

**COMPUTER MANAGED LEARNING:  
DEVELOPMENT OF A DATA BASE  
FOR INDIVIDUALIZED INSTRUCTION**

**by**

**DALE HOWARD**

**A One-credit Project Submitted to the Faculty of Education  
of The University of Lethbridge in Partial Fulfillment  
of the  
Requirements for the Degree  
MASTER OF EDUCATION**

**LETHBRIDGE, ALBERTA  
May 26, 1987**

## ACKNOWLEDGEMENTS

Dr. Dale Burnett and Dr. Mel Fisher, Faculty of Education, University of Lethbridge, for their constructive criticism and encouragement.

Peggy McLennan for her editorial assistance.

Clive Hickson for his advice and assistance during testing of the software.

Ed Maruska for his guidance during the construction of the Language templates.

Neil Russell for previous work on the basic competencies for IVTP.

Medicine Hat College for use of their facilities and computer hardware.

## ABSTRACT

This report outlines the research and development of a CML system designed to be used in the remediation program for developmentally delayed adults attending the Medicine Hat College. The literature search covers a brief history of computers, discusses a definition of CML and reports findings of CML instituted elsewhere. Procedures include the actual design and construction of a data base and the subsequent comparison of the manual and electronic systems. The results indicate that the electronic system is more efficient than the manual system, but that there are still elements of the manual system that must be maintained. Although this particular electronic system does not have the relational or sorting power of some commercial systems, there still appears to be a desire to further modify the system and to integrate the system more closely into the program. Instructors were very impressed with the ease in which reports and IEPs could now be generated. The system also has potential to be incorporated with further developments of CAL and CBT.

## CONTENTS

1. Introduction .....	1
2. Review of the Literature .....	6
2.1 Definition of CML .....	6
2.2 Historical Perspective of CML .....	8
2.3 Application of CML in Special Education ..	12
2.4 Developing a CML System - Some Considerations .....	16
2.5 Some Cautions .....	18
2.6 Summary .....	19
3. Procedure .....	22
3.1 Evaluation of Manual System .....	22
3.2 Selection and Customizing of the Commercial Data Base .....	23
3.3 The Decision to Develop Original Software .....	25
3.3.1 Description of the Software .....	25
3.4 Electronic Data Base Evaluation .....	27
4. Analysis of the Results .....	29
4.1 Analysis of the Manual System .....	29
4.1.1 Data Collection .....	29
4.1.2 Data Storage .....	29
4.1.3 Data Retrieval and Sorting .....	29
4.1.4 Report Generation .....	31
4.1.5 Data for Instructional Decision Making .....	32
4.1.6 General Observations .....	32

4.2 Evaluation Of the Electronic System .....	33
4.2.1 Data Collection .....	33
4.2.2 Data Storage .....	33
4.2.3 Data Retrieval and Sorting .....	34
4.2.4 Report Generation .....	34
4.2.5 Data for Instructional Decision Making .....	35
4.2.6 General Observations .....	36
5. Summary of Conclusions and Recommendations ...	38
5.1 Summary .....	38
5.2 Recommendations .....	39
6. Selected References .....	40
Appendix I. Some Possible Applications for CML .	44
Appendix II. Some Considerations Concerning Data Base Management Software: Print Report Formats .....	46
Appendix III. History of Personal Computers .....	47
Appendix IV. Manual System Questionnaire .....	48
Appendix V. Electronic System Questionnaire .....	50
Appendix VI. Sample Electronic Report Formats ..	52
Appendix VII. Sample Manual Report .....	53

CML FOR THE TRANSITIONAL VOCATIONAL TRAINING PROGRAM (TVTP):  
A RESEARCH AND DEVELOPMENT PROJECT

1. Introduction

The "computer revolution." Fact or fiction? The consensus appears to be a little of both. Some experts feel that by the 21st century society will have undergone significant changes as a result of technological influences (Evans, 1980; Fahy, 1985). Others feel the computer is far from a panacea, but that the new technology, when applied appropriately, will help facilitate self-directed change as opposed to a technological revolution (Bork, 1984; Kolich, 1985; Stallard, 1982).

Computers are certainly not new to the educational arena, but their effective use continues to interest educators. The concept of "teaching machines" is easily over a half century in the making, and computer-assisted learning (CAL) has enjoyed a predominate focus in the use of computers in education (McMahon, 1978). The development of microcomputers (personal computers) provided a much less expensive mode of computer application, which in turn, served to heighten the excitement concerning the use of computers to enhance instruction in schools. However, computers are and continue to be tools that are able to store and manipulate data at incredible speeds, and the initial

application of computers centered around number crunching and data storage. The military, followed by business, soon took advantage of this technology (Wager, 1985). The utilization of computers in education to store, sort, and display data has been considered and applied but not with near the zeal as has CAL.

Computer-managed learning (CML), nevertheless, is a significant application of computer technology. As the perceived needs for accountability and documentation of student progress grow so too will the usefulness of computers as electronic filing, sorting, and reporting systems.

CML as a record keeping system or information management system can be a significant improvement over manually based operations. The following taken from Hartmann (1984) is a rationale for the utilization of an electronically managed information system:

#### **Manually Based System**

- 1) Since data is normally collected through a variety of forms, procedures and definitions, comparability can not always be guaranteed.
- 2) Since standard procedures for upgrading and maintaining data do not usually exist, the accuracy, reliability and timelines of the data is often questionable.
- 3) Since the multiplicity of forms and reports which comprise such systems require common as well as unique information, redundancy is an integral part of its structure.
- 4) Since data must be manually prepared and summarized the number, type and variety of

questions that can be posed are restricted.

- 5) Since manual information summary is a time consuming process each new piece of information required places additional demands on both school staff and administrative personnel.
- 6) Since central files rarely exist, data is not readily available and hence decision making is delayed or must occur without adequate information.

### **Electronically Based System**

- 1) A common data base provides for all the information required for decision making.
- 2) All data comprising the base is retrieved and maintained through a common set of procedures.
- 3) Standardized definitions are employed for categorizing data for collection and reporting.
- 4) Each element of the data base that compromises the system is capable of integrating with all others.
- 5) Information is readily retrievable whenever required (Hartmann, 1984, pp.1-2).

The institutionalization of an electronic data base should facilitate easier preparation of data, faster filing of information, more efficient and complex sorting of information, and quicker access to data.

The focus of this project will be to establish a CML system for the utilization within the Transitional Vocational Training Program (TUTP) at Medicine Hat College. TUTP is an adult remediation program designed to aid developmentally delayed adults develop the skills necessary to enable them to locate and maintain



meaningful employment.

Keeping both vocational and academic records for TVTP has become a major time consumer taking away valuable instructor time both on the work site and in the classroom. The need for accurate record keeping has increased due to three major factors. One, accountability has become a "buzz word" and administration is looking for written evidence to support the need for the continuation of special programs. Two, several agencies throughout the province of Alberta require detailed reports of clients who make transfers from program to program. Three, ready access to student performance evaluations has been difficult since daily records of the variety needed have been kept by different individuals using different methods of record-keeping and in some cases, these records have also been difficult to maintain. Individualized program development depends heavily on such information (Bennett, 1982).

As the program has grown, a need for a reliable and expedient record-keeping system has given impetus to the possibility of employing computer technology in the role of computer managed learning. This, then, is a proposal to design, implement, and evaluate a computer data base that will facilitate the keeping of the following records: 1) Personal information, 2) Psycho-educational reports, 3) Results of standardized achievement tests,

4) Results of criterion referenced testing, 5) Standardized vocational assessments, 6) Vocational studies records, and 7) Work experience records.

The question will be: Upon completion of the development of a CML package, will the package satisfy the program by meeting the expected outcomes of an electronic system as described by Hartmann?

## 2. Review of the Literature

### 2.1 Definition of CML

Computer-managed learning is not to be confused with computer-assisted instruction (CAI), computer-assisted learning (CAL), computer-based instruction (CBI), or computer-based learning (CBL). It is, however, often referred to as computer-managed instruction (CMI). When discussing computers and education, if one remembers that learning and instruction generally refer to the same thing, a good deal of the confusion between different terms is often eliminated.

CML has both a broad and narrow meaning. In the broader sense, CML refers to the following definition:

CMI in its most sophisticated levels provides the following instructional functions. (1) assesses the learner's present level of knowledge, (2) diagnoses weakness or gaps in the student's learning, (3) prescribes learning activities to remediate the identified weaknesses, and (4) continuously monitors progress of the learner. (Mitzel, 1982).

NOTE: See Appendix I. for a list of some possible applications of CML.

However the definition is often simplified, as is illustrated by the following:

... the systematic control of instruction by the computer. It is characterized by testing, diagnosis, learning prescriptions, and thorough record-keeping" (Hofmeister, 1982, p. 118).

... allows data from tests to be analysed, providing information which can be the basis of educational decisions" (Tait & Hughes, 1984, p. 271).

Computer-managed instruction (CMI) is the use of computer technology to collect, analyze, and report information concerning the performance of students in an educational program ( Gorth & Nassif, 1984, p. 28).

... system to monitor student progress and the effectiveness of their instruction (Wesson, 1983, pp. 4-5).

... (CMI) in its least complex application is relatively simple, relying principally on the record-keeping and summarizing power of the computer to assess, diagnose, prescribe, and monitor each learner's progress (Mitzel, 1982).

The most distinguishing factor between CML and CAL is that computer-managed learning, in most definitions, does not refer to the provision of direct instruction. However, a word of caution. Some computer-managed learning systems are becoming extremely complex and some of the literature refers to CML as having a more encompassing application. According to Splittgerber and Stirzaker, CML is defined as:

... an instructional management application utilizing the computer to direct the entire instructional process, including CAI format as well as the traditional forms of instruction which do not require computers, for example, lectures and group activities (Splittgerber & Stirzaker, 1984, p. 38).

They refer to CAI and CMI as "formats". The computer functioning "as a teacher in CAI format and as a manager in the CMI format" (Splittgerber, 1984, p. 38). The confusion appears when one does not

distinguish between directing the application of CAL and the actual operation of CAL.

In this project, CML will refer to the storage of data (personal, vocational, and academic) of individual TVIP students for the purposes of record-keeping, instructional decision making, facilitating more efficient report writing, and satisfying political and government bureaucratic requirements.

## 2.2 Historical Perspective of CML

CML shares a similar history to CAL, with the exception that CML has traditionally developed a step behind the developments in CAL (McMahon, 1978). However, CML is one of the most rapidly growing areas in computer-based education. According to Dennis this is a result of three factors:

1. Growing realization of the level of effort required to deliver adequate computerized instruction. Early conceptions of instructional use of computers grossly underestimated the complexity of the learning process. They also underestimated the level of hardware and software resources required to deliver adequate computerized instruction.
2. Declining school resources coupled with growing demands for accountability.
3. Early attempts at individualized instruction helped to formulate a conception of the magnitude of the management task required to monitor and to facilitate this style of instruction (Dennis, 1979, p. 4).

The attempt here will be to provide a historical perspective of CML while cautioning the reader that aspects of this review are based on the historical development of CAL and also on the more general application of computers in education. The rationale behind this approach is that many articles refer generously to the development of CAL and computers in education and few articles pertain directly to the development of CML. It would appear that CML as a significant development has, in most instances, been treated as an aspect of the broader development of computers in education and/or a necessary result of the data generated by CAL systems. This does not mean nothing has been offered, it just suggests that material specifically treating the historical evolution of CML is not as prevalent.

Computers as educational tools can be traced back to the concept of teaching machines of the mid 1920's. Inherent in this concept is the idea of mastery learning. By the 1950's educational theorists such as Skinner, further promoted the idea of more efficient learning (Pagliaro, 1983). Advances in computer technology, however, dictated when theory could merge with practice. The 40's and 50's saw the advances of first generation computers ( computers using vacuum tubes). The impetus for the development of these colossal monsters was their application to the military

during the Second World War. After the war civilian uses emerged, but due to the high cost, these uses were limited to large institutions and corporations (Alessi & Trollip, 1985). By the late 1950's and early 1960's second generation computers (computers using transistors) heralded the serious consideration of computers as teaching machines. Machines and systems such as the IBM 650 ,the PLATO (Programmed Logic for Automatic Teaching Operations), and the IBM 1500 sparked research into computerized teaching (Alessi, 1985; McMahon, 1978; Pagliaro, 1983). Although not considered as a separate entity, CML was being applied at the same time as CAL. The PLATO system was not only a system of automatic teaching but was a system whereby individual student's progress was also being recorded (Pagliaro, 1983). Not a major break through for CML, but a start. The development of the integrated circuit (IC) made possible the third generation computer and significantly reduced the size of hardware, increased memory, and improved reliability. However, even into the early 70's CAL was the predominant focus of computer technology in education. More and more schools and universities were using computers for administrative purposes, but the application of CML was often not accessible to many educators (Alessi & Trollip, 1985). The late 1970's, however, saw the introduction of the personal computer (PC). Where educators were once

dependent on large main frames and mini computers, they were now free to experiment with smaller versions that could be produced for a fraction of the cost (Alessi, 1985; Pagliaro, 1983). Now if desired, the ordinary classroom teacher could develop a CML system. See Appendix III for a more detailed historical perspective of the microcomputer.

But having the available technology and applying the technology are two different things. There are more documented demonstrations of the use of CAL than there are cases of CML. However, as Bork (1985) suggests, the microcomputer can be used simply to keep track of class records or can be implemented, as in the case of the Camelot system, to generate individual letters denoting the learning needs of each student utilizing the system (Bork, 1985). Whether CML remains a distinct application of computer technology remains to be seen. As both CAL and CML development become more sophisticated, the division between the two may eventually disappear. This is, however, only likely when CML and CAL reach the level where McMahon in summarizing Mitzel suggests that:

... a real time-interactive interface is established between the learner and the computer, and a diagnostic-prescriptive logic is used to manage the student's learning while he is on the machine (McMahon, 1978, p. 109).

McMahon also comments on a rather interesting



scenario of the eventual merger of CML and CAL. He suggests that CML is supported by a far less established infrastructure than supports CAL, and without the mutual support of both fields the transfer of expertise may serve to weaken both (McMahon, 1978). However the technological developments of computers in education promises to be interesting, and from time to time no doubt, we can look forward to the occasional surprise.

### **2.3 Application of CML in Special Education**

The application of CML in special education has predominately been fueled by politics. Administrators and teachers have had to turn to the use of microcomputers to deal with the increasing mass of information that must be kept to satisfy legislation designed to assure the public that special needs of special students are met (Hofmeister, 1982). The most obvious example in the United States being Public Law 94-142 which requires that all special education teachers keep individualized education programs (IEP's) on all special education students (Morgan & Rhode, 1983). This is an issue in the United States, but Canadian governments are also concerned with educational accountability, especially when it comes to allotting monies to various special projects as is evidenced in TVIP where detailed individual student reports are required at the end of each semester.

However, not only does effective administration of special education services satisfy political requests, these services are dependent upon the accurate and timely information necessary to diagnose special learning difficulties, and then to prescribe effective educational programming ( Bennett, 1982, Bennett, 1984; Kolich, 1985; Regghianti & Miller, 1982; Stallard, 1982). Several larger centrally-installed systems are being used to diagnose, prescribe, and evaluate. Examples of such systems are: Instructional Management System (IMS), Minnesota Educational Computing Consortium, Program for Learning in Accordance with Needs (PLAN), Wisconsin System of Instructional Management (WISIM), Individually Prescribed Instructional /Management Information System (IPI/MIS), and the Computer-Assisted Management of Educational Objectives (CAMEO) (Brown, 1982 & Splittgerber & Stirzaker, 1984). However smaller systems utilizing the computing power of the microcomputer have also been established. These smaller systems are often only a specialized use of a commercially available data base (Gray, 1984), and others are specially designed packages such as Camelot ( Roueche, 1984), Data Based Program Modification (DBPM) (Wesson, 1983), and the Montevideo Individualized Prescriptive Instructional Management System (MIPIM) (Peterson, Heistad, Peterson & Reynolds, 1985).

Although many of the systems available are designed to provide teachers and administrators with pertinent information, not all teachers, administrators and institutions agree as to what that pertinent information should be. IEP's for instance, can be a combination of instructional objectives, instructional materials, instructional procedures, assessment scores, and student personal data (Enell, 1983). The specific data and combination of data determines the design of the system, consequently one can find and evaluate several systems without finding a particular system that will meet all one's particular needs.

Not all educators view microcomputer systems in a positive light. Some feel computers are dehumanizing and that these machines may take away valuable jobs (Ragghianti & Miller, 1982), but others, especially those in special education, see the microcomputer as a labor saving device - a device that helps free teachers to spend more time on the task of direct instruction. (Morgan and Rhode, 1983). One administrator reported a 40% reduction in time spent on IEP development (Kellogg, 1983). The CAMEO system has reportedly reduced the IEP development time from an average of 2 hours to a time of 50 minutes. Reported with this decrease in time was an average cost of \$3.00 per IEP ( Brown, 1982). A word of caution might be advised at this point. Depending on the system, IEP and data storage systems can range from

\$199.00 to \$6000.00. If one chooses a mainframe system, the cost may be \$6000.00 to \$18000.00 (Enell, 1983).

Because CML can save time, money, and bureaucratic headaches, special educators are likely to continue developing and using microcomputer management tools for:

- \* Storing demographic and educational information on students and their needs.
- \* Recording, monitoring, and reporting student progress.
- \* Listing incomplete information on student records.
- \* Recording contacts with parents and supporting agencies/personnel.
- \* Recording, monitoring, and reporting student due process status.
- \* Generating reports on referrals, meetings, evaluation, placement, programming and review for each student.
- \* Locating, describing, and recommending appropriate materials based on individual student needs.
- \* Generating IEP objectives from a large data base and
- \* Issuing reminders for when reports are due.  
( Griffith-Sheriff and Walter, 1981, p. 3).

## 2.4 Developing a CML System - Some Considerations

The IVTP computer managed learning system proposal would have liked to employ a commercially designed relational data base; however, CML systems in general, whether generic or customized, require specific considerations.

Consideration number one is planning. Before one attempts to implement a CML system, one should know why the system is being considered and what one wants the system to facilitate (Enell, 1983). The planning will save valuable time when it comes to assessing the other considerations.

Selection of the CML package should be based upon the perceived needs of the user. For transportability and possible research purposes one might choose a generic system. A generic system is easier to institute in several locations (Gorth & Nassif, 1984). However, the customized system can be adapted to meet very specific needs and is often superior when relocation is not a problem. Customized systems are often easier to operate, or at least, may be modified to ease operation (Gorth & Nasif, 1984). Whether generic or customized the package must have internal flexibility. It must be powerful enough to include future expansion both in terms of size and data type, and have the flexibility to expand or contract with information required (Hartmann,

1984). More simply, the system must have good editing features and expansion potential. One may even consider the possibility of the system interfacing with another system. A CML system should have excellent reporting features such as page formatting, data formatting, sort formatting (preferably multiply sort features), and select formatting (Gray, 1984). See Appendix II for further details. The software should be user friendly and have adequate documentation. Documentation should read clearly and precisely, have relevant illustrations and examples, be attractive and exclude computer jargon, be well structured and cross-indexed, and be supported with reference cards, charts, and posters (Gorth & Nassif, 1984). Data entry should be easy to implement. The use of the mouse or keyboard should access the data base in a simple and quick fashion (Gray, 1984). Finding such a system may take a little searching, but increasingly more and more good software is beginning to emerge (Krasnoff & Dickinson, 1986). The most important point is to try before you buy! (Gray, 1984).

Hardware considerations primarily center around resources; however the hardware must be adequate to handle the software. If given the choice, selecting the hardware around the CML package is superior to selecting software that does not meet ones's needs because of the limited capabilities of the hardware. As Ragghianti and Miller suggest: "Once the software system has been

selected, hardware choices are greatly narrowed”  
(Ragghianti & Miller, 1982, p. 134.).

The final consideration is to be aware that few if any systems operate “bug” free or without the need for change, either due to unplanned circumstances or changes in perceived need. The system, when implemented, should be monitored closely and a record kept of problems arising from its use. Revisions should be made and continued evaluation should be maintained (Van Matre, 1978). “The effective management of educational systems requires the effective management of information” (Hartmann, 1984, p. 1.). It only stands to reason that when the information changes so may the priorities of the CML system.

## 2.5 Some Cautions

Educators must be aware that the ease with which electronic data bases manage information poses the possible dangers of:

- \* The volume of information can present problems for teachers, providing too much material to use in reasonable ways.
- \* What information is available?
- \* Who has access to the information?
- \* What kinds of controls exist to assure the accuracy of the information?
- \* Increased impersonalization.
- \* Further spread between affluent and poorer school districts.

- \* Not enough well trained educators (computer literate) to assure proper use of systems.
- \* The system controlling the user (Bork, 1985).
- \* Prescriptive systems with lock step procedures may circumvent important educational outcomes, such as aesthetics and intuition (Erlwanger, 1973).
- \* Too much emphasis on data not enough emphasis on instruction (Kohl, 1985).
- \* System "over-kill" - system far too elaborate for the need.
- \* Possibility that the maintenance of the system may take more time than the instructor realizes (Dean, 1983).
- \* Instructors having the impression that CML offers an immediate saving of time; It takes time and energy to become acquainted and to utilize a new system (Germundsen & Glenn, 1984).
- \* Thinking microcomputers on their own are likely to promote any particular outcomes; People will determine the direction of the technology - for "good" or "bad" (Sheingold, 1983).

## 2.6 Summary

Effective implementation of educational programs implies effective management of information. Well designed CML systems are, then, tools to assist educators in maintaining pertinent and accurate information - information that will help the educator monitor the educational process.

CML has shared a developmental history similar to the history of CAL. However, the use of computer



technology to more efficiently "teach" students has increased the perceived need to more effectively "teach" students, consequently CML in recent years has appeared from behind the shadow of its older brother CAL.

Special education, with its unique student population, has utilized CML more extensively than other areas of education. The emphasis on individualization and a real need for accurate record keeping (legislation) has literally forced special educators into investigating the possible labor saving advantages of implementing a computer-managed learning program.

Both the generic and customized CML systems have their place. Generic systems have been shown to be more portable whereas customized systems appear to be more suited to areas where several specific needs must be met. Customized systems have also been reported to be more "user friendly". One is cautioned to select software before hardware, and since the software is the CML "brain", it would stand to reason that the restrictions imposed should be restrictions on hardware. However, generic and customized packages along with the machinery that implements these packages must be flexible enough to meet new needs and demands; therefore one must maintain a constant attitude toward evaluation of the system to assure that the CML program is meeting the needs of the educator and the learner.

As positive as CML may appear, some writers caution the users and developers of extensive electronic data bases. There are students' rights considerations to be viewed, and any time a system abuses these rights that system fails. The system should protect personal privacy. The system should not deny human contact. The system should not reduce the overall benefits of a particular study by reducing intended educational outcomes to narrowly prescribed outcomes - namely the answer to a particular question.

### **3. Procedure**

The procedure for this project consisted of four stages: 1) An analysis and evaluation was conducted of the manual system now used by IVTP, 2) an attempt was made to develop a CML system by customizing a commercially available relational data base, 3) a CML system was designed and programmed from "scratch", 4) an analysis and evaluation was conducted to determine the effectiveness of the electronic system.

#### **3.1 Evaluation of Manual System**

Conferences were held with the four instructors involved in the present delivery of IVTP. Each instructor involved with the present delivery of IVTP was given an oral questionnaire. The questionnaire was designed to determine present methods of collecting, storing, sorting, retrieving, utilizing, and reporting information. In conjunction with these questions, the instructors were asked to calculate the amount of time spent conducting each aspect of the manual system.

Following the more objective responses the participants were given an opportunity to assess the strengths and weaknesses of the manual system.

The questionnaire was designed around Hartman's (1984) distinctions between a manual and electronic information management system. See Appendix IV for a sample of the questionnaire.

Recording of the conferences was done via paper and pencil. Answers were not always recorded verbatim. In these instances the respondents were asked to assess the accuracy of the questioner's paraphrasing. This procedure was implemented in an attempt to assure more accurate perception of responses and to allow the respondent more time for reflection and clarification.

### **3.2 Selection and Customizing of the Commercial Data Base**

Software selection was made based on the principles outlined in the literature review. The TVIP needs are very specific but under constant review; therefore the system selected was to be flexible, easy to use, and reasonably powerful. The following were the minimal requirements used for selection:

- \* Relational (have the ability to determine particular field information based upon information already present in another field).
- \* Have multiple field sorting capabilities.
- \* Have boolean sorting features.
- \* Have user defined field length ( minimum 256 characters).
- \* Have substantial record space (determined by memory of hardware).
- \* Be menu driven.
- \* Have variable report generating capability.
- \* If possible, have file transfer potential (different system).

The commercial software was selected. DATAMAT is a relational data base designed initially for MS DOS computers. However, recently (1986) this software was

redesigned to be used with the AMIGA 1000 computer, also very new to the computer marketplace. The hardware, in this case, was selected before the software because the hardware was to be used for other applications in TVIP other than data base management.

DATAMAT, as advertised, met all the criteria outlined. It was not pretested, because it was not commercially available for the AMIGA right up to the time it was to be implemented. At the time of arrival the program was given a short preview, and it appeared to meet the requirements. The program was purchased and programming of the data base began.

In consultation with the other instructors, templates were drawn to format the data base. Files were determined by personal, psycho-educational, standardized, academic, vocational, and work experience information. Each template was formatted on paper, evaluated, entered into the computer, and then reevaluated. Test files were entered and the data base implemented. It failed. After several weeks of testing, it became obvious that DATAMAT would not function as expected. The program version received was not free of problems and would periodically crash or contaminate the files. This was confirmed as a design problem and DATAMAT was abandoned.

### **3.3 The Decision to Develop Original Software**

Failure of the first system prompted a decision to attempt to design, develop, and implement a CML software package. This did not change procedure; however it did increase the time line substantially. Before a post evaluation of the system could be conducted the software had to be created.

Upon completion of the data base the 1985-86 student records were transferred from the manual file to the electronic system. The 1986-87 records were not committed until a thorough test was made to assure that the system was performing consistently and files were considered secure.

One instructor was primarily responsible for the entry of data and data entry procedures. Particular attention was paid to the time needed to make entries and to correct and update mistakes. Problems with the system and suggested revisions were recorded and relayed to the programmer. Successes were also recorded.

#### **3.3.1 Description of the Software**

The software was developed using the programming language TRUE BASIC. This is a structured version of BASIC and institutes procedures, libraries, global and local variables. The source code can be compiled and saved as a compiled version, thus significantly increasing the speed. Variable name length allows for variables to have labels that are descriptive and

string length is extensive - 32,000 characters. Commands include the usual BASIC terminology; however, subroutines may be called by name. Recursion is possible but limited. IF THEN ELSE, DO WHILE, CHAIN, INCLUDE, are but a few of the commands that give this version of BASIC significantly more power and structure.

The central construct of the data base is designed around TRUE BASIC's long string length. Each record is a single string, and information is stored and retrieved by the manipulation of a single string. Not like, but similar to MIDS\$, LEFT\$, RIGHT\$. Storage of data in this manner is called a packed array, because all the variables in a particular array are joined into one string and then saved as a record in a file. When retrieved, each element of the array can be unpacked.

This software is not as powerful as the original data base selected, DATAMAT. It is not relational; it does not have multiple field sorting features, and fields are not user definable. It does have substantial record space; it is menu driven, it has variable report generating capability, and it has file transfer potential. Sorting features are still under development, and the file transfer potential refers more to the information within the data base being accessible by other programs written in TRUE BASIC.

The program is portable to other hardware configurations. TRUE BASIC has versions for the IBM PC and the Apple MacIntosh as well as for the AMIGA 1000.

The program, however, is not easily modified to meet the needs of another educational program or situation. It is highly customized and was designed to meet the specific needs of TVIP. Changes in the data base mean changes in the software.

The size of the program is small or large depending upon perspective. The entire system consists of approximately 7000 lines of code, but the system is a series of smaller programs ranging from 100 to 1100 lines of code (6 to 25K). Each smaller program is accessed individually through a main menu by utilizing the CHAIN command. This reduces the memory load on the computer and allows more files to reside in memory at the same time. Although this is not an immediate benefit, it will become significant when more sophisticated sorting procedures are developed.

### **3.4 Electronic Data Base Evaluation**

Although evaluations and changes were a continual aspect of the development and delivery of the CML system, the overall effectiveness evaluation was conducted using similar procedures to the evaluation conducted on the manual system.



All instructors were asked to spend time on the data base. They were requested to enter the data from the manual files that were pertinent to their fields of study. Upon completion of the various data entry, an interview with each instructor was arranged and a questionnaire very similar to the questionnaire used to gather data concerning the manual system was administered. See Appendix V for a sample of the questionnaire.

Although not originally intended, questions were included to measure instructor attitudes toward the implementation of a commercial data base and the implementation of a fully customized system such as was eventually instituted in this study.

Again, following the collection of the more objective data, the participants were given an opportunity to subjectively evaluate the system.

## **4. Analysis of the Results**

The following is an analysis of the results from the conferences, individual meetings, and descriptive logs.

### **4.1 Analysis of the Manual System**

#### **4.1.1 Data Collection**

The instructors, as a group, indicated that they completed a total of 20 formalized forms through the course of one year. Numerous informal collection procedures were also mentioned, but these took the general form of short notes to one's self or others.

The time spent during the day collecting data ranged greatly and was dependent upon the activities conducted. Averages ranged between 30 minutes and 1 hour and 30 minutes.

#### **4.1.2 Data Storage**

Confidential information was stored in a separate file cabinet under lock and key, and less confidential information was stored in a file cabinet or in several binders. Much of the data was stored in the instructors' offices. Some of these locations were considerable distances from the main file.

#### **4.1.3 Data Retrieval and Sorting**

Data retrieval was considered reasonably efficient by all the instructors. Files were organized by topic and alphabetically ordered. Problems arose only when information had been lost, misplaced, or more commonly, misfiled. If several aspects of a student file were needed, time became a problem since all aspects concerning a specific student were not filed in one file called "student file". Personal information and standardized test results were filed together, but the other elements were filed by individual instructors. This information was kept in the instructors personal filing cabinet. Generally speaking, each instructor had ready access to only parts of a student file.

Sorting data involved retrieving the appropriate files and binders, paging through the material, arranging information pertinent to a particular student or students and then, making comparisons of the information. An overall comparison of this nature was rarely conducted and most sorting was restricted to simple comparisons of gains or losses of student performance in one area - such as math, language, or work experience. This information was usually close at hand in one file or a binder. Comparing more than one area was increasingly more complex and time consuming as the areas compared differed in nature entirely - such as math

performance and work experience performance. Using most of the information collected in IVTP to make a correlation study was never considered.

#### **4.1.4 Report Generation**

All instructors reported only information for which they were responsible. To generate a total report for a particular student required the coordination of all instructors. As a result one day per semester was set aside to compare and contrast information and to set a time line in which the semester reports would be written individually and then joined to form one formal report.

The time needed to prepare a formal report ranged between 30 minutes to 1 hours 30 minutes. These figures were based upon the assumption that all the information was current and that updating was not necessary. If time was needed to update files, the time needed to generate a report could be substantially increased. One instructor estimated that he put over three hours into a final report because information had been misplaced. However, based on instructor estimations, report writing took about 20 hours per instructor per semester. Consequently, the number of reporting periods was under serious review.

There were no standard report forms. Each

instructor designed his own report which may have included objectives, summaries, graphs, marks, anecdotes, short-term goals, long-term goals, and recommendations. A total student report consisted of three shorter reports.

#### **4.1.5 Data for Instructional Decision Making**

Three of the instructors used the data they collect daily to make instructional decisions. One instructor preferred to plan weekly, but often checked daily performance of students. When data was needed from another instructional area to better implement a collaborative objective, instructors arranged meetings to discuss strategies.

#### **4.1.6 General Observations**

Instructors perceived the manual system as adequate but cumbersome. They appeared to resent the time needed to generate formal reports and they found it difficult to coordinate their individual programs in order to better meet the needs of individual students. Knowing what the other instructor had accomplished or hoped to accomplish required meetings that the instructors felt were often inconveniences. The most common complaint was that the manual system appeared to "eat" information. This statement had two implications.

Firstly, the files were getting bigger and bigger and it was more difficult each year to readily access information that is not current. Accessing current information did not seem to be a problem. Secondly, information not recorded was often forgotten. There seemed to be little effort made to update old information or to carry on follow-up activities.

## **4.2 Evaluation of the Electronic System**

### **4.2.1 Data Collection**

Instructors felt that data collection was primarily the same as the data collection using the manual system. However, they felt that they were now able to collect data from other instructors with less effort since much of the data was now compiled in a central source. Data collection methods remained unchanged.

### **4.2.2 Data Storage**

Data filing was now perceived as more complex. Data was now filed twice. Data recorded on standardized forms, such as standardized tests, had to be filed manually and then entered into the electronic system. However, data not recorded in this manner could be entered directly into the electronic system. This reduced the need for forms and binders by more than 50 percent. With the

extra data entry and the reduced number of forms, data filing time was considered equal to if not slightly more than for the manual system.

#### **4.2.3 Data Retrieval and Sorting**

The instructors found the electronic retrieval very fast and efficient. They were able to access any aspect of the student file within seconds. They felt that more important than the time factor, was the ease to which they could access information concerning elements of the student file that they as instructors were not personally responsible. Consequently information exchange between the instructors often no longer required personal meetings or long walks up the hallway.

Sorting of information was considered more efficient. Most of the information to make detailed comparisons was readily available on the screen. However, electronic sorting procedures, such as multiple field sorting, were not available. To do any correlation studies would still require a significant amount of manual labor.

#### **4.2.4 Report Generation**

Of all aspects of this system, the instructors found the report generation capabilities the most impressive. Twenty hours of work could be reduced to minutes.

They felt that the system not only could generate a report quickly, but that the

system produced a much more comprehensive, more organized, and easier to comprehend report. Often all that would be needed was a cover letter if the report was needed by another agency.

Further, a report could be generated selectively. The instructors liked the idea that the student file was comprised of seven separate elements: 1) personal information, 2) psycho-educational, 3) math, 4) language, 5) vocational/life skills, 6) lab, and 7) work experience. This meant that any number of or all the reports could be generated at the instructor's discretion.

Finally, there appeared to be a consensus that report format would be consistent from semester to semester and therefore easier to follow.

#### **4.2.5 Data for Instructional Decision Making**

Instructors were quick to note the reemphasis on the competencies. Having all the objectives for the program so readily available, helped them plan daily, weekly, and monthly goals. They felt that there would be less tendency to slip away from the plans they had outlined.

It was perceived that quicker and more efficient access to information would make instructional decision making less laborious; however, none of the instructors had yet altered many of their teaching methodologies based on the new information



they were gaining from the computer. Many informal meetings were continued to determine collaborative objectives.

It was noted that IEPs were easily generated since the report forms included all the objectives, student progress concerning these objectives, and a record of short-term and long-term goals. Since all of this information was automatically dated, the instructor had to do very little to assess progress.

#### **4.2.6 General Observations**

The instructors felt that the electronic system was superior to the manual system, but they cautioned that the manual system must be adequately maintained because much of the information that entered the electronic system was initially recorded manually. Much of the information was generated from the administration of standardized tests and this information was only official on the original document.

Another caution was that the system required as much maintenance as the manual system. The system will be only as useful as the information entered.

Backup was a concern, and it was suggested that routine backup be established to prevent the loss of information. Once committed to the electronic data base, any loss of data could be disastrous.

There was interest in the total CML concept and particular interest in the possibility that other programs, possibly testing programs, that were written in TRUE BASIC, could access the data base and change the variables. This would eliminate some of the need for the manual transfer of the results from pencil and paper activities to the data base.

Although the data base has been designed to accommodate extra or optional objectives, there was concern that the system is inflexible for the average user. To modify, the program would require some experience in programming.

Generally, the instructors would have preferred the sorting power of a commercial data base, but they appeared to be positive about the integration potential of the current system. It was certainly acknowledged that the commercial system would be more convenient to utilize in the case of correlational research.

## 5. Summary of Conclusions and Recommendations

### 5.1 Summary

In conclusion, the manual data base was considered more cumbersome and less efficient than the electronic data base. Instructors found the manual system time consuming and especially limiting when sorting power or report generation was needed. They felt the system could provide them with the required information, but that the time factor was often a reason to "cut corners" or to not utilize the information. The electronic system, on the other hand, did alleviate the time problem with sorting and report generation. They were very impressed with the system's ability to reduce hours of report writing time to minutes. The system centralized data collection which in turn, made access to files outside the instructor's responsibilities much quicker. Instructors felt that IEP development would also be improved. Although presently using a standard form to develop IEPs manually, the reports as produced by the electronic system included the basic objectives of the program and included dated short-term and long-term goals - Goals based on the previous progress of the student through the competencies. The electronic data base reduced the number of forms needed, but it did not, however, significantly change data collection procedures. Also, the instructors felt the system lacked power, and that more complex sorting procedures would be an asset. When comparing the system

to a commercial data base, there appeared to be a consensus that the future of this system was its ability to integrate with future CAI and CBT developments. Finally, there seems to be little evidence to support a fear by some that electronic systems reduce personal communication between users. All instructors felt that the system was more efficient, but that they still needed to consult with colleagues concerning collaborative goals for the students.

## **5.2 Recommendations**

- \* The manual system must not be allowed to deteriorate
- \* A backup routine is essential
- \* The system requires improved sorting procedures
- \* The system requires continued monitoring
- \* Integration of the system with CAI and CBT will improve efficiency in data collection procedures
- \* Programming a system from "scratch" requires close consultation with the users

## 6. Selected References

Alessi, S. M. (1985). Computer-based instruction methods and development. Englewood Cliffs, New Jersey: Prentice-Hall.

Bennett, R. E. (1982). Applications of microcomputer technology to special education. Exceptional Children, 49(2), 106-113.

Bennett, R. E. (1984). Myths and realities in automating special education information management. Journal of Learning Disabilities, 17(1), 52-54.

Bork, A. (1984, December). Computers in education today - and some possible futures. Phi Delta Kappan, pp. 239-243.

Bork, A. (1985). Personal computers for education. New York: Harper & Row.

Brown, N. P. (1982). Cameo: computer-assisted management of educational objectives. Exceptional Children, 49(2), 151-153.

Dean, C. & Whitlock, Q. (1983). A handbook of computer-based training. New York: Nichols.

Dennis, R. J. (1979). Computer managed instruction and individualization. Urbana, Illinois: University of Illinois, College of Education, Department of Secondary Education. (ERIC Document Reproduction Service No. ED 183 190).

Enell, N. C. (1983). How to streamline your iep: a special education handbook on computer-assisted individualized education programs. Carmichael, California: San Juan Unified School District. (ERIC Document Reproduction Service No. ED 236 859).

Erlwanger, S. H. (1973). Benny's conception of rules and answers in ipi mathematics. Journal of Children's Mental Behavior, 1(2), 7-26.

Evans, C. (1980). The micro millennium. New York: The Viking Press.

Fahy, P. J. (1985). Introducing individualization with computer-managed learning: an example from adult basic education. Edmonton, Alberta: Alberta Vocational Center. (ERIC Document Reproduction Service No. ED 260 258).

Germundsen, R. & Glenn, A. D. (1984, October). Computer gradebooks: implications for teachers. The Computing Teacher, pp. 13-15.

Gorth, W. P. & Nassif P. M. (1984). A comparison of microcomputer-based, computer-managed instruction (cmi) software programs (with an evaluation form). Educational Technology, 24(1), 28-32.

Gray, P. (1984). Microcomputers: data base management software. Portland, Oregon: Northwest Regional Educational Laboratory. (ERIC Document Reproduction Service No. ED 261 646).

Griffith-Sheriff, D. & Walter, V. (1981). Managerial applications of the microcomputer for special education teachers. Burlington, VT.: New England Regional Resource Center. (ERIC Document Reproduction Service No. ED 236 900).

Hartmann, N. J. (1984). Successful introduction of student information management systems. New Orleans, Louisiana: Workshop presented at the Annual Conference of the International Society for Educational Planning. (ERIC Document Reproduction Service No. ED 257 186).

Hofmeister, A. M. (1982). Microcomputers in perspective. Exceptional Children, 49(2), 115-121.

Kellogg, R. (1983). Computer management: i.e.p.s. in the stevens point, wisconsin public schools. Indianapolis, Indiana: Council of Administrators of Special Education, Computer Use Conference. (ERIC Document Reproduction Service No. ED 243 301).

Kohl, H. (1985, March). Classroom management software beware the hidden agenda. Classroom Computer Learning. 19-21.

Kolich, E. M. (1985). Microcomputer technology with the learning disabled: a review of the literature. Journal of Learning Disabilities, 18(7), 428-431.

Krasnoff, B. & Dickinson, J. (1986, June). Project data base II. PC Magazine. p. 114.

McMahon, H. F. (1978). Progress and prospects in computer-managed learning in the United Kingdom. Programmed Learning & Educational Technology Journal of APLEI, 15(2), 104-113.

Mitzel, H. E. (Ed.). (1982). Encyclopedia of Educational Research (5th ed.). New York: The Free Press.

Morgan, D. P. & Rhode, G. (1983). Teachers' attitudes toward iep: a two-year follow-up. Exceptional Children, 50(1), 64-67.

Pagliaro, L. A. (1983). The history and development of cai: 1926-1981, an overview. The Alberta Journal of Educational Research, 29(1), 75-84.

Peterson, J., Heistad, D., Peterson, D. & Reynolds, M. (1985). Montevideo individualized prescriptive instructional management system. Exceptional Children, 52(3), 239-243.

Ragghianti, S. & Miller, S. (1982). The microcomputer and special education management. Exceptional Children, 49(2), 131-135.

Riedesel, A. C. & Clements, D. H. (1985). Coping with computers in the elementary and middle schools. Englewood Cliffs, New Jersey: Prentice-Hall.

Roueche, S. D. (1984). CAMELOT: an individualized information system. Miami, FL.: Miami-Dade Community College. (ERIC Document Reproduction Service No. ED 248 923).

Sheingold, K., Kane, J. H. & Endrewait, M. E. (1983). Microcomputer use in schools: developing a research agenda. Harvard Educational Review, 53(4), 412-432.

Spittgerber, F. L. & Stirzaker, N. A. (1984). Computer technology for administrative information and instructional management in school districts. Educational Technology, 24(2), 36-41.

Stallard, C. K. (1982). Computers and education for exceptional children: emerging applications. Exceptional Children, 49(2), 102-104.

Sullivan, D. R., Lewis, T. G. & Cook, C. R. (1985). Computing today microcomputer concepts and applications. Boston: Houghton Mifflin.

Tait, K. & Hughes, I. E. (1984). Some experiences in using a computer-based learning system as an aid to self-teaching and self-assessment. Computer Education, 8(3), 271-278.

Van Matre, N. H. (1978). Problems in researching computer managed instruction. Toronto, Ontario: American Educational Research Association. (ERIC Document Reproduction Service No. ED 156 173).

Wager, W. (1985). Computer-managed instruction - how teachers and principals can improve learning. NASSP Bulletin, 69(478), 22-27.

Wesson, C. (1983). Data base program modification: a disk for monitoring student progress. Hartford, CT.: Council for Exceptional Children Topical Conference on the Use of Microcomputers in Special Education. (ERIC Document Reproduction Service No. ED 234 534).



## Appendix I. Some Possible Applications for CML

- \* Class lists
  - \* Attendance registers
  - \* Test score reports
  - \* District tracking
  - \* Bus route lists
  - \* IEP objectives
  - \* Due process reminders
  - \* Staff information
  - \* Historical records
  - \* Emergency/medical data (Enell, 1983)
- 

- \* Diagnosing
  - \* Assigning or prescribing
  - \* Facilitating study
  - \* Evaluating
  - \* Data collection and manipulation
  - \* Reporting
  - \* Resource and space management
  - \* Providing an information network
  - \* Materials implementation (Dennis, 1979)
- 

- \* Student records and individualized program data.
  - \* Lists of incomplete information on program records.
  - \* Data-based reports for compliance with state and federal mandates.
  - \* Child counts cross-referenced by age, program, and handicapping condition.
  - \* Counts of students screened, assessed, placed and reviewed.
  - \* Reimbursement computation according to state and federal formulas.
  - \* Generation of standard data reports for teachers, specialists, and administrators.
  - \* Budget and program projection.
  - \* District-wide testing results.
  - \* Audit trails for program placement and review.
  - \* Transportation scheduling.
  - \* Equipment and materials reports (Ragghianti & Miller, 1982).
- 

- \* Personnel records
- \* Study participant records
- \* Test item bank
- \* Equipment and supply records

- \* Contact and activity logs
  - \* Financial statements
  - \* Consultant records
  - \* References in the literature (Gray, 1984)
- 

- \* Keeping attendance
  - \* Keeping class records (computerized grade books)
  - \* Storing, analyzing, and reporting student records
  - \* Grade contracting
  - \* Generating report cards
  - \* Scoring and analyzing tests
  - \* Administering tests in an individualized, interactive situation
  - \* Reporting marks
  - \* Storing, sorting, and analyzing guidance records
  - \* Scheduling one-to-one time between teacher and student
  - \* Message handling
  - \* Managing instruction
  - \* Form a comprehensive student profile
  - \* Generating IEPs
  - \* Media reservations
  - \* Resource allocations
  - \* Purchase orders
  - \* School inventories
  - \* Information storage and retrieval
  - \* Library circulation
  - \* Label or mailing list printing
  - \* Test analysis
  - \* Test generation and printing
  - \* Materials generation
  - \* Project planning
  - \* Scheduling
  - \* Detailed evaluation of instructional programs (Riedesel & Clements, 1985)
- 

**NOTE:** The list is somewhat redundant, but this in its self shows some cross agreement between people concerning the meaning of CML.

**Appendix II. Some Considerations Concerning Data Base Management Software : Print Report Formats**

**Page Format:**

- \* page numbering
- \* report dating
- \* lines/page
- \* continuous/single sheet
- \* lines between records
- \* lables

**Data Format:**

- \* comment lines
- \* column titles
- \* computed fields
- \* data fields
- \* horizontal sub- & grand totals
- \* record numbering
- \* code fields
- \* report width

**Sort Format:**

- \* sort fields
- \* subtotal break fields
- \* page break fields (column totals)

**Select Format:**

- \* record chacteristics (range, includes, starts with, relationals, AND/OR conditions)

(Gray, 1984).

## **Appendix III. History of Personal Computers**

### **Developmental Stage (1974-1977)**

- \* Sold in kits to hobbyists, mail order distribution
- \* Internal memory from 4,000 to 32,000 characters
- \* Computer and peripherals (keyboard, CRT, storage) purchased separately
- \* Programmed in machine language or BASIC
- \* Cassette tape storage
- \* Complete system cost about \$2500 in 1975 dollars

### **Early Adopter Stage (1977-1981)**

- \* Sold as a fully assembled computer through retail computer stores
- \* Internal memory from 16,000 to 64,000 characters
- \* 8 inch floppy or small 5-1/4 inch minifloppy disk storage
- \* Standardized, simple operating system; first end-user applications
- \* Complete system cost about \$3000 in 1978 dollars

### **Corporate Stage (1981-1984)**

- \* Sold as a computer system by major corporations
- \* Internal memory from 64,000 to 256,000 characters
- \* Larger capacity 5-1/4 inch floppy disk storage; expensive hard disks
- \* Enhanced operating systems; well-developed application packages
- \* Strong industrial standards for both hardware and software
- \* Complete system cost about \$3500 in 1981 dollars

### **Integrated System Stage (1984-?)**

- \* Sold as a personal productivity tool for the average person
- \* Internal memory from 128,000 to 1,000,000 characters
- \* 3-1/2 inch microfloppy; 5-1/4 inch minifloppy; hard disk storage
- \* Visual-based operating system, integrated application packages
- \* Complete system cost about \$3,000 in 1984 dollars (Sullivan, 1985, p 17.)

## Appendix IV. Manual System Questionnaire

### Data Collection:

1. What type of data do you collect?
2. What procedures do you use to collect data?
3. What forms, if any, are used?
4. How long does your data collection take?
5. Do you experience any problems with data collection?

### Data Storage:

1. Where is your data stored?
2. Does any of your data require security?
3. Is all the data stored in one location?
4. Do you experience any problems storing the data?

### Data Retrieval and Sorting:

1. How do you retrieve information?
2. How long does it take to retrieve this information?
3. Do you experience any problems retrieving the data?
4. How often do you retrieve information for the purpose of upgrading the information?
  5. What procedures do you use to sort data?
  6. How efficient are your sorting procedures?
  7. Have you considered doing correlations with any of your information?
  8. Do you experience any problems with sorting data?

### Report Generation:

1. What procedures do you use to generate a report?
2. What kind of information do you need to report?

3. How often are your reporting periods?
4. Who receives these reports?
5. How much time does it take you to generate a report?
6. Do you experience any problems with report generation?

Instructional Decision Making:

1. How often do you use data you have collected for instructional decision making?
2. What sources of information do you use?
3. What procedure do you use to make IEPs?
4. Do you experience any problems with accessing the information needed?

General Observations:

1. How satisfied are you with the manual filing system?

## Appendix U. Electronic System Questionnaire

### Data Collection:

1. Has the electronic system changed the type of data that you collect?
2. What procedures do you use to collect data?
3. Has the electronic system made data collection more efficient?
4. Has there been a reduction in the time it takes to collect the data?
5. Have problems arisen concerning data collection?

### Data Storage:

1. How has the electronic system changed data storage?
2. How do you protect your data?
3. Do you experience any problems storing the data?
4. Has data storage become more efficient?

### Data Retrieval and Sorting:

1. How has the electronic system changed the way you retrieve data?
2. How long does it take to retrieve this information?
3. Have you experienced any data retrieval problems with the electronic system?
4. What procedures do you use to sort information?
5. Has efficiency improved?
6. Would you be able to use the new system to facilitate a correlation study?
7. Have you experienced any problems with the electronic system?

**Report Generation:**

1. How has the electronic system changed report generation?
2. How many reporting periods will you maintain?
3. How much time does it take you to generate a report?
4. Have you experienced any problems with the reporting features of the electronic system?

**Instructional Decision Making?**

1. Has the electronic system influenced your instructional decision making?
2. Has the system improved IEPs?
3. How much time do you now spend developing IEPs?

**General Observations:**

1. How satisfied are you with the electronic system?
2. What has been your experience using the system?
3. Do you see any problems with the system?
4. Do you see any future problems with the system?
5. Was changing from a commercial data base to this system a positive move?
6. How do you view the future development of CML in IUTP?



## **Appendix VI. Sample Electronic Report Formats**

MEDICINE HAT COLLEGE  
TRANSITIONAL VOCATIONAL TRAINING PROGRAM

STUDENT PERSONAL INFORMATION RECORD

DATE: 29-May-87

STUDENT NUMBER: 123456

NAME: Sample, Joe  
DOB: 01-Sep-85 SIN: 123-456-789- AHC: 123456789  
ADDRESS: Medicine Hat College  
PHONE: 526-1234  
PERMADD: Medicine Hat College

CONTACT: Redi Enterprise  
ADDRESS: 860 Allowance Ave. S.E.  
PHONE: 526-5742

REFERRAL: Redi Ent.

EDUCATION HISTORY (WHEN/WHERE)

1: -  
2: 1985/86 Medicine Hat High School  
3: 1984/85 Alexander Jr. High  
4: -

WORK HISTORY (WHEN/WHERE/DUTIES)

1: -  
2: 1984/85 Medicine Hat News  
3: -  
4: -  
5: -  
6: -

LIVING SKILLS

: Adolescent Group Home/Life Skills Training  
: Semi-Ind.

MEDICAL COMMENTS

: Cerebral Palsy  
: Epilepsy  
: -

GENERAL COMMENTS

: Needs some supervision  
: Prone to mild depression  
: Active in community functions/churches  
: -  
: -  
: -

-----  
ENTRY DATE: 01-Sep-85 EXIT DATE: - GRADUATED: n  
-----

MEDICINE HAT COLLEGE  
TRANSITIONAL VOCATIONAL TRAINING PROGRAM

STUDENT PSYCHO-EDUCATIONAL RECORD

DATE: 01-Sep-85  
STUDENT NUMBER: 123456  
NAME: Sample, Joe

WESCHSLER ADULT INTELLIGENCE SCALE-REVISED (WAIS-R)

TEST DATE: 01-Jun-85  
PLACE: Medicine Hat College  
PSYCHOLOGIST: Dr. Head  
REPORT ON FILE: y

SLOSSON ORAL READING TEST (SORT)

	PRETEST -----	POSTTEST - 1 -----	POSTTEST - 2 -----
Test Date:	05-Jun-85	01-Jun-86	-
Examiner:	E. Maruska	E. Maruska	-
Reading Level:	3.0	5.0	-

WOODCOCK READING MASTERY TEST

	FORM A -----	FORM B -----	POSTTEST - 2 -----
Test Date:	06-Jun-86	01-Jun-86	-
Examiner:	E. Maruska	E. Maruska	-
Letter Ident:	5.8	5.0	-
Word Ident:	3.5	6.0	-
Word Attack:	2.7	9.0	-
Word Compreh:	6.0	8.0	-
Passage Compreh:	6.0	8.0	-
Total Reading:	4.7	7.8	-

PEABODY INDIVIDUAL ACHIEVEMENT TEST (PIAT)

	PRETEST -----	POSTTEST - 1 -----	POSTTEST - 2 -----
Test Date:	05-Jun-85	05-Jun-86	-
Examiner:	D. Howard	D. Howard	-
Mathematics:	6.0	7.8	-
Reading Recog:	4.0	8.7	-
Reading Compr:	3.7	9.0	-
Spelling:	2.7	7.8	-
General Info:	9.0	10	-
Total Test:	6.7	8.9	-

CANADIAN ACHIEVEMENT TEST - MATH (CAT)

	PRETEST -----	POSTTEST - 1 -----	POSTTEST - 2 -----
Test Date:	06-Jun-85	06-Jun-85	06-Jun-85
Examiner:	C. Hickson	C. Hickson	C. Hickson
Math Comput:	6.0	6.0	6.0
Math Appli:	5.5	5.5	5.5
Total Math:	5.8	5.8	5.8

MEDICINE HAT COLLEGE  
TRANSITIONAL VOCATIONAL TRAINING PROGRAM

ACADEMIC COMPETENCY RECORD - MATH

DATE: 05-Jun-85  
STUDENT NUMBER: 123456  
NAME: Sample,Joe

NUMBER RECOGNITION - M1

M1.1: Recognize numerals 0 to 1,000,000:	[c/05-Jun-85]
M1.2: Write numerals 0 to 1,000,000:	[c/05-Jun-85]
M1.3: Recognize script form of num. 0 to 1,000,000:	[c/05-Jun-85]
M1.4: Write script form of num. 0 to 1,000,000:	[c/05-Jun-85]
M1.5:	[n/05-Jun-85]
M1.6:	[c/05-Jun-85]

PLACE VALUE - M2

M2.1: Recognize place value of num. 0 to 1,000,000:	[c/05-Jun-85]
M2.2: Write nums. in standard and expanded notation:	[c/05-Jun-85]
M2.3:	[n/05-Jun-85]
M2.4:	[n/05-Jun-85]

OPERATION SYMBOLS - M3

M3.1: Recognize and apply oper. symbols + - x /:	[c/05-Jun-85]
M3.2: Recognize and apply oper. symbols < > = :	[c/05-Jun-85]
M3.3:	[c/05-Jun-85]
M3.4:	[c/05-Jun-85]

BASIC FACTS - M4

M4.1: Know addition facts 0 to 10:	[n/05-Jun-85]
M4.2: Know subtraction facts 20 to 0:	[n/05-Jun-85]
M4.3: Know multiplication facts 0 to 10:	[n/05-Jun-85]
M4.4: Know division facts 100 to 1	[n/05-Jun-85]
M4.5:	[n/05-Jun-85]
M4.6:	[n/05-Jun-85]

USING A CALCULATOR - M5

M5.1: Use a calculator to add/sub 6 digit nums.:	[-/ ]
M5.2: Use a calculator to mul/div 6 digit nums.:	[-/ ]
M5.3:	[-/ ]
M5.4:	[-/ ]

ROUNDING - M6

M6.1: Round nums. to nearest 10, 100, 1000:	[-/ ]
M6.2:	[-/ ]
M6.3:	[-/ ]

ADDITION - M7

M7.1: Add min. 3 - 3 digit nums. (no carry):	[-/ ]
M7.2: Add min. 3 - 3 digit nums. (carry):	[-/ ]
M7.3:	[-/ ]
M7.4:	[-/ ]

## SUBTRACTION - M8

M8.1: Subtract min. 3 digit num. (no borrow):	[-/	]
M8.2: Subtract min. 3 digit num. (borrow):	[-/	]
M8.3: Subtract min. 3 digit num. (borrow over two 0's):	[-/	]
M8.4:	[-/	]
M8.5:	[-/	]

## MULTIPLICATION - M9

M9.1: Multiply 1x3 digit nums. (no carry):	[-/	]
M9.2: Multiply 1x3 digit nums. (carry):	[-/	]
M9.3: Multiply 2x3 digit nums.:	[-/	]
M9.4: Multiply 3x3 digit nums.:	[-/	]
M9.5:	[-/	]
M9.6:	[-/	]

## DIVISION - M10

M10.1: Divide 3 digit / 1 digit num. (no rem.):	[-/	]
M10.2: Divide 3 digit / 1 digit num. (rem.):	[-/	]
M10.3: Divide 4 digit / 2 digit num. (no rem.):	[-/	]
M10.4: Divide 4 digit / 2 digit num. (rem.):	[-/	]
M10.5: Div. and find whole num. rem. using a calculator:	[-/	]
M10.6:	[-/	]
M10.7:	[-/	]

## WORD PROBLEMS - M11

M11.1: Addition problems:	[-/	]
M11.2: Subtraction problems:	[-/	]
M11.3: Multiplication - Division problems:	[-/	]
M11.4: Compound +,-,x, and / problems:	[-/	]
M11.5:	[-/	]
M11.6:	[-/	]

## ORDER OF OPERATION - M12

M12.1: Order of +,-,x,/ and significance of ():	[-/	]
M12.2:	[-/	]
M12.3:	[-/	]

## MONEY - M13

M13.1: Recognize value of coins and bills:	[-/	]
M13.2: Calculate totals:	[-/	]
M13.3: Make change:	[-/	]
M13.4: Budget and banking:	[-/	]
M13.5:	[-/	]
M13.6:	[-/	]

## FRACTIONS - M14

M14.1: Recognize fractional parts of a whole:	[-/	]
M14.2: Addition of like fractions:	[-/	]
M14.3: Subtraction of like fractions:	[-/	]
M14.4: Multiplication of simple fractions:	[-/	]
M14.5: Division of simple fractions:	[-/	]
M14.6: Reduce prop. fraction to lowest terms:	[-/	]
M14.7: Change improper fractions to mixed nums.:	[-/	]
M14.8: Change mixed nums. to improper fractions:	[-/	]
M14.9: Add,Sub,Mul,Div improper fract. and mixed nums.:	[-/	]
M14.10: Word problems containing proper fractions:	[-/	]
M14.11: Word problems - improper fract. and mixed nums.:	[-/	]
M14.12:	[-/	]
M14.13:	[-/	]

DECIMALS - M15

M15.1:	Place value from 10th to 1000th:	[ - / ]
M15.2:	Add,Sub,Mul,Div decimal nums. (calculator):	[ - / ]
M15.3:	Add and Subtract decimal numbers:	[ - / ]
M15.4:	Multiply decimal numbers:	[ - / ]
M15.5:	Div. decimal numbers (divisor whole num.):	[ - / ]
M15.6:	Div. decimal numbers (divisor decimal):	[ - / ]
M15.7:	Round decimals to the nearest 10th,100th,1000th:	[ - / ]
M15.8:	Word problems with decimal numbers:	[ - / ]
M15.9:		[ - / ]
M15.10:		[ - / ]

GEOMETRY - M16

M16.1:	Recognize geo. shape of tri.,rec.,and sq.:	[ - / ]
M16.2:	Calculate perimeter of tri.,rec., and sq.:	[ - / ]
M16.3:	Calculate perimeter of irregular geo. shapes:	[ - / ]
M16.4:	Calculate area of tri.,rec., and sq.:	[ - / ]
M16.5:	Calculate area of irregular geo. shapes:	[ - / ]
M16.6:	Word problems with perimeter and area:	[ - / ]
M16.7:	Calculate circumference of a circle:	[ - / ]
M16.8:	Calculate area of a circle and triangle:	[ - / ]
M16.9:	Calculate volume of a cube:	[ - / ]
M16.10:	Word problems with circle,tri., cube:	[ - / ]
M16.11:		[ - / ]
M16.12:		[ - / ]

MEASUREMENT - M17

M17.1:	Recognize and calc. English units of meas.:	[ - / ]
M17.2:	Recognize and calc. metric units of meas.:	[ - / ]
M17.3:	Word problems with English units of meas.:	[ - / ]
M17.4:	Word problems with metric units of meas.:	[ - / ]
M17.5:	Conversion of Eng. to metric - metric to Eng.:	[ - / ]
M17.6:		[ - / ]
M17.7:		[ - / ]

PERCENTS - M18

M18.1:	Change decimals to percents:	[ - / ]
M18.2:	Change fractions to decimals to percents:	[ - / ]
M18.3:	Calculate part - given % and whole:	[ - / ]
M18.4:	Calculate percent - given part & whole:	[ - / ]
M18.5:	Calculate whole - given % & part:	[ - / ]
M18.6:	Word problems with percents:	[ - / ]
M18.7:		[ - / ]
M18.8:		[ - / ]

ENRICHMENT - M19

M19.1:	Ratio and porportion:	[ - / ]
M19.2:	Exponents:	[ - / ]
M19.3:	Radical expressions:	[ - / ]
M19.4:	Integers:	[ - / ]
M19.5:	Add and Subtract integers:	[ - / ]
M19.6:	Multiply and Divide integers:	[ - / ]
M19.7:	Word problems with the above:	[ - / ]
M19.8:		[ - / ]
M19.9:		[ - / ]

x/x PRE-ASSESSMENT COMPETENCIES COMPLETED DATE:  
 x/x POST-ASSESSMENT COMPETENCIES COMPLETED DATE: 05-Jun-85

MATH - YEAR ( 1 )

-----

SEMESTER ( 1 )

SHORT TERM GOALS

: 100% recog. of numerals

| 05-Jun-85

: -

|

LONG TERM GOALS

: -

|

: -

|

SEMESTER ( 2 )

SHORT TERM GOALS

: -

|

: -

|

LONG TERM GOALS

: -

|

: -

|

SEMESTER ( 3 )

SHORT TERM GOALS

: -

|

: -

|

LONG TERM GOALS

: -

|

: -

|

MATH - YEAR ( 2 )

-----

SEMESTER ( 1 )

SHORT TERM GOALS

: -

|

: -

|

LONG TERM GOALS

: -

|

: -

|

SEMESTER ( 2 )

SHORT TERM GOALS

: -

|

: -

|

LONG TERM GOALS

: -

|

: -

|

SEMESTER ( 3 )

SHORT TERM GOALS

: -

|

: -

|

LONG TERM GOALS

: -

|

: -

|

MATH - YEAR ( 3 )

SEMESTER ( 1 )

SHORT TERM GOALS

: -

: -

LONG TERM GOALS

: -

: -

SEMESTER ( 2 )

SHORT TERM GOALS

: -

: -

LONG TERM GOALS

: -

: -

SEMESTER ( 3 )

SHORT TERM GOALS

: -

: -

LONG TERM GOALS

: -

: -

COMMENTS (MATH)

: Teacher aide req. for 1/1

: -

: -

: -

: -

: -

: -

: -

: -

: -

: 05-Jun-85



MEDICINE HAT COLLEGE  
TRANSITIONAL VOCATIONAL TRAINING PROGRAM

ACADEMIC COMPETENCY RECORD - LANGUAGE

DATE: 07-Jun-85  
STUDENT NUMBER: 123456  
NAME: Sample,Joe

VISUAL PERCEPTUAL SKILLS - L1

L1.1: Develops lateral eye movement without moving head:	[c/07-Jun-85]
L1.2: Sorts and classifies objects:	[c/07-Jun-85]
L1.3: Locates objs. which differ slightly from other objs.:	[c/07-Jun-85]
L1.4: Ident. shapes regardless of size,color, or texture:	[c/07-Jun-85]
L1.5: Demonstrates knowledge of directional movement:	[c/07-Jun-85]
L1.6:	[c/07-Jun-85]
L1.7:	[c/07-Jun-85]

AUDITORY PERCEPTUAL SKILLS - L2

L2.1: Identifies loud and soft sounds:	[c/07-Jun-85]
L2.2: Identifies high and low sounds:	[c/07-Jun-85]
L2.3: Identifies far and near sounds:	[c/07-Jun-85]
L2.4: Identifies direction:	[c/07-Jun-85]
L2.5:	[c/07-Jun-85]
L2.6:	[c/07-Jun-85]

ARTICULATION - L3

L3.1: Imitates sounds of vowels:	[c/07-Jun-85]
L3.2: Imitates sounds of consonants:	[c/07-Jun-85]
L3.3: Blends sounds:	[c/07-Jun-85]
L3.4: Imitates single words:	[n/07-Jun-85]
L3.5: Imitates word chains:	[n/07-Jun-85]
L3.6: Verbalizes simple sentences:	[n/07-Jun-85]
L3.7: Provides single word or two word answers to quests.:	[n/07-Jun-85]
L3.8: Provides multiple word answers to questions:	[n/07-Jun-85]
L3.9: Verbalizes more complex sentences:	[n/07-Jun-85]
L3.10: Asks questions:	[n/07-Jun-85]
L3.11: Talks about own experience:	[n/07-Jun-85]
L3.12: Sequence thoughts into logical sentence patterns:	[n/07-Jun-85]
L3.13: Controls volume of voice:	[n/07-Jun-85]
L3.14:	[n/07-Jun-85]
L3.15:	[n/07-Jun-85]

ALPHABET - L4

L4.1: Finds letters of the alphabet:	[-/ ]
L4.2: Reads letters of the alphabet:	[-/ ]
L4.3: Identifies upper and lower case letters randomly:	[n/07-Jun-85]
L4.4: Knows vowel and consonant sounds:	[n/07-Jun-85]
L4.5: Knows letter combination sounds - cvc,cvcc,cvvc,cvcc:	[n/07-Jun-85]
L4.6:	[c/07-Jun-85]
L4.7:	[c/07-Jun-85]

	RECOG	COMPRE
L5.1: Words related to pictures/objects:	[c/07-Jun-85]	[c/07-Jun-85]
L5.2: Words at grade one level:	[c/07-Jun-85]	[c/07-Jun-85]
L5.3: Words at grade two level:	[c/07-Jun-85]	[c/07-Jun-85]
L5.4: Words at grade three level:	[n/07-Jun-85]	[n/07-Jun-85]
L5.5: Words at grade four level:	[n/07-Jun-85]	[n/07-Jun-85]
L5.6: Words at grade five level:	[n/07-Jun-85]	[n/07-Jun-85]
L5.7: Words at grade six level:	[n/07-Jun-85]	[n/07-Jun-85]
L5.8: Words at grade seven level:	[n/07-Jun-85]	[n/07-Jun-85]
L5.9: Words at grade eight level:	[n/07-Jun-85]	[n/07-Jun-85]
L5.10: Words at grade nine level:	[n/07-Jun-85]	[n/07-Jun-85]
L5.11: Words at grade ten level:	[n/07-Jun-85]	[n/07-Jun-85]
L5.12: Words at grade eleven level:	[n/07-Jun-85]	[n/07-Jun-85]
L5.13: Words at grade twelve level:	[-/ ]	[-/ ]
L5.14: Select.(s) of essential voc. wds.:	[-/ ]	[-/ ]
L5.15: Selection(s) of functional words:	[-/ ]	[-/ ]
L5.16:	[-/ ]	[-/ ]
L5.17:	[-/ ]	[-/ ]

PASSAGE READING: ORAL - SILENT - COMPREHENSION - L6

	ORAL	SILENT	COMPRE
L6.1: Grade One:	[-/ ]	[-/ ]	[-/ ]
L6.2: Grade Two:	[-/ ]	[-/ ]	[-/ ]
L6.3: Grade Three:	[-/ ]	[-/ ]	[-/ ]
L6.4: Grade Four:	[-/ ]	[-/ ]	[-/ ]
L6.5: Grade Five:	[-/ ]	[-/ ]	[-/ ]
L6.6: Grade Six:	[-/ ]	[-/ ]	[-/ ]
L6.7: Grade Seven:	[-/ ]	[-/ ]	[-/ ]
L6.8: Grade Eight:	[-/ ]	[-/ ]	[-/ ]
L6.9: Grade Nine:	[-/ ]	[-/ ]	[-/ ]
L6.10: Grade Ten:	[-/ ]	[-/ ]	[-/ ]
L6.11: Grade Eleven:	[-/ ]	[-/ ]	[-/ ]
L6.12: Grade Twelve:	[-/ ]	[-/ ]	[-/ ]
L6.13:	[-/ ]	[-/ ]	[-/ ]
L6.14:	[-/ ]	[-/ ]	[-/ ]

DICTIONARY SKILLS - L7

L7.1: Alphabetizes Words:	[-/ ]
L7.2: Locates words in the Dictionary:	[-/ ]
L7.3: Demos. General Use of Dictionary:	[-/ ]
L7.4:	[-/ ]
L7.5:	[-/ ]

STUDY SKILLS - L8

L8.1: Uses Table of Contents:	[-/ ]
L8.2: Employs Index to Locate Information:	[-/ ]
L8.3: Uses Encyclo, Atlases, Supplementary Texts:	[-/ ]
L8.4: Uses Reference Materials:	[-/ ]
L8.5: Uses Resource People:	[-/ ]
L8.6:	[-/ ]
L8.7:	[-/ ]

x/x PRE-ASSESSMENT COMPETENCIES COMPLETED DATE:  
x/x POST-ASSESSMENT COMPETENCIES COMPLETED DATE: 07-Jun-85

LANGUAGE - YEAR ( 1 )

SEMESTER ( 1 )  
SHORT TERM GOALS  
: Develop word analysis | 07-Jun-85  
: Speech pathologist assessment | 07 Jun 85  
LONG TERM GOALS  
: Independent reading to Level 5.0 by Exmas | 07-Jun-85  
: - |

SEMESTER ( 2 )  
SHORT TERM GOALS  
: - |  
: - |  
LONG TERM GOALS  
: - |  
: - |

SEMESTER ( 3 )  
SHORT TERM GOALS  
: - |  
: - |  
LONG TERM GOALS  
: - |  
: - |

LANGUAGE - YEAR ( 2 )

SEMESTER ( 1 )  
SHORT TERM GOALS  
: - |  
: - |  
LONG TERM GOALS  
: - |  
: - |

SEMESTER ( 2 )  
SHORT TERM GOALS  
: - |  
: - |  
LONG TERM GOALS  
: - |  
: - |

SEMESTER ( 3 )  
SHORT TERM GOALS  
: - |  
: - |  
LONG TERM GOALS  
: C | 07-Jun-85  
: - |

LANGUAGE - YEAR ( 3 )

SEMESTER ( 1 )  
SHORT TERM GOALS  
: -  
: -  
LONG TERM GOALS  
: -  
: -

:  
:  
:  
:

SEMESTER ( 2 )  
SHORT TERM GOALS  
: -  
: -  
LONG TERM GOALS  
: -  
: -

:  
:  
:  
:

SEMESTER ( 3 )  
SHORT TERM GOALS  
: -  
: -  
LONG TERM GOALS  
: -  
: -

:  
:  
:  
:

COMMENTS (LANGUAGE)

: Teacher aide req'd for DIR  
: -  
: -  
: -  
: -  
: -  
: -  
: -  
: -  
: -

: 07-Jun-85  
:  
:  
:  
:  
:  
:  
:  
:  
:

MEDICINE HAT COLLEGE  
TRANSITIONAL VOCATIONAL TRAINING PROGRAM

VOCATIONAL COMPETENCY RECORD

DATE: 05-Jun-85

STUDENT NUMBER: 123456

NAME: Sample, Joe

INTERPERSONAL COMMUNICATION SKILLS - V1

V1.1: Demonstrates a realistic perception of self:	[n/05-Jun-85]
V1.2: Demonstrates a realistic perception of others:	[n/05-Jun-85]
V1.3: Demonstrates good listening skills of self:	[n/05-Jun-85]
V1.4: Demonstrates basic understanding of nonverb. comm.:	[c/05-Jun-85]
V1.5: Understands basic reasons for dev. relationships:	[c/05-Jun-85]
V1.6: Demonstrates basic knowledge of resolving conflict:	[c/05-Jun-85]
V1.7: Demonstrates ability to courteously voice concerns:	[n/05-Jun-85]
V1.8: Demonstrates ability to participate in group discus.:	[n/05-Jun-85]
V1.9: Able to utilize group to help solve problems:	[n/05-Jun-85]
V1.10: Demonstrates knowledge of when/when not to conform:	[n/05-Jun-85]
V1.11: Can accurately take and relay messages in person:	[n/05-Jun-85]
V1.12: Can accurately take & relay messages via telephone:	[n/05-Jun-85]
V1.13:	[-/ ]
V1.14:	[-/ ]
V1.15:	[-/ ]
V1.16:	[-/ ]

LIVING SKILLS - V2

V2.1: States personal information:	[n/05-Jun-85]
V2.2: Provides personal information in writing:	[n/05-Jun-85]
V2.3: Demonstrates ability to make decisions:	[n/05-Jun-85]
V2.4: Accepts consequences of decision making:	[n/05-Jun-85]
V2.5: Accepts constructive criticism:	[n/05-Jun-85]
V2.6: Sets realistic goals:	[n/05-Jun-85]
V2.7: Considers the needs of others:	[n/05-Jun-85]
V2.8: Practices common courtesies:	[n/05-Jun-85]
V2.9: Indicates an awareness of family roles:	[n/05-Jun-85]
V2.10: Understands the responsibilities of marriage:	[n/05-Jun-85]
V2.11: Seeks reliable sources for assistance & direction:	[n/05-Jun-85]
V2.12: Has knowl. of avail. community serv. & resources:	[n/05-Jun-85]
V2.13: Has a knowl. personal resource manag. (time/energy):	[n/05-Jun-85]
V2.14: Has a knowl. of personal resource manag. (money):	[b/05-Jun-85]
V2.15:	[b/05-Jun-85]
V2.16:	[-/ ]
V2.17:	[-/ ]
V2.18:	[-/ ]

HEALTH/SEX EDUCATION - V3

V3.1:	Understands function of basic body systems & organs:	[n/05-Jun-85]
V3.2:	Has a knowledge of good nutrition:	[n/05-Jun-85]
V3.3:	Demonstrates good nutritional habits:	[n/05-Jun-85]
V3.4:	Displays good personal hygiene and grooming habits:	[n/05-Jun-85]
V3.5:	Has a knowledge of good exercise routines:	[n/05-Jun-85]
V3.6:	Able to perform basic exercises:	[n/05-Jun-85]
V3.7:	Demonstrates a concept of diseases:	[n/05-Jun-85]
V3.8:	Has knowledge of health hazards:	[n/05-Jun-85]
V3.9:	Has knowledge of human reproductive:	[n/05-Jun-85]
V3.10:	Understands importance of sexual hygiene practice:	[n/05-Jun-85]
V3.11:	Aware of social responsibility in sexual relations:	[n/05-Jun-85]
V3.12:	Has knowledge of sexually transmitted diseases:	[n/05-Jun-85]
V3.13:	Understands birth control methods:	[n/05-Jun-85]
V3.14:	Has a knowledge of basic first aid:	[n/05-Jun-85]
V3.15:		[-/ ]
V3.16:		[-/ ]
V3.17:		[-/ ]
V3.18:		[-/ ]

LAW EDUCATION - V4

V4.1:	Has an understanding of the need for law:	[n/05-Jun-85]
V4.2:	Distinguishes between municipal, prov., & nat. law:	[-/ ]
V4.3:	Identifies laws governing property ownership:	[-/ ]
V4.4:	Identifies laws governing motor vehicles:	[-/ ]
V4.5:	Identifies laws governing contracts:	[-/ ]
V4.6:	Identifies laws governing marriage/common law:	[-/ ]
V4.7:	Knows how to seek professional legal advice:	[-/ ]
V4.8:	Identifies court procedures:	[-/ ]
V4.9:	Identifies human rights:	[-/ ]
V4.10:		[-/ ]
V4.11:		[-/ ]
V4.12:		[-/ ]
V4.13:		[-/ ]

GENERAL KNOWLEDGE - V5

V5.1:	Has an awareness of current events:	[-/ ]
V5.2:	Has a knowledge of local heritage:	[-/ ]
V5.3:	Has a knowledge of provincial heritage:	[-/ ]
V5.4:	Has a knowledge of Canadian heritage:	[-/ ]
V5.5:	Identifies Canadian political divisions:	[-/ ]
V5.6:	Has a knowledge of Canadian physical geography:	[-/ ]
V5.7:	Identifies provincial major population centers:	[-/ ]
V5.8:	Identifies Canadian major population centers:	[-/ ]
V5.9:	Has map reading skill:	[-/ ]
V5.10:	Knows basic concepts of municipal political system:	[-/ ]
V5.11:	Knows basic concepts of prov. political system:	[-/ ]
V5.12:	Knows basic concepts of national political system:	[-/ ]
V5.13:	Identifies procedure for voting:	[-/ ]
V5.14:	Understands content of gen. info. presentations:	[-/ ]
V5.15:	Has knowl. of renewable and nonrenew. resources:	[-/ ]
V5.16:	Has a knowledge of environmental protection:	[-/ ]
V5.17:		[-/ ]
V5.18:		[-/ ]
V5.19:		[-/ ]
V5.20:		[-/ ]

CAREER EDUCATION - V6

V6.1:	Able to fill out job application forms:	[-/	]
V6.2:	Can complete a resume:	[-/	]
V6.3:	Participates appropriately during an interview:	[-/	]
V6.4:	Understands employer/employee relationship:	[-/	]
V6.5:	Has a knowledge of job safety:	[-/	]
V6.6:	Understands payroll and payroll deductions:	[-/	]
V6.7:	Identifies available employment resources:	[-/	]
V6.8:	Able to develop a realistic vocational goal:	[-/	]
V6.9:		[-/	]
V6.10:		[-/	]
V6.11:		[-/	]
V6.12:		[-/	]

x/x PRE-ASSESSMENT COMPETENCIES COMPLETED DATE:  
x/x POST-ASSESSMENT COMPETENCIES COMPLETED DATE: 05-Jun-85

VOCATIONAL / LIFE SKILLS - YEAR ( 1 )

SEMESTER ( 1 )

SHORT TERM GOALS

: Improve general knowledge  
: build self-confidence

: 05-Jun-85  
: 05-Jun-85

LONG TERM GOALS

: employment  
: -

: 05-Jun-85  
:

SEMESTER ( 2 )

SHORT TERM GOALS

: -  
:

:  
: 05-Jun-85

LONG TERM GOALS

: -  
: -

:  
:

SEMESTER ( 3 )

SHORT TERM GOALS

: -  
: -

:  
:

LONG TERM GOALS

: -  
: -

:  
:

VOCATIONAL / LIFE SKILLS - YEAR ( 2 )

SEMESTER ( 1 )

SHORT TERM GOALS

: -  
: -

:  
:

LONG TERM GOALS

: -  
: -

:  
:

SEMESTER ( 2 )

SHORT TERM GOALS

: -  
: -

:  
:

LONG TERM GOALS

: -  
: -

:  
:

SEMESTER ( 3 )

SHORT TERM GOALS

: -  
: -

:  
:

LONG TERM GOALS

: -  
: -

:  
:



VOCATIONAL / LIFE SKILLS - YEAR ( 3 )

SEMESTER ( 1 )  
SHORT TERM GOALS  
: -  
: -  
LONG TERM GOALS  
: -  
: -

|  
|  
|  
|

SEMESTER ( 2 )  
SHORT TERM GOALS  
: -  
: -  
LONG TERM GOALS  
: -  
: -

|  
|  
|  
|

SEMESTER ( 3 )  
SHORT TERM GOALS  
: -  
: -  
LONG TERM GOALS  
: -  
: -

|  
|  
|  
|

COMMENTS (LANGUAGE)

-----

: Begin with sheltered employment  
: -  
: -  
: -  
: -  
: -  
: -  
: -  
: -  
: -  
: -

| 05-Jun-85  
|  
|  
|  
|  
|  
|  
|  
|  
|  
|

MEDICINE HAT COLLEGE  
TRANSITIONAL VOCATIONAL TRAINING PROGRAM

WORK COMPONENT COMPETENCY RECORD

DATE: 05-Jun-85

STUDENT NUMBER: 123456

NAME: Sample,Joe

WORK COMPONENT - WK 1 [n/05-Jun-85]  
FROM: [-Nov-84] TO: [20-Apr-85]  
DESCRIPTION  
: Custodial assistant/Med. Hat News  
COMMENTS  
: Possible training in custodial | 05-Jun-85  
: Needs reading/math upgrading to deal with dangerous chemical | 05-Jun-85  
: - |

WORK COMPONENT - WK 2 [-/ ]  
FROM: [- ] TO: [- ]  
DESCRIPTION  
: -  
COMMENTS  
: - |  
: - |  
: - |

WORK COMPONENT - WK 3 [-/ ]  
FROM: [- ] TO: [- ]  
DESCRIPTION  
: -  
COMMENTS  
: - |  
: - |  
: - |

WORK COMPONENT - WK 4 [-/ ]  
FROM: [- ] TO: [- ]  
DESCRIPTION  
: -  
COMMENTS  
: - |  
: - |  
: - |

WORK COMPONENT - WK 5 [-/ ]  
FROM: [- ] TO: [- ]  
DESCRIPTION  
: -  
COMMENTS  
: - |  
: - |  
: - |

## Appendix VII. Sample Manual Report

**PERSONAL DATA** Program applied for S.H.T.A.

Social Insurance No. [REDACTED] Birthdate [REDACTED] Day Month Year Age 23 Male  Female

Name [REDACTED] Last (Family) [REDACTED] First [REDACTED]  
Middle [REDACTED] Maiden or previous name [REDACTED] Last [REDACTED]

Present Address [REDACTED] Apt. No. Street/Box No./Rural Route [REDACTED] Telephone No. [REDACTED]  
Town/City [REDACTED] Prov. ALTA Postal Code T1A 6

Mailing Address (if different from above) [REDACTED] Apt. No. Street/Box No./Rural Route [REDACTED] Telephone No. [REDACTED]  
Town/City [REDACTED] Prov. [REDACTED] Postal Code [REDACTED]

Marital Status: Single  Married  Separated  Divorced  Widowed  Common Law

Name of Spouse [REDACTED] Last (Family) [REDACTED] First [REDACTED]

List all Dependents (Use extra sheet of paper if necessary) No of Dependents 00 No of Children 00

Name	Age	Relationship To You	Name	Age	Relationship To You

**EDUCATION**

Last Public/Separate School attended [REDACTED] City/Prov. [REDACTED] Rural  Urban  Out of Prov.

Date last attended [REDACTED] Month Year Highest grade completed 00 No. of High School Credits earned 000

Other training taken: AVC  No Technical  No College  No University  No Year [REDACTED]

Were you sponsored by a Government Agency for any of the above training? Yes  No  If Yes, specify which Agency [REDACTED] When? [REDACTED] Month Year

**EMPLOYMENT**

Employer Name	City/Province	Date Started Month Year	Date Left Month Year	Occupation	Job Type	Reason for Leaving

\*Job Types: F = Full Time P = Part-time S = Seasonal T = Temporary

Are you presently employed? Yes  No  What is your usual occupation? [REDACTED]

**MEDICAL INFORMATION**

Person to contact in case of emergency [REDACTED] Last Name [REDACTED] Relationship [REDACTED]  
[REDACTED] Apt. No. Street/Box No./Rural Route [REDACTED] Town/City and Province [REDACTED] Telephone No. [REDACTED]

Family Doctor [REDACTED] Name [REDACTED] Address [REDACTED] Telephone No. [REDACTED]

Alberta Health Care No. [REDACTED] Nature of disability (if any) [REDACTED] Cause [REDACTED]

Do you require Crutches, Braces or Appliances? Yes  No  If Yes, specify which [REDACTED]

Are you currently taking Medication? Yes  No  Do you wear Glasses? Yes  No

Has Treatment or Assistance been provided by ... Workers' Compensation  1 Insurance  2 Other  3 Specify [REDACTED]

**OFFICE USE ONLY**

Application Date 21/2/2 Day Month Year [REDACTED] Applicant's Signature



# APPLICATION FOR ALBERTA VOCATIONAL TRAINING FINANCIAL ASSISTANCE

## FINANCIAL STATUS

This section to be completed only if applying for financial assistance

Annual Gross Income \$ 16190.0 Have you applied for Unemployment Insurance? Yes  No  If so, what office: \_\_\_\_\_

Are you receiving benefits from: Unemployment Insurance  Social Assistance  Pension  Support Payments  Other  Specify A.I.S.H.

If receiving Social Assistance: Social Worker's Name \_\_\_\_\_ Regional Office MED. NAT.

Spouse's Occupation \_\_\_\_\_ Spouse's Annual Gross Income \$ \_\_\_\_\_

Single Applicants: Are you living with Parents/Guardians? Yes  No  No. of children living at home under age 17? \_\_\_\_\_ Amount you pay for Rent/Room and Board \$ \_\_\_\_\_

Father's Occupation \_\_\_\_\_ Income \$ \_\_\_\_\_ Mother's Occupation \_\_\_\_\_ Income \$ \_\_\_\_\_

Citizenship Status: Canadian Citizen  Landed Immigrant  Treaty Indian? Yes  No  Treaty No. \_\_\_\_\_

Have you lived in Alberta for the last 12 months? Yes  No  Living on the Reserve? Yes  No  When did you leave the Reserve? Month \_\_\_\_\_ Year \_\_\_\_\_

Special Requirements: Day Care Services Yes  No  Transportation Yes  No  Student Housing Yes  No

No. of children requiring Day Care 2 Km travelled to Training Centre 0.107 How many people \_\_\_\_\_

I hereby make application for training, declaring that the information stated herein is true, and realizing that this declaration has the same force and effect as if made under oath.

Application Date \_\_\_\_\_ Day \_\_\_\_\_ Month \_\_\_\_\_ Year \_\_\_\_\_ Signature \_\_\_\_\_

## CANADA EMPLOYMENT CENTRE COMMENTS

Comments regarding suitability \_\_\_\_\_

Eligible for tuition  Applying for a course not approved for Fee Payers  Applying for an approved course as a Fee Payer only  TDN submitted

Not eligible at this time  Eligible, but no space available  Eligible, but not acceptable

Date \_\_\_\_\_ Day \_\_\_\_\_ Month \_\_\_\_\_ Year \_\_\_\_\_ Signature \_\_\_\_\_ Telephone No. \_\_\_\_\_

## INTERVIEWING COUNSELLOR COMMENTS

Agency/institution represented by counsellor \_\_\_\_\_ Referring Agency \_\_\_\_\_

Institution Student Type: New  N Former  F Ongoing  O Transfer  T

AVT Student Type: New  N Former  F Ongoing  O Occupational goal \_\_\_\_\_

Training requested \_\_\_\_\_ Training Centre \_\_\_\_\_

Program Name \_\_\_\_\_ Training Dates Start \_\_\_\_\_ Day \_\_\_\_\_ Month \_\_\_\_\_ Year \_\_\_\_\_ End \_\_\_\_\_ Day \_\_\_\_\_ Month \_\_\_\_\_ Year \_\_\_\_\_

Comments \_\_\_\_\_

Referred to: \_\_\_\_\_ Code \_\_\_\_\_

Recommendation: This is to certify that the applicant has received vocational counselling and, to the best of my knowledge the requested training is suitable in terms of the applicant's needs and abilities and that this person is recommended for training and meets the AVT requirements.

Date \_\_\_\_\_ Day \_\_\_\_\_ Month \_\_\_\_\_ Year \_\_\_\_\_ Signature \_\_\_\_\_ Telephone No. \_\_\_\_\_

## SELECTION

Program \_\_\_\_\_ Priority Code \_\_\_\_\_ Referred to \_\_\_\_\_

Program Start Date \_\_\_\_\_ Day \_\_\_\_\_ Month \_\_\_\_\_ Year \_\_\_\_\_ Student Start Date \_\_\_\_\_ Day \_\_\_\_\_ Month \_\_\_\_\_ Year \_\_\_\_\_ Length... (in weeks) \_\_\_\_\_ Date \_\_\_\_\_ Day \_\_\_\_\_ Month \_\_\_\_\_ Year \_\_\_\_\_

Selection Result  1 - referred elsewhere  2 - pending  3 - rejected  4 - wait-listed  5 - accepted  6 - close file  7 - wait list/CE  8 - wait list/LAC Authorized by \_\_\_\_\_

## OFFICE USE ONLY

Training Dates: Start \_\_\_\_\_ Day \_\_\_\_\_ Month \_\_\_\_\_ Year \_\_\_\_\_ End \_\_\_\_\_ Day \_\_\_\_\_ Month \_\_\_\_\_ Year \_\_\_\_\_ Length... (in weeks) \_\_\_\_\_ Location \_\_\_\_\_

AVT  A VRDP  V Input Code \_\_\_\_\_ School Code \_\_\_\_\_

Tuition Yes  No  Supply Yes  No  Daily Rate \$ \_\_\_\_\_ Group \_\_\_\_\_ Class \_\_\_\_\_

Transportation (VRDP only) Yes  No  Books Yes  No  Limit \$ \_\_\_\_\_ Daily Babysitting Allowance \$ \_\_\_\_\_

Court Judgement Yes  No  Amount per Cheque \$ \_\_\_\_\_ Limit \$ \_\_\_\_\_ Daily Transportation (VRDP only) \$ \_\_\_\_\_

Department of Education ID \_\_\_\_\_ Sponsor \_\_\_\_\_ Master completed \_\_\_\_\_

To be completed by authorized Administrator Date of approval \_\_\_\_\_ Day \_\_\_\_\_ Month \_\_\_\_\_ Year \_\_\_\_\_ Authorized by \_\_\_\_\_

NAME: [REDACTED]

PROGRAM: S.L.I.A.

INSTITUTION: Medicine Hat College

START DATE: August 30, 1983

COMPLETION DATE: June 22, 1984

When this young man was accepted into the program in January 1983 it was with the knowledge that his past history was one of not staying with anything for more than a short period of time. There has been a constant effort on the part of members of the Services For the Handicapped Department and the instructors of the S.L.I.A. Program in seeing that [REDACTED] attends. We have worked very closely with them in their efforts at changing [REDACTED]'s behaviors and it appears that progress is definitely being made. His attendance has been excellent and now efforts are being made to increase his attention to task and also reduce his interruptive behaviors.

Although only very small gains have been made towards many of the listed competencies of the S.L.I.A. Program success in these were contingent upon the other behaviors mentioned. [REDACTED] has become relatively competent in using a calculator for solving basic operations in math and when we are able to organize his efforts somewhat in a "Premack Principle" manner he displays the abilities that we are sure are there.

Because [REDACTED] is a very conditioned "institutional" person with a relatively normal intellectual capability all parties believe that it is worth the effort to break this young man out of his pattern and assist him to become a productive member of society. A staffing involving [REDACTED]'s workers, parents, Rehab, [REDACTED] and myself was held on June 21, 1983 and at this time it was felt that [REDACTED] would be provided summer work at the Rehab Society but that he should return to the College S.L.I.A. Program in the fall for another year. In light of this meeting and our own beliefs I therefore recommend that [REDACTED] be accepted into our program for another full year with career direction probably being towards custodial and maintenance skills and improving his work and social skills to enable him to hold employment and successfully work with others.

[REDACTED]  
Coordinator  
S.L.I.A.

FINAL REPORT  
S.L.I.A.  
Reading Component

NAME: [REDACTED]  
DATE: June 22, 1984

Initial assessment by [REDACTED] on September 27, 1982 placed [REDACTED] overall grade equivalent to be 2.6 with grade equivalents of 1.6 in reading recognition and 2.7 in reading comprehension measured with the Peabody Individual Achievement Test (PIAT). The Wide Range Achievement Test (WRAT) yielded a 2.9 reading grade equivalent and the Silvaroli indicated a word recognition instructional level at the pre-primer level. It was also noted with the Wechsler Adult Intelligence Scale (WAIS) the [REDACTED] greatest strengths were in his ability to think abstractly and associatively and in his capacity to reproduce familiar forms from memory.

A variety of programs have been implemented in the reading component ranging from a direct instructional Corrective Reading Program to firm him in the sound-symbol relationship, to working with high frequency sight words and words encountered in his practicum work situation. Given his erratic attendance and lack of response to the variety of implemented programs, gains made with [REDACTED] were minimal.

Relative to the competency areas established in the S.L.I.A. program, [REDACTED] has achieved mastery of the following goals as listed in the Competency Guide:

Area: 1.0.0 - Basic Skills

- 1. 4. 1 - 1. 4. 8 Visual Perceptual Skills
- 1. 5. 1 - 1. 5. 4 Auditory Discrimination
- 1. 6. 1 - 1. 6. 3 Reception Language
- 1. 8. 2 - 1. 8. 4 Expressive Language
- 1. 9. 1 - 1. 9. 4 Expressive Language
- 1.10. 1 - 1.10. 8 Expressive Language
- 1.11. 1 - 1.11. 3 Expressive Language

Final Report

Name: [REDACTED]

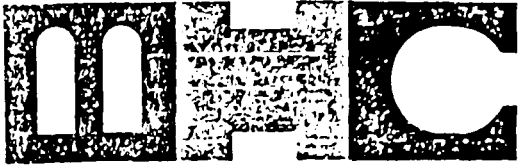
Page 2

- 1.12. 1 - 1.12. 5 Demonstrates Reading Readiness
- 1.13. 1 - 1.13. 4 Demonstrates Knowledge of Alphabet
- 1.14. 1 - 1.14.10 Sight Vocabulary
- 1.15. 1 - 1.15. 3 Demonstrates Skills of Phonetic Analysis
- 1.17. 1 - Uses Clues<sup>in</sup> Reading
- 1.19. 1 - 1.19. 3 Demonstrates Dictionary Skills
- 1.20. 1 - 1.20. 3 Uses Study Skills
- 1.21. - 1.21. Demonstrates Cursive Writing

[REDACTED]

Reading Instructor





MEDICINE HAT COLLEGE

SEMESTER REPORT

S.L.I.A.

READING COMPONENT

NAME: [REDACTED]

DATE: 1983 December 20th

[REDACTED] you always portray a willingness to work, have usually been punctual for class, and most certainly have the potential to expand your capabilities.

You seem more than able to handle the Corrective Reading Program, therefore, I would like to concentrate on the more varied English 80 - 82 curriculum, along with more specific vocational-type materials in your final semester. Certainly, more discipline will be required on your part in completing assignments and following through with directions and instructions if you are to be successful in these undertakings.

I know you can do it, let's work together!

[REDACTED]  
Instructor

TERM REPORT  
S.L.I.A. SOCIAL STUDIES

SEMESTER III 1983 MEDICINE HAT COLLEGE

STUDENT: [REDACTED]

INSTRUCTOR: [REDACTED]

PROGRAM DESCRIPTION:

The social studies program during semester III was aimed at broadening the students' general information through the presentation of an extensive variety of subjects.

The intention of this program was not to provide units of study or to build on concepts but rather to provide information - A depressed score on standardized tests for most of these students.

Subsidiary objectives were: to improve motivation and work habits.

MATERIALS:

- various motion pictures and video tapes
- audio tapes
- pictures and charts
- laboratory experiments
- worksheet assignments

Note: Use of the College lab equipment, facilities, and media center allowed this program to provide as many as three blocks of information per hour per day over fourteen

weeks.

STUDENT PROGRESS:

█████ showed a great deal of interest in almost all of the topics selected for presentation. He often talked outside of class about the material. █████ was also inquisitive and often queried for more information.

However, █████ was not overly inclined to work academically on the material! He attempted most of the assignments (89%) but completed very few (35%). When asked to recall the information, █████ was able to provide only 45 percent of the answers. This cannot be construed as "█████ did very little" since any progress at this time can be seen as an improvement.

█████ will probably be asked back into the program for next year with the expectation that █████ will continue to make gains both socially as well as academically.

SEMESTER REPORT  
S.L.I.A.  
Reading Component

NAME: [REDACTED]

DATE: June 24, 1983

[REDACTED] entered the S.L.I.A. program in January 1983, as a previously institutionalized person with problems in program attendance, behavior, and academics, but as a person with obvious greater potential as evidenced with standardized assessment by [REDACTED] administered September 27, 1982. Throughout the first semester, there was a definite carryover effect of previously learned behavior patterns in the sense that [REDACTED] attendance was very erratic; when he was here, he was a constant attention-seeker; and his attitude towards academics was very poor. Few concrete gains were made with [REDACTED] that first semester, however a definite shift in attitude and behavior became apparent at the onset of the second semester and it seemed to persist throughout the second semester. His attendance improved greatly; he began to approach academic work; he became an active participant in group discussion in a productive manner; and his interpersonal skills have shown an observable improvement.

Various programs have been attempted in the reading component including a peer-tutoring method in a direct-instructional reading program, computer-assisted instruction, and a sequential skill development series entitled "Acquiring Language Skills" published by McGraw-Hill. [REDACTED] fixed patterns are such that little academic gain was made due to his lack of response and responsibility in most of the aforementioned modes of instruction. Greatest observable gains were made with the C.A.I. method, consequently a more appropriate educational package may now be designed in order to facilitate academic learning that [REDACTED] is capable of acquiring.

It is recommended that [REDACTED] register for at least another semester in the S.L.I.A. program in order to establish more appropriate behaviors and to bolster his present very weak academic skills.

[REDACTED]  
Reading Instructor

~~Verbal Comp.~~

Verbal Comp.

Old  $\left. \begin{matrix} 4 \\ 2 \\ 3 \\ 5 \end{matrix} \right\} \text{EMN Similarities}$  New  $\left. \begin{matrix} 4 \\ 9 \\ 6 \end{matrix} \right\} \text{Bad.}$

Concept

$\left. \begin{matrix} 2 \\ 3 \\ 5 \end{matrix} \right\} \text{Mid}$

$\left. \begin{matrix} 4 \\ 9 \\ 6 \end{matrix} \right\} \text{Bad.}$

Perceptual -  $\left. \begin{matrix} 2 \\ 9 \end{matrix} \right\} \text{slow avg speed assembly}$   $\left. \begin{matrix} 7 \\ 12 \end{matrix} \right\} \text{4 1/2 avg}$

Seq.

$\left. \begin{matrix} 6 \\ 9 \end{matrix} \right\} 7.5 \text{ low avg}$

$\left. \begin{matrix} 7 \\ 9 \end{matrix} \right\} 8 \text{ low avg.}$

Dist.

$\left. \begin{matrix} 6 \\ 5 \end{matrix} \right\} 5.5 \downarrow \text{hard (Digit Span)}$

$\left. \begin{matrix} 7 \\ 7 \end{matrix} \right\} 7 \uparrow \text{hard.}$

Disrupted, Long Term Memory - Transference.

Remediation - stress on concept understanding & transference of same. Repetition of this structuring should improve long term memory capability.

S E M E S T E R   R E P O R T

NAME: ██████████  
DATE: June 24, 1983  
PROGRAM: S.L.I.A.  
SUBJECT: Mathematics  
MATERIAL USED: Search and Shade - Creative Publishers Inc.  
Building Math Skills, An Individualized Approach;  
Addison-Wesley Publications Co.  
Mathematics for Achievement - Individualized  
Courses, Houghton-Mifflin  
Using Dollars and Sense - Pacemaker Practical  
Arithmetic Series, Canadian Edition; Copp Clark  
Pitman Publishers  
Calculator Activities; Creative Publishers Inc.

This past semester was directed mainly at getting ██████ to attend to his commitments and increase his ability to successfully attack simple operations in arithmetic by using a calculator. His attendance at the program was excellent and now the major efforts were directed towards reducing his "attention seeking" behaviors and reducing his distractibility both within himself and towards creating distractions for other in the class.

██████ still puts very little of his capabilities and skills into use outside the program, however, he is beginning to see their value. He works best at completing a task when he is somewhat isolated and also provided with some definite "time frame" in conjunction with some form of the "Premack Principle".

Most of the "competencies" necessary for success and graduation from S.L.I.A. in mathematics still need to be attained by ██████ however, he is now reaching the stage where success is really possible. The only standardized test that I gave ██████ at this time was the "Key Math Canadian Edition" on which he scored at a

Semester Report

Page 2

G.E. of 3.5. His major weaknesses are in the areas of:

- fractions
- mental computation
- numerical reasoning
- word problems
- missing elements
- some money and measurement
- more complex time concepts

has great difficulty in decoding and encoding any problem-type questions.

It is recommended that return to the S.L.I.A. Program for the full 1983-84 year.

PSYCHOLOGICAL-EDUCATIONAL REPORT

NAME: [REDACTED]  
AGE: 23  
BIRTHDATE: [REDACTED]  
ADDRESS: [REDACTED]  
Medicine Hat, Alberta  
PHONE: [REDACTED]  
REFERRAL: [REDACTED]  
DATE OF TESTING: [REDACTED]  
DATE OF REPORT: [REDACTED]

BACKGROUND INFORMATION:

[REDACTED] returned from the Baker Center in Calgary to Medicine Hat, in January 1980. Since that time he attended the Medicine Hat Rehabilitation Society, from which he was suspended because of erratic attendance. [REDACTED] does not wish to return to the Rehabilitation Center, and is seeking an alternative training program. The Client Services Coordinator, [REDACTED] requested that testing be done to determine his eligibility for one of the special programs at the college.

During testing [REDACTED] was very talkative, and found it hard to keep on a task. He would begin a task, and begin talking about something obviously of more interest to him, but completely unrelated to the task at hand.

He was interested in the college, and wanted to see the carpenter's shop, the computer room, and the ceramics room.



NAME: [REDACTED]

Page 2

DATE: September 27, 1982

TESTS ADMINISTERED:

<u>Wide Range Achievement Test</u>	<u>Grade Equivalent</u>
Reading	2.9
Spelling	2.4
Math	2.1

Silvaroli

Word Recognition, Instructional Level	Pre-Primer
Reading Comprehension, Instructional Level	Pre-Primer

Schonell Graded Word

Spelling	0.9
----------	-----

Peabody Individual Achievement Test (PIAT)

	<u>Age Equivalent</u>	<u>Grade Equivalent</u>
Mathematics	7-5	2.3
Reading Recognition	6-11	1.6
Reading Comprehension	7-10	2.7
Spelling	6-8	1.5
General Information	9-10	4.7
TOTAL TEST	<u>7-10</u>	<u>2.6</u>

Weschler Adult Intelligence Scale (WAIS)

<u>Verbal</u>	<u>Scaled Score</u>	<u>Performance</u>	<u>Scaled Score</u>
Information	5	Digit Symbol	2
Comprehension	9	Picture Completion	7
Arithmetic	3	Block Design	7
Similarities	13	Picture Arrangement	6
Digit Span	10	Object Assembly	10
Vocabulary	6		
VERBAL IQ.	<u>87</u>	PERFORMANCE IQ.	<u>76</u>

WJIL: [REDACTED]

Page 3

DATE: September 27, 1982

INTERPRETATION:

[REDACTED] Full Scale IQ of 81 with a standard error of measurement of + or - 3, placed him in the Low Average range of current intellectual functioning. Relative to the standardization group this placed him at the less than 25 Percentile Rank.

When looking at the Verbal IQ of 87, [REDACTED] was currently functioning in the Low Average range, and when looking at the Performance IQ of 76, he was functioning in the Borderline range.

His overall subtest scores ranged from superior to trainable mentally handicapped.

[REDACTED] greatest relative strength on the Verbal subtests was in his ability to think abstractly and associatively. In this he scored one standard deviation above the mean.

On the subtests measuring capacity to remember general knowledge acquired from the environment, and word knowledge, [REDACTED] scored in the Educable Mentally Handicapped range. This correlates with the test measuring general information, spelling, reading recognition and reading comprehension.

On the subtest measuring numerical reasoning, he scored in the third standard deviation below the mean. This ties in with his score on the tests measuring his skill in mathematics.

On the Performance subtest measuring his capacity to reproduce familiar forms from memory, he scored in the Average range.

On the subtest measuring speed and accuracy of reproducing non-meaningful symbols, he scored in the trainable mentally handicapped range.

SUMMARY AND RECOMMENDATIONS:

In summary [REDACTED] overall Full Scale IQ of  $81 \pm 3$  indicated a Low Average range of current intellectual functioning. Relative to the general population, this ranked him at the less than 25 Percentile.

NAME: [REDACTED]

Page 4

DATE: September 27, 1982

His Verbal level of functioning was not significantly below the Performance level.

His strengths fell in the ability to think abstractly and associatively, short-term memory, and his capacity to reproduce familiar forms from memory.

His weaknesses were in his numerical reasoning ability, and his speed and accuracy of reproducing non-meaningful symbols.

It is recommended that [REDACTED] be placed in the Substantially Learning Impaired Adult Program.

[REDACTED]

Certified Psychologist in the  
Province of Alberta

Semester Report  
S.L.I.A.

Student - [REDACTED]

June 1983

During this semester [REDACTED] did not gain competencies quickly nor was there a strong initial commitment to the program. Attendance was erratic for the first few weeks as was the level of interest. This situation was probably a result of institutionalisation and was the first problem to be attacked. The remedial measures adopted were successful in their application and both attendance and interest are now at a satisfactory level. [REDACTED] is now working at a better pace but requires much work to get him to face reality and adopt a more self reliant attitude. To this end remedial measures taken to effect a behaviour change have concentrated on trying to get him to assume responsibility in a variety of ways. The recommendation for this student is that he remain in the program long enough to effect the necessary changes and speed up the acquisition of competencies required to live an independent existence and to become a marketable product for employment outside of a protected environment. Competencies awarded during this semester are list overleaf.

[REDACTED]  
Instructor.

**[REDACTED]** - Competencies awarded Winter/Spring Semester 1983

- 2:1.1-9 Provides personal information orally
- 2:2.1-9 Provides personal information in writing
- 2:6.4,8 Considers needs of others
- 2:7.4-6 Practises common courtesies
- 2:9.4-6 Informed about and interested in complying with laws
- 2:10.1-5 Asks reliable sources for assistance and direction
- 2:12.1,2 Gives evidence of being aware of current events
- 3:15.1-3 Demonstrates ability to obtain needed services
- 3:17.5 Watches informational TV programs
- 3:20.4 Identifies responsibilities of living in a half-way home
- 4:1.2,3 Completes assigned work tasks (Basic work habits)
- 4:8.1,2,4, Grooms appropriately for work tasks
- 4:12.1,5 Demonstrates appropriate behaviour on work placement

*Medicine Hat and District Association For The Mentally Retarded*

---

1329 10th Avenue S W  
Telephone 527-3302

Box 411, Medicine Hat, Alberta  
T1A 7G2

October 17, 1983

NOTICE OF CASE CONFERENCE

Re: [REDACTED]

A Case Conference is being called for [REDACTED] on December 7, 1983 at 2:00 P.M. The meeting will be held in the Board Room in the Medicine Hat and District Association for the Mentally Retarded office at 1329 - 10th Avenue S.W.

The Case Conference will focus on [REDACTED] residential and vocational progress. It will also be necessary to formulate some long range plans for [REDACTED] residential placement as of July 1984, at this time [REDACTED] 18 months in the residential program will be finished.

If this time is not suitable please contact us at 529-9473 in the afternoon to suggest an alternate time or date.

[REDACTED]  
Intensive Apartment  
Training Program Workers

cc: [REDACTED]

SERVICES:

Kinsmen Training Centre 527-7574  
Residential Services 529-1833

MEMBER: ALBERTA ASSOCIATION FOR THE MENTALLY RETARDED



CASE CONFERENCE

June 21st 1983 @ 1:15 P.M.

Chairperson: [REDACTED] Minutes taken by: [REDACTED]

-----

Progress Update

[REDACTED] reported that the first objective, remediation of irregular attendance has been reached. The next objective, the reduction of disruptive, attention-seeking behavior, has not yet been reached, though progress has been made.

No standardized testing has been done. However, [REDACTED] is a capable person. His vocabulary has improved in both content and appropriateness. [REDACTED] recommends that [REDACTED] continue at the College in the fall.

[REDACTED] and [REDACTED] supported [REDACTED] need to overcome his attention-seeking behavior. They also identified a need to improve academic skills, and his ability to solve relationship problems. They reported that [REDACTED] tends to say "I can't do it" and depends on parents and staff to do things for him.

[REDACTED] reported learning to use the computer, body functions, and use of power tools at the College.

Identified Needs

- (1) To continue regular attendance.
- (2) Reduction of attention-seeking behavior.
- (3) To work as quickly and well as possible.
- (4) Development of personal relationship skills, particularly, problem handling.

Action Plan

It was agreed that [REDACTED] return to the College program August 30th 1983. There was considerable discussion about [REDACTED] involvement at the Rehab for the summer. Items discussed were:

- (1) One month assessment period would not be appropriate and may be omitted.
- (2) The janitorial crew is a possibility with two options:
  - (a) daytime - more supervision and also more distractions.
  - (b) evening - less distraction and supervision.[REDACTED] expressed approval of the janitorial program.
- (3) [REDACTED] expressed an interest in woodwork. However woodwork would be difficult for the Rehab to arrange for so short a period.
- (4) Since [REDACTED] is going to the Rehab for only a short period regular attendance is important.

It was agreed that [REDACTED] begin at the Rehab on July 4th. He will holiday with the family during the interim period.

No follow-up meeting was planned.

Meeting adjourned.



CASE CONFERENCE - ██████████

Date: December 7, 1983

Place: M.H.&.D.A.M.R. - Meeting Room

Present:

██████████

██████████

Unable to Attend:

██████████

██████████

---

Purpose

To review ██████████ residential and vocational progress and develop long-range residential goals for ██████████

Following introductions, ██████████ presented the agenda which was approved with the deletions of ██████████ and ██████████ from the persons presenting progress reports.

Progress Reports

1. ██████████ reported that when ██████████ came into the Apartment Training Program, it was a "kind of last hope". He did not cope in I.L.S. Though he had the skills, he did not apply them. He came into the program on the understanding that he would attend College. He began with the attitude that the staff would do what he did not want to do, though this is improving. The only areas that are a problem for independent living are motivation and social maturity.

Concerning motivation ██████████ does not even reach the bottom of the scale. When feeling insecure in academics and budgeting he seeks approval. On the basis of the I.L.S. checklist, there are only two of six categories where he is placed appropriately.

In the area of Social Maturity he is being pushed and is improving, but progress is slow. He is becoming more willing to give and take and not always be the focus of attention.

On his A.F.I. he scores 250 on ability and 184 actual in the area of motivation and attitude.

████ added that █████ will do things if pushed, but he is insecure.

████ observed that █████ is about at the same place he was when she went to Baker Centre, Calgary, to interview him.

████ reported that he and █████ talked quite bluntly with █████ for one (1) hour on December 2nd. █████ confronted █████ with his assessment that █████ has learned to manipulate, and it has worked for him. The residential staff have worked hard to maintain his attendance at College, which provides him extra attention. In spite of this, █████ has not made much progress at all in the College program. Unless █████ begins to take responsibility, no one is able to help him, and he may end up back in an institution.

This week █████ has been coming about an hour early and is working at College. On the basis of this improvement, █████ is going to place him at the Southview Mall gathering shopping carts, starting soon. This will help indicate whether Paul is able to function on his own with people. If so, he will be placed in a different work placement after the New Year.

There was discussion of █████ tendency to manipulate, and being the centre of attention for a long time. When he gets into trouble, someone has "bailed him out". Money has not worked very well as a motivator.

████ expressed the observation that █████ coped better when he first came to Medicine Hat, but then he was on medication. Over time he has lost his self-confidence. She was opposed to him taking medication as he did not do so regularly, but now questions whether he may do better with it. █████ expressed the opinion that █████ does not require medication. The matter was discontinued as medication was not seen to be a satisfactory answer for █████'s problems.

████ also expressed her personal reaction to the implication that they as parents should not "bail █████ out". Though others assured █████ that all of us have done it, and that this comment was not directed primarily at the family, there was an appreciation of how difficult it is, particularly for the family, to not help when █████ is struggling.

████ reported that though she has not worked with █████, the file indicates that three I.L.S. Workers all reported that █████ manipulates.

████ reported that he hasn't seen █████ nor been phoned by him in about six months.

████ reported that █████ liked the new building at Redi Enterprises when he was there for the summer, and expressed an interest in coming back. █████ expressed the opinion that to do so would be a cop-out from his present program and should not be available to █████, at least immediately. █████ reported that it is understood that if █████'s attendance is not good at the College, he will not be accepted back in Redi Enterprises.

████ questioned what alternatives are available to us in trying to overcome █████'s tendency to manipulate. █████'s response was, do not provide any immediate alternatives.

Current Needs:

1. To overcome or diminish manipulation.
2. To develop confidence.
3. To develop social maturity.

Action Plan

1. Discontinue having [REDACTED] go with [REDACTED] to pick up his cheque from the College. Have him do so himself to see what he does with it.
2. If terminated from the College program, [REDACTED] will be maintained in the Apartment Training Program on the understanding that he works at finding an alternate placement and document his job search.  
[REDACTED] expressed concern that if pressured to act maturely in the Apartment Training Program, he may leave. [REDACTED] responded that they are being firm in impressing on [REDACTED] that he remain in the program until he his ready to leave.
3. If after six to eight weeks of seeking employment, [REDACTED] has not been successful, has documented his job search, and shows some evidence of change, Redi Enterprises will consider accepting him again.
4. All staff will provide support to the parents, if desired.
5. The A.I.S.H. trusteeship will be terminated, starting with the December 31st cheque. [REDACTED] will have responsibility to handle his money with the support of a budgeting program. [REDACTED] savings account will remain as it is which requires both [REDACTED] and [REDACTED] signature to withdraw cash.
6. As [REDACTED] approaches graduation from the Apartment Training Program, [REDACTED] will begin to work with him before moving into the I.L.S. program. It is recommended that when [REDACTED] moves into I.L.S. he be encouraged to do so with a room-mate.

Review date was left indefinite at this time, to be called on the recommendation of [REDACTED] and/or [REDACTED]

[REDACTED]  
Minutes Recorded by [REDACTED]

MEDICINE HAT COLLEGE  
INDIVIDUALIZED EDUCATIONAL PLAN

STUDENT NAME: [REDACTED]

BIRTHDATE: [REDACTED]

PROGRAM: S.H.I.A.

PSYCHOEDUCATIONAL TESTING

TEST	RESULTS	RECOMMENDATIONS
W.A.I.S.	<p><u>Verbal</u></p> <p>Info-5 Digit Sp-10 Vocab-6 Arith-3 Comp-9 Sim-13</p> <p><u>Performance</u></p> <p>Pic. Comp-7 Pic. Arr-6 Block Des-10 Digit Sym-2</p>	<p>Distractability in existence in testing situation and in past performance in training situation. Strengths in abstract reasoning along with highly structured programs with positive reinforcement to be implemented. Numerical reasoning in Math weakness, possible L.I.V. deficit, low vocab and general info.</p>
P.I.A.T.	<p>Age Equiv. G.E.</p> <p>Math 7-5 2.3 Reading Rec. 6-11 1.6 Reading Comp 7-10 2.7 Spelling 6-8 1.5 Gen. Info. 9-10 4.7 Total 7-10 2.4</p>	<p>No decoding, word-analysis skills resulting in depressed spelling and comp. Math at very basic level.</p>
SILVAROLI	<p>Gr. Equiv.</p> <p>Word Rec. 2.7 Reading Comp 2.9</p>	<p>Again, non-reader with no word attack skills. Structured program required; possible C.R.P. placement.</p>
OTHER:	<p>Gr. Equiv.</p> <p>W.R.A.T. Reading 2.9 Spelling 2.4 Math 2.1</p>	<p>Words in isolation low, little sight vocab. Basic Math level exhibited once again. Possible C.A.I. structured program</p>

DIAGNOSTIC EVALUATIONS

TOOL USED	RESULTS	RECOMMENDATIONS
WOODCOCK	N/A	
KEY MATH	N/A	
MORRISON/McCALL (SCHONELL)	Spelling Gr. Equiv. .9	No phonetic base. Build with C.R.P., CAI., Morphographic Spelling and Mich.
OTHER:		

GENERAL STAFFING

DISABILITY (in priority)	RECOMMENDED PROGRAM/ MATERIALS TO USE	FOLLOW-UP ASSESSMENT
- attitudinal	Highly structured programming with positive reinforcement and small incremental steps shape until firm with gradual fading on reinforcers.	continuous attend- ance check.
- raise Reading and Math levels	C.R.P., CAI	on-going

PRIORITY	PROGRAM/MATERIALS TO BE USED	INSTRUCTIONAL MODE	RESULTS
<u>Strengths</u> S.T.M. - abstract reasoning abilities			
<u>Weaknesses</u>			
numerical reasoning (sequencing)	CAE, E.O.V. controlled tasks.	Visual / auditory	
Reading Skills attitude	C.A.P. Shaping until desired attitude is formed.	Visual / auditory	
General background Information	Library, research assignments to be read, recorded.	mainly auditory with some visual recumbent on to build speed.	



## MEDICINE HAT COLLEGE

PROGRAM: S.L.I.A.

Student Type: new for both AVT and MHC.

Occupational Goal: at this time it is open, will have to be service or assistive type in all probability.

This student has started on Jan. 3, 1983, and should be included until June 25, 1983 (two sessions) at which time an extensive evaluation will be undertaken to determine whether or not this student should be continued. I believe that it will take several sessions to obtain success with [REDACTED]

[REDACTED] is a twenty-three year old man who has grown up in institutions. He entered Mitchner Center in Red Deer as a young boy and from there moved to the Baker Center in Calgary. During his time at the Baker Center he was "employed" in the "sheltered workshop" of the Association for the Mentally Retarded (Advance Industries). During that period he was able to move into independent living and has continued to do so since returning to Medicine Hat.

Although there is some facial disfiguration and a slight palsy of the hands he claims that he has successfully operated power saws and other power equipment. We will be checking out his capabilities in these areas during his time with us. Although he appears at first to be somewhat "shy" he soon overcomes this condition and is constantly seeking interaction with the instructors. Needless to say this behavior is unacceptable in the work place and will have to be modified. [REDACTED] seems to be motivated quite strongly seems more than willing to "work" diligently at what he is assigned. Behavior shaping using verbal rewards followed by "fading" of same should prove to be very effective with [REDACTED]

[REDACTED] Co-ordinator  
S.L.I.A. Program

NAME: \_\_\_\_\_

SOCIAL INSURANCE NUMBER: \_\_\_\_\_

EXPENSES:

Rent (if shared divide appropriately): \$ 300.00  
 Food Per Month: 175.00  
 Transportation: 15.00  
 \*Books & Supplies: 35.00  
 Miscellaneous: 50.00  
 Other (specify) \_\_\_\_\_ /

TOTAL EXPENSES PER MONTH: \$ 575.00

\* Books and supply money may have to be borrowed from parents or other sources initially. The \$35 per month will enable you to pay it back.

RESOURCES:

Savings on hand (divide by 6) \$ 80.00  
 Income while studying (per month) 575.00 (A.I.S.A.)  
 Spouse income (per month take home) \_\_\_\_\_  
 Other income (per month) \_\_\_\_\_  
 TOTAL MONTHLY RESOURCES: \$ 575.00

Total Expenses: 575.00

Total Resources: - 575.00

Total Monthly Need: 0.00 ÷ 30 = ? (daily training need)

OTHER INFORMATION:

Number of Dependents \_\_\_\_\_  
 Living with Parents Yes \_\_\_\_\_ No \_\_\_\_\_  
 Independent - 1 residence Yes  No \_\_\_\_\_  
 Independent - 2 residence Yes \_\_\_\_\_ No \_\_\_\_\_

I hereby state that the above information is accurate to the best of my knowledge and give permission to verify information with Income Tax or other necessary records.

Signature \_\_\_\_\_

Date Dec. 22/82



[redacted] | Soc. Worker [redacted]

→ Baker Center.

→ Advanced Enterprises { radial arm saw  
- electric stapler.  
- planes.

→ independent living. since returning.  
↔

↔ } Q.I.S.H. ↔ - Food Voucher.  
system@pleant

---



Distract. A-3 } - Very distract in arithmetic  
 D.S. - 10 }  $\rightarrow$  Educable.

Sequencing - D.S. 10  $\rightarrow$  7.5 Slow Avg.  
 P.A. = 6

Perceptual - B.D. 7  $\rightarrow$  8.5 low Avg.  
 O.A. = 10

Conceptualization  
 Comp. 9  
 Sim 13  $>$  Avg.  
Voc. 6

Verbs. Inf. 5  
 Comp - 9 8 - Slow avg.  
 Sim - 13  
 Voc - 6

Use C.A.T. for  
 concept transfer.

Look steps items to signify  
 meanings as you build.

good verbal - skills  $\rightarrow$  all auditory - do or tell to reading.

good abstract & assoc. thought - ought to be  
 able to use this for  
 transference of concepts.

Watt  $\rightarrow$  suspect does not conceptualize & make  
 use of his strong sequencing ability.

$\rightarrow$  reasonable memory.

$\rightarrow$  suspect concepts must have meaning  
 to him if he is to utilize them.



MEDICINE HAT COLLEGE

January 18, 1934.

[REDACTED]  
[REDACTED]  
[REDACTED]

Dear [REDACTED]:

After having made every effort, in cooperation with your other workers, in order to work out your difficulties and provide the opportunity for you too improve I must at this time withdraw you from the S.L.I.A. Program as of the above date. Your lack of effort and attendance along with your "attention and game playing behavior" indicates that the more "adult" setting requires more effort than you are willing to put forth, even although you are more than capable of being there.

I sincerely hope that you will put as much effort into using your capabilities as you are currently putting into having others take care of your responsibilities.

Yours truly,

[Handwritten signature]  
[REDACTED]

E. [REDACTED], Coordinator

- cc: R. [REDACTED]
- S. [REDACTED], A.V.T.
- D. [REDACTED]
- V. [REDACTED]
- A. [REDACTED] Registration Officer