophisticated hardware and telecommunications equipment produced notable attitudinal and behavioral results and effects. Where it was less successful causes were most often related to technical failure or unrealistic expectations. Throughout the year, the incidence of these were fewer, and by year-end all adult educators involved in the project reported optimism for year 2.

ATTACHMENTS

A>

ATTACHMENT A

INSTRUCTOR'S EVALUATION ACTIVITY CHECKLIST

PLATO Evaluation

Keewatin Region Educational Authority

1. Computer Adaptation Scale

   _____ Pretest (first week)

   _____ Posttest (December, or when individual students leave.

   _____ Posttest (April, or when individual students leave)

2. Student Information Form

   _____ Completed (as students register)

3. TABE

   _____ Pretest (first week, or results from test in previous year)

   _____ Posttest 1 (December)

   _____ Posttest 2 (April)

4. Monthly Attendance Report Summary

   _____ September
   _____ October
   _____ November
   _____ December
   _____ January
   _____ February
   _____ March
   _____ April

5. Instructor Weekly Log

   _____ Week 1
   _____ Week 2
   _____ Week 3
   _____ Week 4
   _____ Week 5
   _____ Week 6

6. Student Writing Journal

   _____ First week
   _____ Second week
   _____ Next-to-last week
   _____ Last week

7. Learning Readiness Scale

   _____ Pretest (September, first week)

   _____ Posttest (December, last week; or as students leave)

   _____ Pretest (January, first week)

   _____ Posttest (April, last week; or as students leave)

8. Employability-Trainability Assessment

   _____ Pre-assessment (October)

   _____ Pre-assessment (February)

   _____ Post-assessment (when students finish the program)

9. Course-end Questionnaire

   _____ December

   _____ April

10. Former Student Information Form (1986-87)

    _____ Completed and mailed to Pat (by December 1, 1987)

If you have any questions or concerns about anything related to the evaluation, please contact Pat Fahy at (403) 422-0663.

Thank you!

BEST COPY AVAILABLE

COMPUTER ADAPTATION SCALE

1. Computer Adaptation Scale (Pretest - September, Posttest - December)

1.1 Administer very early in the program -- before the student is oriented to or uses PLATO, if possible. (Please note on the form how much PLATO use the student had, if any, before the CAS was administered. If you make no notes, I will assume it was done before any PLATO experience was given.)

1.2 Check that name, date and location are filled in.

1.3 Provide any reading help or interpretation the students require.

1.4 If a student finds an item unclear or is reluctant to give a rating, skip the item or circle '0' (zero).

1.5 Return to Pat when completed. (Paste post-paid envelope on a larger one, if necessary.)

PRETEST

COMPUTER ADAPTATION SCALE

Date _____ Location _____ Name _____

Circle:
0 if you DON'T KNOW or HAVE NO OPINION
1 if you STRONGLY DISAGREE
2 if you DISAGREE
3 if you AGREE
4 if you STRONGLY AGREE

	DK	SD	D	A	SA
1. I think that using a computer for learning would make me nervous.	0	1	2	3	4
2. I think that using a computer for learning would be easy.	0	1	2	3	4
3. I think that using a computer for learning would be slower than using other methods.	0	1	2	3	4
4. I think that using a computer for learning would be too unfriendly.	0	1	2	3	4
5. I think that using a computer for learning would make me feel too alone.	0	1	2	3	4
6. I think that using a computer for learning would be more flexible than other methods.	0	1	2	3	4
7. I think that using a computer for learning would be efficient use of my time.	0	1	2	3	4
8. I think that using a computer for learning would be satisfying.	0	1	2	3	4
9. I think that using a computer for learning would be frustrating.	0	1	2	3	4
10. I think that using a computer for learning would be interesting.	0	1	2	3	4
11. I think that using a computer for learning would help me like the work more than other methods.	0	1	2	3	4
12. I think that using a computer for learning would be enjoyable.	0	1	2	3	4
13. I think that using a computer for learning would be boring.	0	1	2	3	4

POSTTEST

COMPUTER ADAPTATION SCALE

Date _____ Location _____ Name _____

Circle:
0 if you DON'T KNOW or HAVE NO OPINION
1 if you STRONGLY DISAGREE
2 if you DISAGREE
3 if you AGREE
4 if you STRONGLY AGREE

	DK	SD	D	A	SA
1. I found that using PLATO for learning made me nervous.	0	1	2	3	4
2. I found that using PLATO for learning was easy.	0	1	2	3	4
3. I found that using PLATO for learning was slower than other learning methods.	0	1	2	3	4
4. I found that using PLATO for learning was too unfriendly.	0	1	2	3	4
5. I found that using PLATO for learning made me feel too alone.	0	1	2	3	4
6. I found that using PLATO for learning was more flexible than other methods.	0	1	2	3	4
7. I found that using PLATO for learning was efficient use of my time.	0	1	2	3	4
8. I found that using PLATO for learning was satisfying.	0	1	2	3	4
9. I found that using PLATO for learning was frustrating.	0	1	2	3	4
10. I found that using PLATO for learning was interesting.	0	1	2	3	4
11. I found that using PLATO for learning helped me like the work more than other methods.	0	1	2	3	4
12. I found that using PLATO for learning was enjoyable.	0	1	2	3	4
13. I found that using PLATO for learning was boring.	0	1	2	3	4

STUDENT INFORMATION FORM

REVISED: JANUARY, 1988

2. Student Information Form (September, or at program start)

2.1 Administer when students begin the program.

2.2 Have students estimate if exact information is not available (i.e., employment details).

2.3 Use the other side of the form for further information you believe is relevant to the evaluation.

2.4 Send copies to Pat when complete. Send updates if new information is acquired. (Please indicate what information on the form is new.)

STUDENT INFORMATION FORM

NAME _____ LOCATION _____

FORMER/NEW/ONGOING (circle one) FULLTIME/PARTTIME _____

PROGRAM TYPE* _____ regular
_____ special
_____ both

PROGRAM DATES _____

* * * * * *

Age _____ Gender _____ ___

Marital Status _____ Number of Dependents _____

Goal _____ GED Required? Yes No

Other Training Required _____

Sponsored by: _____

Financial resources, previous year (check all that apply):

_____ Social Assistance _____ UIC

_____ Employment earnings _____ Savings

_____ Family _____ Other (Specify): _____

_____ _____

Most Recent/Previous Educational Level Completed _____

LAST School Attended _____

Where _____ When _____

Weeks worked in previous year _____ Salary _____

Job type(s) _____

_____

* Regular: A "traditional" Adult Basic Education or GED program. Content and scheduling are not substantially affected by the availability of the computers.

Special: The program is available largely because the computers are available. The program would not normally have been possible, or would have been quite different in form or content, without the computers.

Both: The student's program has both regular and special elements. (You will be asked to give the proportion that is special on the Month End Attendance Form.)

TABE TEST

3. TABE Directions (September, or program start, December and April)

3.1 Administer the TABE according to the directions in the administration manual.

3.2 Administer the TABE:

a) In the first week of the student's program.

b) At the Christmas break, OR when the student leaves the program.

c) At the end of the program (April), OR when the student leaves the program.

3.3 If a student has written the TABE in the previous 12 months, do not re-test -- use the most recent score as the entry score.

3.4 Use alternate forms of the test on successive testing dates (i.e., alternate Form A and Form B so the student doesn't write the same form twice in a row.)

3.5 Enter TABE results on the TABE Results form, and send a copy to Pat. Send posttest information when available.

3.6 If the test is not administered according to the administration manual, make a note of any changes to the procedures and send that with the results.

3.7 If you have any questions, phone Heidi or Pat (403/422-0663) for clarification.

TABE Results

Location_____ Date _____

Student's Name	READING			MATH			LANGUAGE			
	Vocab	Comp	Total	Computation	Concepts/ Problems	Total	Mechanics/ Expression	Spelling	Raw Score	Grade Equiv

MONTHLY ATTENDANCE REPORT SUMMARY

REVISED: January, 1988

4. Monthly Attendance Report Summary (Monthly)

4.1 Use this sheet to summarize monthly attendance for all students who use PLATO as part of their program.

4.2 Indicate in the "Program" column which type of program the student was engaged in (i.e., upgrading, work release, personal interest, etc.).

4.3 "Possible days" includes all days the Centre was open and students were expected to attend.

4.4 "Actual days" includes only days the student actually attended. Do not allow excused absences in computing this total. (This number may differ from "official" attendance figures, depending on policies for excused absences.)

4.5 Mail the totals to Pat monthly.

MONTHLY ATTENDANCE REPORT SUMMARY

Instructor: _____ Date of Report: _____

Location: _____ Period of report: _____ to _____

NAME	AREA(S) OF STUDY *	PERCENT SPECIALIZED **	POSSIBLE DAYS	ACTUAL DAYS

*For example, ABE, typing, word processing, advanced math, GED, spreadsheets, etc.

**Proportion of the student's program substantially dependent upon the availability of computer-assisted learning. (The portion of the program which the student would not have had access to without the presence of the computers.)

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INSTRUCTOR WEEKLY LOG

5. Instructor Weekly Log (September and October, for 6 weeks)

5.1 Please try to find a quiet few minutes each week to write something about the week's activities. Write more often if you wish.

5.2 Use point form or shorthand -- I will try to interpret!

5.3 Mail weekly in envelopes provided.

5.4 Phone Pat (403/422-0663) if you prefer.

Week 1

TEACHER WEEKLY LOG

Name _____

Date: _____ Location _____

Surprises: _____

_____

_____

Problems: _____

_____

_____

Disappointments: _____

_____

_____

Suggestions/Ideas: _____

_____

_____

* * * * * *

On a scale of 1 to 10 (10 = highest, best), rate this week's:

Student learning _____

Student satisfaction _____

Hardware performance _____

Courseware performance _____

Classroom atmosphere _____

Student attendance _____

Student concentration on tasks _____

Comments: (Continue on back) _____

_____

_____

STUDENT WRITING JOURNAL

6. Student Writing Journal (September and December for 2 weeks)

6.1 Ask able students to participate -- explain that they are part of an experiment/research project and that the outside researcher is interested in their opinions.

6.2 The topic for the first 2 weeks (September) is: "What did you like and dislike about the computer?"

6.3 The topic for the last 2 weeks (December) is: "What did you like and dislike about the program you just took?"

6.4 Cue students, if necessary, by reminding them of things they said or did that day, or asking them questions ("How hard did you think the test was that you did on the computer this morning?"). Have them write the answer in their journal.

6.5 Ask students to do the journal every day for the first 2 weeks of the program, and the last 2 weeks before Christmas. Send the journals to me in one package, at the end of the 2-week period. Use the pre-paid envelopes.

6.6 Treat the journals as confidential, if it makes the students happier.

STUDENT WRITING JOURNAL

Objective: To give students who are able an opportunity to regularly record their initial and later impressions of PLATO.

Implementation: For the first two weeks of their use of PLATO allow 5 to 10 minutes per day for able students to write anything they wish about PLATO ("the computer"). Spelling, grammar, punctuation don't count on this exercise. Point-form is acceptable. Emphasize that this is their chance to give advice, make suggestions, or vent frustrations at the computer. Also make it clear that you (the teacher) won't see what they write, but that someone (PF) will summarize all the comments and that you will see the anonymous results. You can tell them this is part of the evaluation of the computer project, if you wish.

At the end of the 2-week period collect all the writing at once and send it to me.

Similarly, 2 weeks before the end of the term ask students to agai write their comments. This time, ask that their comments deal with (1) the course in general, (2) their future plans, (3) the strengths and weaknesses of the program, and (4) their suggestions for improvement of the computer part of the program. As before, promise confidentiality and mail the results to me for compilation when they are all collected.

LEARNING READINESS SCALE

7. Learning Readiness Scale (September and December, or when leaving)

7.1 Administer this scale early in the first week of the program, and again near the end or when a student is about to leave.

7.2 Use the same form for Pretests and Posttests.

7.3 Send pretests to Pat when completed.

LEARNING READINESS SCALE

Name _____

Location _____

Date _____

CIRCLE:
0 if you DON'T KNOW or HAVE NO OPINION
1 if you STRONGLY DISAGREE
2 if you DISAGREE
3 if you AGREE
4 if you STRONGLY AGREE

	DK	SD	D	A	SA
1. I enjoy learning new things.	0	1	2	3	4
2. I have trouble learring.	0	1	2	3	4
3. Math is useful.	0	1	2	3	4
4. I like to read.	0	1	2	3	4
5. I like to work with numbers.	0	1	2	3	4
6. I usually do poorly on tests.	0	1	2	3	4
7. Learning is hard for me.	0	1	2	3	4
8. I hate to read.	0	1	2	3	4
9. It's usually ok with me if other people see my mistakes.	0	1	2	3	4
10. Computers make me nervous.	0	1	2	3	4
11. I would rather be taught by a person than by a machine.	0	1	2	3	4
12. The more I learn, the better job I might get.	0	1	2	3	4
13. I like going to school.	0	1	2	3	4
14. I think tests are a good way tr find out how much I have learned.	0	1	2	3	4
15. I expect to use computers in my job after I finish upgrading.	0	1	2	3	4
16. Math is hard for me.	0	1	2	3	4
17. I read a lot on my own for enjoyment.	0	1	2	3	4
18. I get nervous when I have to write a test.	0	1	2	3	4

EMPLOYABILITY AND TRAINABILITY ASSESSMENT

REVISED: JANUARY. 1988

8. Employability/Trainability Assessment (October and April)

8.1 When you feel you know your students well enough (but by the end of the first month, please), complete this assessment using the Summary Sheet (last 2 pages).

8.2 If you do not feel you can assess on certain criteria, omit them.

8.3 Assess again after the student completes or leaves the program.

8.4 Forward the completed Summary Sheets to Pat as soon as an assessment is completed.

EMPLOYABILITY ASSESSMENT

(Revised)

8. Employability Assessment (October and April)

8.1 When you feel you know your students well enough (but by the end of the first month, please), complete this assessment.

8.2 If you do not feel you can assess on certain criteria, omit them.

8.3 Assess again after the student completes or leaves the program.

8.4 Forward when completed to Pat.

Students name/ID: _____

EMPLOYABILITY ASSESSMENT (Revised)

CRITERIA	LOW (1-3)	MID (4-7)	HIGH (8-10)	COMMENTS
2. LANGUAGE DIFFICULTIES				
a) Reading	Cannot	Functional (simple instructions & street signs)	Reads	
b) Writing	Cannot	Writes, simple structure	Correct grammar	
c) Speaking	Non-English	Broken English, ungrammatical	Fluent	
d) Understands spoken instructions	Unable	Slow, Minimal understanding	Clear understanding with fast comprehension	
6. MOTIVATION & ATTITUDES				
a) Able	Restricted	Some limitations	No limitations	
willing & looking	Refuses jobs, not looking	Work as necessity, looking with assistance	Wants to work & enjoys work, seriously looking independently	
b) Confidence level	Believes will fail, unrealistic	Some strengths	Believes will succeed, realistic	
c) Time on assistance, unemployment	Over on full year	Under 1 year	Less than 3 mos.	
d) Ability to defer gratification related to employment	No control	Some control	Can wait & plan	
e) Degree of economic responsibility	None	Demonstrated responsibility for self	Demonstrated responsibility for self & others	

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CRITERIA	LOW (1-3)	MID (4-7)	HIGH (8-10)	COMMENTS
9. CHILD CARE NEEDS	Problem child (physical or behavioural problem) unstable child care arrangements	Stable child care	No need for care	
10. JOB MARKET FACTORS				
a) Aware of opportunities	Unrealistic, no awareness	Limited awareness	Realistic awareness	
b) Obsolesence factor	Declining demand	N/A	In demand	
c) Seasonal availability	Job not in season	N/A	Job in season	
d) Wage Requirements	Unrealistic	N/A	Realistic	

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EMPLOYABILITY ASSESSMENT

CRITERIA	LOW (1-3)	MID (4&7)	HIGH (8-10)	COMMENTS
11. MISCELLANEOUS CRITERIA				
a) Appearance	Inadequate, Inappropriate dress, Unkempt appearance	Will dress up & clean up if job depends on it, needs help in securing adequate work clothing	Good clothing & appropriate grooming for job	
b) Housing	No housing, unsafe, unsanitary, pending eviction, institutional setting	Inadequate room, Rent too high; Halfway house, Motel, Hotel	Adequate, private home or apartment	
c) Job Hunting Skills	Cannot complete applications, lacks interview skills, does not know where to look for employment	With help can improve skills, using options to improve skills	Application & interview skills high, high personal sale ability	
d) Supervisor Relationship	No or little contact	Adequate communication & co-operation	Co-operation & high communication skills with supervisor	
e) Social Skills	Identified behavioural problem; shy, indifferent or anti-social	Lacks confidence & skills but responds well after time	No behavioural problems, converses & relates comfortably with others	
f) Family Support	Non-supportive, Inflexible	N/A	Flexible support	
12. REFERENCES				
Employer Training Instr.	No No	N/A N/A	Yes Yes	
a) Work Habits -attendance	Poor	Few absences with reasonable excuses, informs employer if going to be absent	Regular, Informs	

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EMPLOYABILITY ASSESSMENT

CRITERIA	LOW (1-3)	MID (4-7)	HIGH (8-10)	COMMENTS
12. REFERENCES - cont'd.				
b)-cleans work station	Never cleans	Cleans with reminders &	Cleans on own	
c)-follows rules	Never follows rules	Follows rules but resents being told what to do	Follows rules	
d)-responds to criticism	Inappropriate behaviour, denial, ignores	N/A	Responds appropriately	
e)-responds to instructions	Does not listen, Does opposite	Follows with guidance & supervision	Appropriate, follows instructions properly	
f)-co-operates	Not co-operative	Sometimes not co-operative	Usually co-operative	
g)-quality of work	Poor quality	Adequate	Excellent	
	Total	Total	Total	

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Date: _____ Evaluated by: _____

01 88

COURSE-END QUESTIONNAIRE

9. Course-End Questionnaire (December and April, or at program end)

9.1 Administer in the last week of the program, or before a student leaves.

9.2 Assist with problems of interpretation. Leave blank any items which can't be interpreted clearly.

9.3 Inform students that you (or someone from the adult learning centre) will be contacting them again in a few months to see how their plans are developing. Ask for their cooperation in keeping in touch (phone numbers, whereabouts, etc.).

9.4 Forward Questionnaires to Pat when completed.

COURSE-END QUESTIONNAIRE

Name _____ Program _____

Date _____ Location _____

Please answer all these questions carefully. Your answers will help the Keewatin Region Educational Authority improve its courses for adults. Your answers will be kept confidential -- your instructor will not see your questionnaire.

THANK YOU!

* * * * * * * *

1. EMPLOYMENT PLANS: What are your plans after you leave this program? (Please check ONE only):

1.0 ( ) I already have a job where I will keep working.

1.1 ( ) I will look for a job right away.

1.2 ( ) I will look for a job later. (When? _____)

1.3 ( ) I will stay at home.

1.4 ( ) Other. (Please explain): _____

_____

2. FUTURE EDUCATIONAL PLANS:

2.1 Do you plan to take more courses or training at any time in the future? Yes No Maybe

2.2 If YES, what course? _____

2.3 What school/institution? _____

2.4 When?

2.4.1 ( ) Within 1 month

2.4.2 ( ) With 1 to 3 months

2.4.3 ( ) Within 3 months or more

3. JOB READINESS: If you DO plan to work OUTSIDE your home after you leave this program, check ONE reply to each of the following:

3.1 Do you expect to use this training on the job? Yes No Maybe

3.2 Do you intend to work fulltime? Yes No Maybe

3.3 In what town or settlement would you like to work? _____

3.4 What do you expect your STARTING pay to be? $_____ per month

4. TYPE OF JOB: What kind of job do you want when you look for a job?

4.1 Job choice: _____

5. ABOUT YOUR PROGRAM:

Circle
0 if you DON'T KNOW
1 if you STRONGLY DISAGREE
2 if you DISAGREE
3 if you AGREE
4 if you STRONGLY AGREE

5.1 My courses prepared me well for a good job.	0	1	2	3	4
5.2 My courses prepared me for other things besides a job.	0	1	2	3	4
5.3 I enjoyed the program.	0	1	2	3	4
5.4 I feel better prepared to succeed because of this training program.	0	1	2	3	4
5.5 I had to work hard to succeed in this program.	0	1	2	3	4
5.6 My homelife suffered because of my studies.	0	1	2	3	4
5.7 The instructors were helpful to me.	0	1	2	3	4
5.8 I was treated like an adult in the program.	0	1	2	3	4
5.9 I would like to return to the Adult Education Center again in the future.	0	1	2	3	4
5.10 I would recommend this program to a friend.	0	1	2	3	4

6. WHAT WAS THE BEST OR MOST HELPFUL PART OF YOUR PROGRAM?

7. WHAT PART OF YOUR PROGRAM SHOULD BE CHANGED TO IMPROVE IT?

8. OTHER COMMENTS:

Thank you!

FORMER STUDENT INFORMATION FORM -- 1986-87

10. FORMER Student Information Form (by December 1, 1987)

10.1 Gather available information on last year's students on this form. (The information will be used to compared this year's students with their forerunners.)

10.2 Put TABE information at the bottom of the form.

10.3 Use the reverse side of the form for further information you believe might be useful to the evaluation.

10.4 Send the form to Pat by December 1. (Results to be discussed, if available, with you in January.)

FORMER STUDENT INFORMATION FORM -- 1986-87 Year

NAME _____ _____ LOCATION _____

FORMER/NEW/ONGOING (circle one) FULLTIME/PARTTIME _____

PROGRAM NAME _____ PROGRAM DATES _____

* * * * * *

Age _____ Gender _____

Marital Status _____ Number of Dependents _____

Goal _____ GED Required? Yes No

Other Training Required _____

Sponsored by: _____

Financial resources, previous year (check all that apply):

_____ Social Assistance _____ UIC

_____ Employment earnings _____ Savings

_____ Family _____ Other (Specify): _____

_____

Previous Educational Level Completed _____

LAST School Attended _____

Where _____ When _____

Weeks worked in previous year _____ Salary _____

Job type(s) _____

Months worked in previous 5 years _____ Highest Salary _____

Job type(s) _____

* * * * * * * *

TABE at program entry:

TABE at program exit:

ATTACHMENT L

POST

INSTRUCTOR COMPUTER ATTITUDE SCALE

Date _____ Location _____ Name _____

0 if you DON'T KNOW or HAVE NO OPINION
1 if you STRONGLY DISAGREE
2 if you DISAGREE
3 if you AGREE
4 if you STRONGLY AGREE

STUDENT EFFECTS:

	DK	SD	D	A	SA
1. I think students found that using a computer makes them nervous.	0	1	2	3	4
2. I think students found that using a computer is easy.	0	1	2	3	4
3. I think students found that using a computer for learning is slower than using other learning methods.	0	1	2	3	4
4. I think students found that using a computer is impersonal.	0	1	2	3	4
5. I think students found that using a computer makes them feel isolated.	0	1	2	3	4
6. I think students found that using a computer for learning is more flexible than other methods.	0	1	2	3	4
7. I think students found that using a computer for learning is efficient use of their time.	0	1	2	3	4
8. I think students found that using a computer is satisfying.	0	1	2	3	4
9. I think students found that using a computer is frustrating.	0	1	2	3	4
10. I think students found that using a computer is interesting.	0	1	2	3	4
11. I think students found that using a computer improved their interest in the subject matter more than other methods.	0	1	2	3	4
12. I think students found that using a computer is enjoyable.	0	1	2	3	4

Circle:
0 if you DON'T KNOW or HAVE NO OPINION
1 if you STRONGLY DISAGREE
2 if you DISAGREE
3 if you AGREE
4 if you STRONGLY AGREE

INSTRUCTOR EFFECTS:

	DK	SD	D	A	SA
13. I found that my role as an instructor changed with CAL available to my students.	0	1	2	3	4
14. With CAL, I spent more time with individual students.	0	1	2	3	4
15. I was able to see students' progress more easily with information from CAL.	0	1	2	3	4
16. I was able to analyze students' problems more easily with information from CAL.	0	1	2	3	4
17. CAL was able to do some things for students a teacher in a classroom can't do.	0	1	2	3	4
18. Overall, I found that CAL made my teaching more effective.	0	1	2	3	4
19. I am concerned about possible negative effects of CAL on my teaching.	0	1	2	3	4
20. I was happy to be part of this experiment with computer-based learning.	0	1	2	3	4
21. My general attitude toward computers in education is positive.	0	1	2	3	4
22. I would like to use a computer in my own learning of a new subject.	0	1	2	3	4
23. I feel I am as "computer literate" as most teachers.	0	1	2	3	4
24. I am generally not bothered by change in my teaching environment or conditions.	0	1	2	3	4
25. I usually felt well informed about CAL.	0	1	2	3	4
26. My questions about the CAL project were usually answered adequately.	0	1	2	3	4
27. I have found that I have worked harder than usual during this CAL project.	0	1	2	3	4

Circle:
0 if you DON'T KNOW or HAVE NO OPINION
1 if you STRONGLY DISAGREE
2 if you DISAGREE
3 if you AGREE
4 if you STRONGLY AGREE

INSTRUCTOR EFFECTS (continued):

	DK	SD	D	A	SA
28. I believe the potential benefits of computer-based learning outweigh the problems it might cause.	0	1	2	3	4
29. I understood the goals of this project.	0	1	2	3	4
30. My basic teaching style did not change significantly during this project.	0	1	2	3	4
31. The need for computer-based learning in the community where I teach has been proven.	0	1	2	3	4
32. I enjoy experimentation in my teaching.	0	1	2	3	4
33. I believe the teacher should closely direct each student's learning experiences.	0	1	2	3	4
34. I achieve the best results in my teaching when I work one-to-one with a student.	0	1	2	3	4
35. Teaching was more interesting with CAL available.	0	1	2	3	4

TABLES

Table 1.1: Demographic characteristics of Keewati-* participants (averages)

Characteristic	BL #	BL Avg.	CH #	CH Avg.	CI #	CI Avg.	EP #	EP Avg.	RB #	RB Avg.	RI #	RI Avg.	WC #	WC Avg.	Total #	Total Avg.
Age	13	26.2	16	21.4	18	21.9	72	24.7	6	24.3	14	23.0	8	21.8	147	23.8
Number of dependents (A)	5	2.8	8	2.4	6	2.3	16	2.3	5	2.8	4	2.3	3	2.0	47	2.4
Weekly salary, previous year (B)	7	$321	4	$351	8	$300	44	$318	2	$555	14	$338	6	$329	85	$328
Prior grade level completed	12	8.5	16	7.4	14	8.3	69	7.2	5	6.8	13	7.4	7	6.9	136	7.4
Year of last school attendance	14	1985	16	1986	19	1984	72	1982	6	1987	14	1984	8	1983	149	1984
Weeks worked in previous year (C)	9	13	13	11	8	24	67	21	2	11	13	28	7	10	119	19

(A) Those with 1 or more dependents only.
(B) Those reporting a salary only.
(C) Those with a work history only.

* BL = Baker Lake
CH = Coral Harbour
CI = Chesterfield Inl
EP = Eskimo Point
RB = Repulse Bay
RI = Rankin Inlet
WC = Whale Cove

Table 1.2: Demographic characteristics of Keewatin* participants (frequency)

Characteristic	BL		CH		CI		EP		RB		RI		WC		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Student Type																
Former	4	29%	3	20%	1	8%	30	42%	0	-	3	25%	4	50%	45	33%
New	6	43%	11	73%	12	92%	38	53%	1	100%	4	33%	4	50%	76	56%
Ongoing	4	29%	1	7%	0	-	3	4%	0	-	5	42%	0	-	13	10%
Total	**14**	**10%**	**15**	**11%**	**13**	**10%**	**72**	**53%**	**1**	**1%**	**12**	**9%**	**8**	**6%**	**135**	**100%**
Marital Status																
Married	7	50%	6	40%	3	18%	25	35%	3	100%	3	23%	2	25%	49	35%
Single	7	50%	9	60%	14	82%	47	65%	0	-	10	77%	6	75%	93	65%
Total	**14**	**10%**	**15**	**11%**	**17**	**12%**	**72**	**51%**	**3**	**2%**	**13**	**9%**	**8**	**6%**	**142**	**100%**
Gender																
Female	8	57%	10	59%	8	57%	28	39%	3	50%	3	21%	5	63%	65	45%
Male	6	43%	7	41%	6	43%	44	61%	3	50%	11	79%	3	37%	80	55%
Total	**14**	**10%**	**17**	**12%**	**14**	**10%**	**72**	**50%**	**6**	**4%**	**14**	**10%**	**8**	**6%**	**145**	**100%**
GED required	3	30%	6	67%	0	-	11	29%	0	-	2	25%	0	-	22	29%
Sponsor																
CEIC	7	58%	7	88%	9	90%	21	84%	1	100%	10	77%	4	50%	59	77%
Self	5	42%	1	12%	1	10%	4	16%	0	-	3	23%	4	50%	18	23%
Total	**12**	**16%**	**8**	**10%**	**10**	**13%**	**25**	**33%**	**1**	**1%**	**13**	**17%**	**8**	**10%**	**77**	**100%**
Financial Support																
Social Assistance	3	16%	6	32%	1	6%			5	83%	1	4%	1	13%	17	18%
Employment Earnings	6	32%	6	32%	2	12%			1	17%	13	57%	1	13%	29	32%
Family	9	47%	7	37%	10	59%			0	-	3	13%	4	50%	33	36%
UIC	1	5%	0	-	3	18%			0	-	5	22%	0	-	9	10%
Savings	0	-	0	-	1	6%			0	-	1	4%	2	25%	4	4%
Total**	**19**	**21%**	**19**	**21%**	**17**	**18%**			**6**	**7%**	**23**	**25%**	**8**	**9%**	**92**	**%**

**Multiple responses were permitted on this question.

* BL = Baker Lake
CH = Coral Harbour
CI = Chesterfield Inlet
EP = Eskimo Point
RB = Repulse Bay
RI = Rankin Inlet
WC = Whale Cove

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Table 1.3: Demographic Characteristics of Kitikmeot* (control) student (frequency)

Characteristic	CB		CO		GH		HI		PB		SB		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Student Type														
Former	0	-	0	-	0	11%	1	17%	0	-	5	71%	7	16%
New	1	14%	4	50%	-	-	3	50%	1	14%	2	29%	11	25%
Ongoing	6	86%	4	50%	8	89%	2	33%	6	86%	-	-	26	59%
Total	**7**	**16%**	**8**	**18%**	**9**	**20%**	**6**	**14%**	**7**	**16%**	**7**	**16%**	**44**	**100%**
Marital Status														
Married	2	40%	0	-	2	25%	0	-	0	-	2	29%	6	14%
Single	3	60%	8	100%	6	75%	6	100%	10	100%	5	71%	38	86%
Total	**5**	**11%**	**8**	**18%**	**8**	**18%**	**6**	**14%**	**10**	**23%**	**7**	**16%**	**44**	**100%**
Gender														
Female	2	29%	2	25%	4	44%	3	50%	4	40%	3	43%	18	38%
Male	5	71%	6	75%	5	56%	3	50%	6	60%	4	57%	29	62%
Total	**7**	**15%**	**8**	**17%**	**9**	**19%**	**6**	**13%**	**10**	**21%**	**7**	**15%**	**47**	**100%**
GED Required	0	-	2	25%	9	100%	2	40%	0	-	0	-	13	36%
Sponsor														
CEIC	6	100%	3	50%	3	100%	1	50%	0	-	0	-	13	77%
Self	0	-	3	50%	0	-	1	50%	0	-	0	-	4	23%
Total	**6**	**35%**	**6**	**35%**	**3**	**18%**	**2**	**12%**	**0**	**-**	**0**	**-**	**17**	**100%**
Financial Support**														
Social Assistance	0	-	4	22%	8	44%	0	-	4	22%	2	11%	18	25%
Employment Earnings	6	25%	2	8%	7	29%	4	17%	1	4%	4	17%	24	33%
Family	0	-	5	23%	6	27%	4	18%	4	18%	3	14%	22	31%
UIC	3	50%	0	-	2	33%	0	-	0	-	1	17%	6	8%
Savings	0	-	0	-	1	50%	0	-	1	50%	0	-	2	3%
Total	**9**	**13%**	**11**	**15%**	**24**	**33%**	**8**	**11%**	**10**	**14%**	**10**	**14%**	**72**	**100%**

**Multiple responses were permitted on this question.

* CB = Cambridge Bay
CO = Coppermine
GH = Gjoa Haven
HI = Holman Island
PB = Pelly Bay
SP = Spence Bay

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Table 1.4: Demographic characteristics of Kitikmeot* participants (averages)

Characteristic	CB #	CB Avg.	CO #	CO Avg.	GH #	GH Avg.	HI #	HI Avg.	PB #	PB Avg.	SB #	SB Avg.	Total #	Total Avg.
Age	7	20.6	7	21.6	9	22.6	6	18.2	10	20.3	7	.0	46	20.8
Number of dependents (A)	3	1.7	2	1.0	1	7.0	0	0	3	1.7	2	1.5	11	2.0
Weekly salary, previous year (B)	6	$405	6	$342	6	$278	5	$247	8	$370	6	$286	37	$326
Prior grade level completed	6	7.5	7	7.6	9	6.1	6	7.7	10	5.0	7	6.4	45	6.5
Year of last school attendance	7	1985	8	1983	9	1987	6	1985	10	1983	7	1982	47	1984
Weeks worked in previous year (C)	6	15.0	8	10.5	6	9.8	6	15.3	8	7.4	6	17.1	40	12.2

(A) Those with 1 or more dependents only.
(B) Those reporting a salary only.
(C) Those with a work history only.

* CB = Cambridge Bay
CO = Coppermine
GH = Gjoa Haven
HI = Holman Island
PB = Pelly Bay
SB = Spence Bay

Table 1.5: Keewatin and Kitikmeot regions compared on demographics (averages)

Characteristic	Keewatin #	Keewatin Avg.	Kitikmeot #	Kitikmeot Avg.
Age	147	23.8	46	20.8
Number of dependents	47	2.4	11	2.0
Weekly salary, previous year	85	$328	37	$326
Prior grade level completed	136	7.4	45	6.5
Year of last school attendance	149	1984	47	1984
Weeks worked in previous year	119	19	40	12.2

Table 1.6: Keewatin and Kitikmeot regions compared on demographics (frequencies)

Characteristic	Keewatin #	Keewatin %	Kitikmeot #	Kitikmeot %
Student Type				
Former	45	33%	7	16%
New	76	56%	11	25%
Ongoing	13	10%	26	59%
Marital Status				
Married	49	35%	6	14%
Single	93	65%	38	86%
Gender				
Female	65	45%	18	38%
Male	80	55%	29	62%
GED Required	22	29%	13	36%
Sponsor				
CEIC	59	77%	13	77%
Self	18	23%	4	23%
Financial Support				
Social Assistance	17	18%	18	25%
Employment Earnings	29	32%	24	33%
Family	33	36%	22	31%
UIC	9	10%	6	8%
Savings	4	4%	2	3%

Table 2.1: TABE Results, Pretest, Keewatin Region

	BL N=18 Avg	CI N=22 Avg	CH N=21 Avg	EP N=61 Avg	RI N=21 Avg	WC N=6 Avg	Total Avg	Total SD	N
Reading									
Vocabulary*	8.4	5.9	6.0	5.7	7.4	5.4	6.1	2.65	143
Comprehension	8.4	6.5	6.3	5.8	6.8	5.9	6.5	2.57	143
Total Reading**	8.4	6.3	6.0	5.7	6.6	5.7	6.3	2.52	143
Math									
Computation	7.1	6.5	7.3	5.8	6.8	5.8	6.4	2.01	142
Concepts**	7.3	5.9	6.2	5.3	6.5	5.7	5.9	2.15	142
Total**	7.2	6.2	6.7	5.7	6.7	5.8	6.2	1.92	142
Language									
Mechanics	[illegible]	6.9	7.5	6.3	6.3	6.5	6.8	2.51	125
Spelling		7.7	9.5	7.9	5.2	9.0	8.3	2.90	125
Grade Equivalent	8.0	6.4	7.2	5.8	6.4	7.3	6.5	2.20	132

*p < .01
**p < .05

Table 2.2: TABE test increases from pretest to first posttest, Keewatin region*

	BL (N=12)	CH (N=6)	CI (N=5)	EP (N=31)	RI (N=16)	WC (N=5)	Total (N=75)	Range
Reading								
Vocabulary	0.71	0.18	0.40	0.12	0.56	0.42	0.35	-1.6 to 4.1
Comprehension	0.46	0.25	0.76	0.40	0.55	-0.50	0.43	-3.0 to 3.1
Total Reading	0.65	0.25	0.52	0.29	0.68	0.00	0.43	-1.7 to 3.3
Math								
Computation	1.28	0.58	1.12	0.57	1.21	0.35	0.85	-3.9 to 3.7
Concepts	1.19	0.20	0.80	0.79	0.95	0.18	0.81	-1.0 to 3.9
Total Math	1.18	0.25	0.96	0.64	1.07	0.25	0.79	-2.3 to 3.4
Language								
Mechanics	0.96	1.75	0.34	0.45	0.60	0.60	0.69	-4.3 to 2.3
Spelling	-0.19	0.13	-0.62	0.06	0.69	0.25	0.12	-2.9 to 3.2
Grade Equivalent	0.84	0.68	0.64	0.38	0.92	0.60	0.63	-1.5 to 2.7

*Listwise; that is, includes only students whose pretest and posttest scores could be compared.

Grade range -1.5 to 2.7

Table 2.3: TABE test increases from pretest to second posttest, Keewatin region*

	BL (N=7)	CI (N=4)	EP (N=10)	RI (N=6)	Total (N=27)	Range
Reading						
Vocabulary	0.34	0.35	0.69	0.27	0.44	-0.3 to 1.8
Comprehension	0.43	2.05	0.40	1.60	0.88	-1.3 to 3.7
Total Reading	0.53	0.78	0.51	0.88	0.63	-0.8 to 2.3
Math						
Computation	1.66	2.68	0.98	0.95	1.29	-1.3 to 4.5
Concepts	1.51	1.48	1.78	0.30	1.21	-1.8 to 5.0
Total Math	1.29	2.20	1.40	0.48	1.20	-1.1 to 5.0
Language						
Mechanics	0.91	2.03	1.28	0.98	1.21	-0.5 to 4.7
Spelling	0.29	-0.35	1.14	0.15	0.35	-2.5 to 3.4
Grade Equivalent	1.04	1.48	0.77	0.65	0.92	-0.6 to 3.1

*Listwise; that is, includes only students whose pretest and second posttest scores could be compared.

Grade range -0.6 to 3.1

Table 3.1: Employability Assessment Scale results, pretest

Item	Baker Lake (N=14)			Chesterfield Inlet (N=13)			Rankin Inlet (N=7)			Whale Cove (N=8)			Total (N=42)		
	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H
2. Language															
2.1 Reading	-	-	14	2	11	7	-	-	7	-	2	6	4%	27%	69%
2.2 Writing	-	11	3	3	16	1	-	2	5	1	5	2	6%	69%	22%
2.3 Speaking	-	3	11	3	17	-	-	-	7	1	-	7	8%	41%	51%
2.4 Spoken Instructions	-	4	10	3	12	5	-	-	7	-	2	6	6%	37%	57%
6. Motivation and Attitudes															
6.1 Able, willing, looking	-	10	3	2	2	9	-	4	2	1	2	3	10%	48%	42%
6.2 Confidence level	-	11	3	2	13	5	-	5	1	1	3	3	6%	68%	26%
6.3 Assistance/unemployed	-	1	-	14	1	3	-	1	6	-	-	-	54%	12%	35%
6.4 Defer job gratification	-	3	10	7	9	4	-	6	1	-	-	2	17%	43%	41%
6.5 Economic responsibility	-	5	9	11	6	3	1	4	2	-	-	1	29%	36%	36%
9. Child Care Needs	-	8	6	2	3	15	-	1	6	1	-	-	7%	29%	64%
10. Job Market Factors															
10.1 Opportunity awareness	-	12	2	6	11	3	-	5	2	1	1	3	15%	63%	22%
10.2 Obsolescence factor	-	13	1	-	3	1	-	5	2	-	-	2	-	78%	22%
10.3 Seasonal availability	-	13	1	4	1	4	-	3	4	-	-	2	12%	55%	33%
10.4 Wage requirements	-	-	14	10	4	1	-	6	1	-	-	2	26%	26%	47%
11. Miscellaneous criteria															
11.1 Appearance	-	4	10	2	4	14	-	2	5	1	1	6	6%	22%	71%
11.2 Housing	-	3	3	3	7	9	-	2	5	-	1	7	8%	33%	60%
11.3 Job hunting skills	8	4	2	6	12	2	-	7	-	-	4	1	30%	59%	11%
11.4 Supervisor relationship	1	10	3	8	5	7	-	7	-	-	-	1	21%	52%	26%
11.5 Social Skills	1	2	11	4	9	7	1	6	-	1	3	4	14%	41%	45%
11.6 Family support	-	1	-	2	3	7	-	-	1	-	-	-	14%	29%	53%
12. References															
12.1 Work habits, attendance	2	5	7	3	5	12	1	3	3	-	2	5	13%	31%	56%
12.2 Cleans work station	-	3	11	3	4	13	-	6	1	-	-	7	6%	27%	67%
12.3 Follows rules	1	1	12	2	6	12	1	-	6	-	1	6	8%	17%	75%
12.4 Responds to critcism	-	2	12	4	9	7	1	-	6	2	-	5	15%	23%	63%
12.5 Responds to instruction	-	-	-	1	5	7	-	-	1	-	-	-	7%	36%	57%
12.6 Cooperates	1	2	11	6	5	9	-	1	6	-	1	6	15%	19%	67%
12.7 Quality of work	-	6	8	-	3	4	-	5	2	-	3	4	-	49%	51%

Table 3.2: Employability Assessment Scale, posttest

Item	Baker Lake (N=8)			Rankin Inlet (N=8)			Chesterfield Inlet (N=7)			Eskimo Point (N=20)			Coral Harbor (N=22)			Whale Cove (N=5)			Total (N=70)		
	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	%	M	%
2. Language																					
2.1 Reading	-	1	7	-	-	8	1	4	2	1	5	14	-	11	11	-	1	4	3%	31%	66%
2.2 Writing	-	2	6	-	7	1	1	6	-	2	7	11	1	15	6	1	3	1	7%	57%	36%
2.3 Speaking	-	-	8	-	-	8	3	2	2	1	7	12	-	16	5	2	1	2	9%	38%	54%
2.4 Spoken Instructions	-	-	8	-	-	8	2	2	3	-	7	13	-	8	14	-	1	4	3%	26%	71%
6. Motivation and Attitudes																					
6.1 Able, willing, looking	1	4	3	-	6	2	-	1	5	1	6	12	3	1	15	1	2	2	9%	31%	60%
6.2 Confidence level	-	6	2	2	-	7	1	1	1	4	-	15	5	6	11	2	1	2	12%	53%	35%
6.3 Assistance/unemployed	-	-	2	2	3	3	1	-	-	-	-	2	16	2	4	-	1	-	56%	17%	28%
6.4 Defer job gratification	-	3	5	-	7	1	1	1	-	1	7	8	14	1	7	-	3	2	26%	34%	40%
6.5 Economic responsibility	-	3	5	-	1	7	-	-	1	1	7	9	7	5	9	3	1	1	18%	28%	53%
9. Child Care Needs	-	5	3	2	3	3	-	-	1	4	6	9	1	5	16	1	3	1	13%	35%	52%
10. Job Market Factors																					
10.1 Opportunity awareness	1	6	1	3	3	2	-	2	2	-	10	9	3	5	14	2	2	1	14%	42%	44%
10.2 Obsolescence factor	-	8	-	-	6	2	-	-	1	-	1	-	-	-	1	-	3	1	-	75%	25%
10.3 Seasonal availability	-	8	-	-	7	1	-	1	-	-	1	-	6	-	-	1	3	1	24%	69%	7%
10.4 Wage requirements	-	-	-	-	7	1	-	1	2	12	-	8	-	4	-	-	6	2	28%	42%	30%
11. Miscellaneous criteria																					
11.1 Appearance	1	1	6	-	2	6	-	1	6	-	4	16	-	4	18	1	1	3	3%	19%	79%
11.2 Housing	-	1	7	-	-	8	-	-	-	-	1	8	-	15	5	-	1	4	-	36%	64%
11.3 Job hunting skills	2	6	-	4	4	-	-	2	1	1	11	6	3	10	9	2	3	-	19%	56%	25%
11.4 Supervisor relationship	-	2	6	-	2	6	-	1	4	-	15	5	2	5	15	-	2	2	3%	40%	57%
11.5 Social skills	-	3	5	-	1	7	1	3	2	4	7	9	2	7	13	2	2	-	13%	34%	53%
11.6 Family support	-	2	6	-	-	-	-	-	-	3	-	8	6	1	15	-	-	-	22%	7%	71%
12. References																					
12.1 Work habits, attendance	-	3	5	-	2	6	-	2	5	1	6	13	2	4	16	1	2	2	6%	27%	67%
12.2 Cleans work station	-	4	4	-	-	8	1	5	1	-	-	9	1	8	13	-	1	4	3%	31%	66%
12.3 Follows rules	-	1	7	-	2	6	1	2	4	-	5	15	2	2	18	-	2	3	4%	20%	76%
12.4 Responds to criticism	-	1	7	2	-	6	2	-	5	1	2	15	6	-	16	-	4	1	16%	10%	74%
12.5 Responds to instruction	-	4	3	-	-	-	-	-	-	1	7	12	3	3	16	-	-	-	8%	29%	63%
12.6 Cooperates	-	1	7	-	1	7	-	1	6	-	4	16	1	3	18	-	2	3	2%	17%	81%
12.7 Quality of work	-	5	3	-	-	8	1	2	4	1	8	11	-	-	6	1	2	2	6%	32%	63%

T3.2

Table 3.3: Proportions of "high" ratings, Employability Assessment Scale

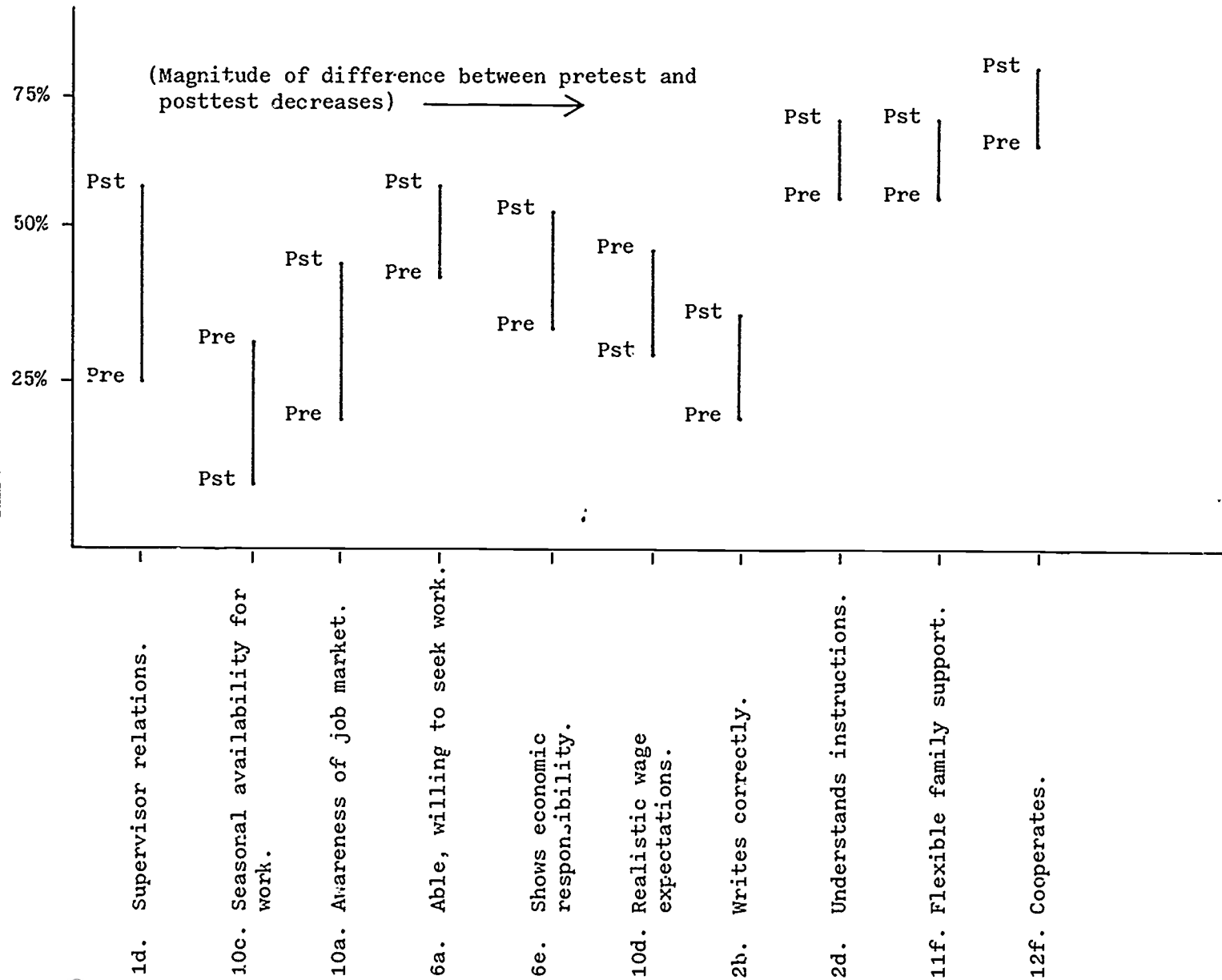

Table 5.1: Instructor Computer Attitude Scale items on which changes occurred, pretest to posttest.

Item	Pretest (N=11) Agree	Disagree	DK	Posttest (N=10) Agree	Disagree	DK
1. Using a computer makes students nervous.	1	1	4	0	10	0
5. Using a computer makes students feel isolated.	2	8	1	0	9	1
13. I do not expect my role as a teacher to change with CAL.	3	8	0	8	1	1
14. With CAL, I spend more time with individual students.	8	2	1	6	4	0
19. I am concerned about possible negative effects on my teaching from CAL.	1	6	4	4	5	1
25. I feel well-informed about CAL.	7	3	1	5	5	0
27. I worked harder than usual during the CAL project.	3	2	6	2	5	3
31. The need for CAL in my community has been proven.	3	4	4	4	2	4

Table 5.2: Comparison of Instructor and Student views of student attitudes. (Instructor Computer Attitude Scale posttest and student Computer Adaptation Scale posttest results compared).

Item	Instructor Agreement	Student Agreement
1. PLATO makes students nervous.	0%	4%
2. PLATO is easy to use.	100%	89%
3. PLATO is slower than other learning methods.	0%	17%
4. PLATO is impersonal/unfriendly.	11%	5%
5. PLATO makes students feel isolated/alone.	0%	21%
6. PLATO is more flexible than other learning methods.	100%	77%
7. PLATO makes efficient use of students' time.	100%	76%
8. PLATO is satisfying.	100%	89%
9. PLATO is frustrating.	10%	31%
10. PLATO is interesting.	100%	89%
11. PLATO helps students improve their interest in the subject matter/like the work more.	100%	89%
12. PLATO is enjoyable.	100%	95%

FIGURE A: Levels of agreement on the Computer Adaptation Scale, pretest and posttest results compared

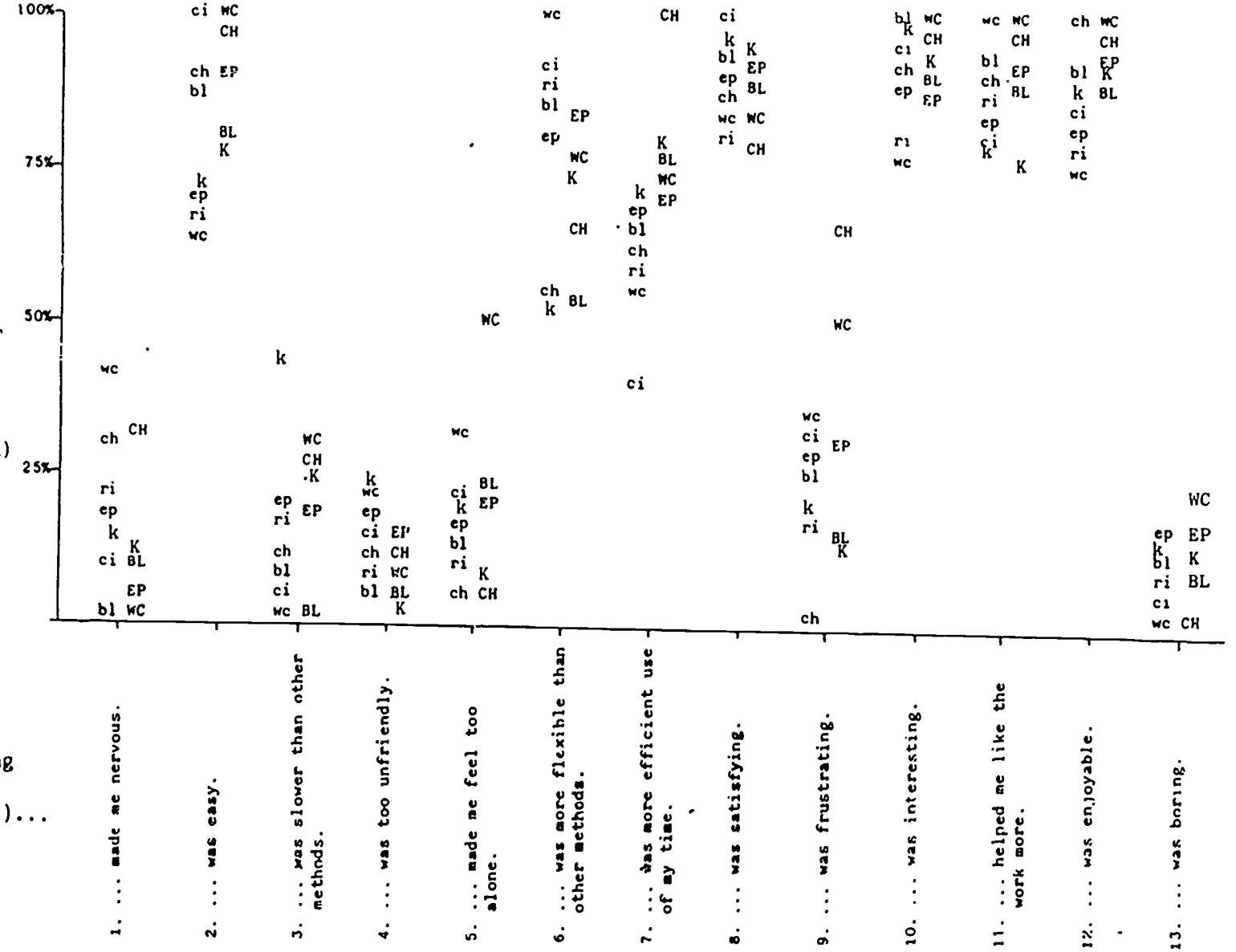

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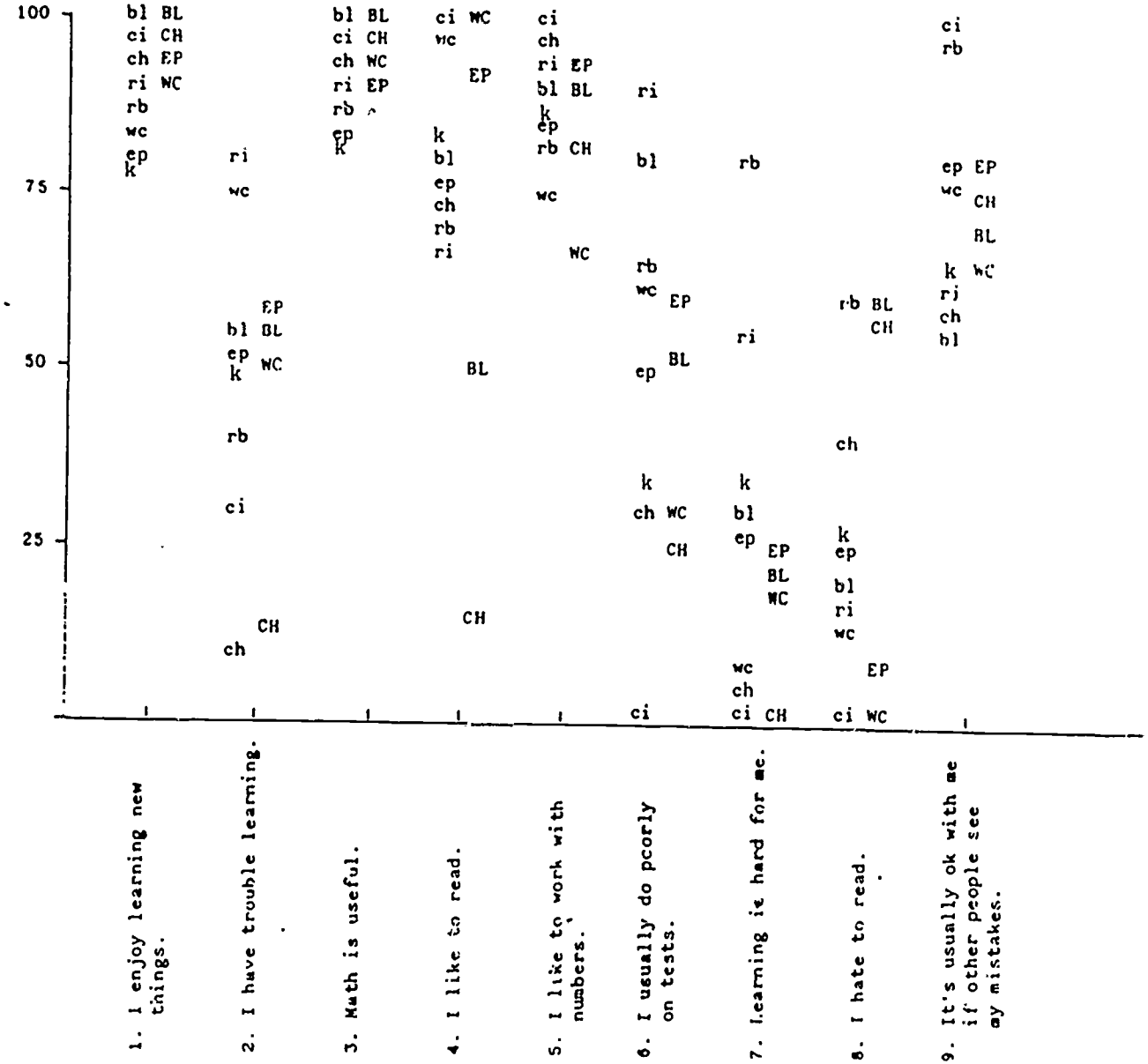
FIGURE B(1): Levels of agreement on the Learning Readiness Scale, pretest and posttest results compared



	Pretest n	Posttest n
BL	15	10
CI	3	--
CH	11	7
EP	37	32
RI	11	--
RB	6	--
WC	5	6
Total	94	55

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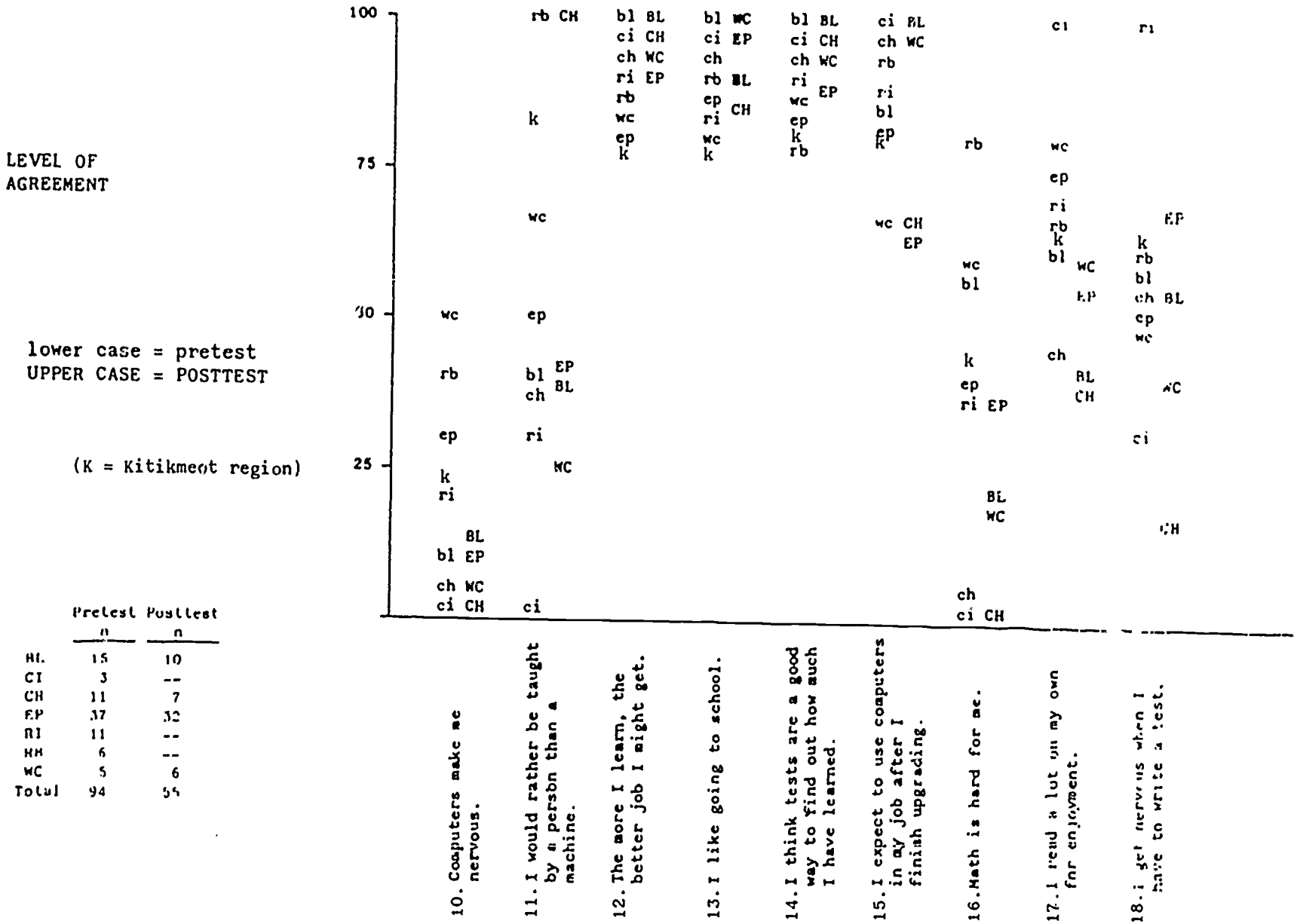
FIGURE B(2): Levels of agreement on the Learning Readiness Scale, pretest and posttest results compared



	Pretest n	Posttest n
BL	15	10
CI	3	--
CH	11	7
EP	37	32
RI	11	--
RB	6	--
WC	5	6
Total	94	55

T5.6

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Figure C: Community, Adult Education Centre Vital Statistics

Community	Pop.(B)	Total Students (A)	Full-Time	Part-Time	Total Computer Users	Total PLATO only Users	# Terminals	P/T Staff	F/T Staff
Baker Lake	954	43	8	35	43	24	8	2	2
Chesterfield Inlet	249	10	7	3	16	16	5	0	1
Coral Harbour	429	29	7	16	14	10	5	2	2
Eskimo Point	1,189 (C) 1,022 (B)	72	8	66	49	44	8	5	2
Rankin Inlet	1,109	74	24	50	74	58	8	3	3
Repulse Bay*	352						5		
Whale Cove	188	13	6	7	13	13	5	1	1

(A) Regular and specialized
(B) 1981 Census
(C) Statistics Canada, June 1986 Census

*Repulse Bay's program did not commence until December, due to staffing problems.