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ABSTRACT

Between 1977 and 1981, the Basic Skills Component of Research for Better Schools worked with education agencies to develop a research-based approach to improving basic skills instruction and student achievement. Called Achievement Directed Leadership (ADL), the approach was field tested extensively in three school districts during the 1981-82 school year. It is noted that these tests provided persuasive evidence that educators could be trained to use research findings to monitor and manage critical classroom processes, and further evidence strongly suggested that student achievement improved according to the degree of ADL implementation. A key element in the project was the development of a microcomputer program to facilitate the collection and management of quantitative data by educators for their instructional decision making. The introduction to this report provides an overview of the investigation, a description of ADL, and a discussion of the use of microcomputers in schools. The methodology of the project is then presented, including the plan of investigation and the procedure. The section on the conduct of the investigation and findings of the project describes the design of the microcomputer-based support system for the ADL; the component's efforts to modify commercially available software to assist educators with the management of ADL; and the development and evaluation of an in-house software program, CONFERENCE. Finally, the conclusion addresses the technical feasibility and advantages for users in using the microcomputer for ADL data-based decision making. Included in the appendices are data collection forms, the principal/teacher conference form, and the CONFERENCE program code. (JLB)

AN INVESTIGATION INTO THE FEASIBILITY OF USING COMPUTER TECHNOLOGY IN ACHIEVEMENT DIRECTED LEADERSHIP

Submitted to the

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by

Basic Skills Component
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ACKNOWLEDGEMENTS

This report describes the experiences of the Basic Skills Component of Research for Better Schools, Inc. (RBS) in investigating the feasibility of using the microcomputer in Achievement Directed Leadership (ADL), a program of instructional improvement. ADL was developed at RBS under the leadership of David Helms and Anna Graeber. They both provided essential guidance during the conceptualization and implementation of this investigation.

Janice Kruse was the sustaining factor throughout this investigation of the use of the microcomputer in ADL--she guided the software development, conducted field trials, and prepared drafts of the support materials and an early version of this report. Marge Connelly, an RBS programmer, supplied much of the technical knowledge for the investigation, and led the development of the data-based management system. She also wrote the final computer program, CONFERENCE. Without Marge's programming skill and problem-solving ability, there would not have been a viable product on which to report.

We appreciate the efforts of Francine Beyer, Fran Shelkin and Sylvia McCall. Francine wrote the final report; Fran and Sylvia typed the report and support materials.

We would like to thank the educators in the Pennsylvania School District for their feedback on our various computer programs. Their reactions succeeded in bringing us back to earth when we became too idealistic.

TABLE OF CONTENTS

INTRODUCTION

This report is divided into four parts--introduction, methodology, conduct of investigation and conclusions. The three sections of the introduction discuss (1) an overview of the investigation, (2) the instructional improvement program called Achievement Directed Leadership, and (3) the use of microcomputer technology in schools.

Overview

Between 1977 and 1981 the Basic Skills Component (BSC) worked with a number of cooperating education agencies to develop a research-based approach to improving basic skills instruction and student achievement. The approach, which came to be known as Achievement Directed Leadership (ADL), was field tested intensively in three school districts during the 1981-82 school year. The field test provided persuasive evidence that educators could be trained to use research findings to monitor and manage critical classroom processes. Further evidence strongly suggested that student achievement improved according to the degree of ADL implementation.

However, BSC also learned that educators were not generally accustomed to using quantitative data for instructional decision making, nor were they comfortable or adept at collecting and managing such data. We therefore reasoned that, if the use of a microcomputer could make the storage and manipulation of ADL data more efficient and accurate and reduce paperwork, then educators might be more willing to use quantitative data in their decision making. BSC hypothesized that computer technology could facilitate the use of ADL--and a more effective use of ADL would mean more efficient classroom instruction and increased student achievement.

Achievement Directed Leadership

Achievement Directed Leadership (ADL) has two main features, an instructional leadership plan and a training/implementation program designed for its installation. Only the leadership plan is of interest here.

The leadership plan specifies roles and functions for teachers and administrators to help them coordinate their efforts to achieve and maintain instructionally effective classrooms (see Figure 1). The main thrust of the plan is cooperative, effective monitoring and managing of critical conditions and processes that affect the classroom performance of students and educators--with ultimate impact on student achievement.

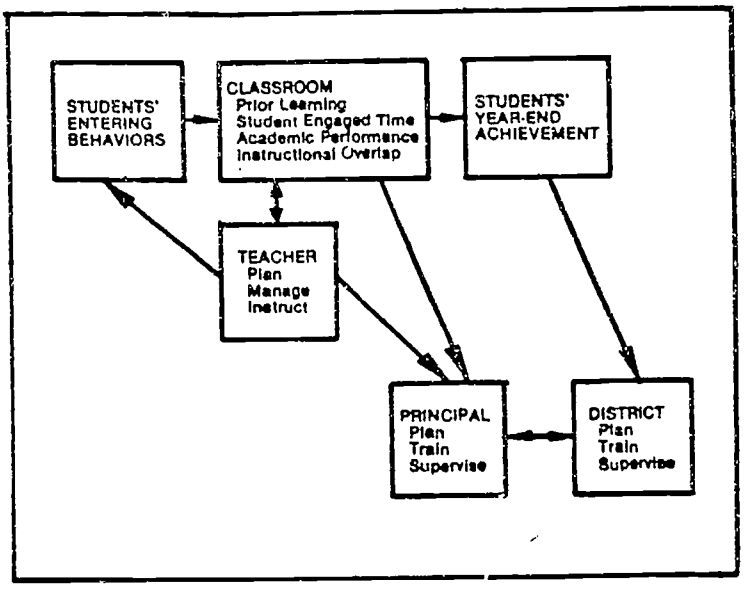

Figure 1. The ADL leadership plan.

ADL calls for use of a four-step improvement cycle to help educators collect data on the critical variables and identify and exploit opportunities for improvement (see Figure 2).

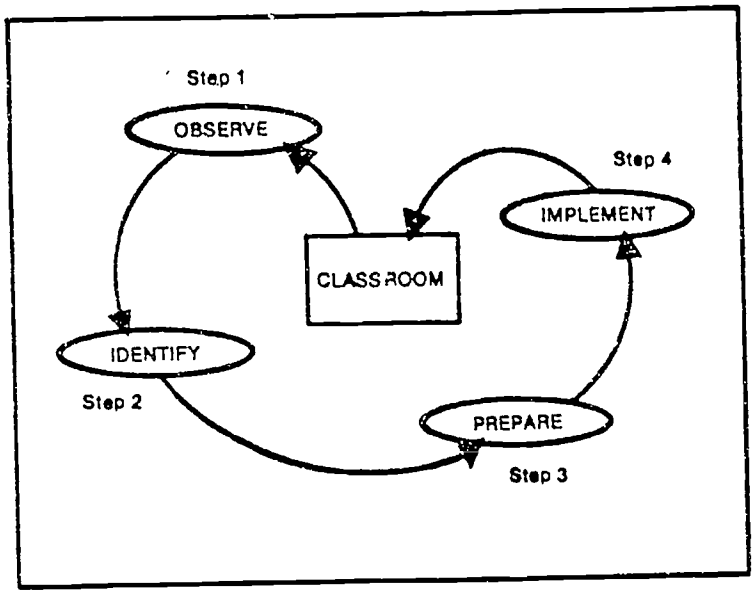

Figure 2. Four-step improvement cycle.

The linch pin in the instructional improvement process is the principal. The principal is continually informed of classroom conditions through classroom visits and the review of teachers' instructional plans. During regularly scheduled principal/teacher conferences, the principal assists teachers in working through the improvement cycle. The primary outcome of the principal/teacher conference is a plan to address opportunities for improvement which were jointly identified during the conference. The principal subsequently shares teachers' improvement plans and progress with district leadership, during superintendent/principal conferences. During these conferences the principal can enlist central office time, resources, and inservice support for teachers' improvement efforts. Conference procedures and forms have been developed to structure and facilitate both the principal/teacher conference and the superintendent/principal conference.

Schools' Use of Microcomputers

It is common practice for schools to use microcomputers both as administrative and instructional tools. Administrative uses include word processing and scheduling. In addition to instruction in computer programming and computer literacy, microcomputers are used in the classroom as an aid to instruction. The use of microcomputers as an instructional aid can be divided into two general categories: Computer-Assisted Instruction (CAI), using the microcomputer to present instruction and/or to interact with a student to enhance learning (e.g., tutorial systems, drill exercises); and Computer-Managed Instruction (CMI), using the microcomputer for record keeping, diagnostic testing and scoring, and prescribing.

The proposed use of the microcomputer to facilitate educators' use of Achievement Directed Leadership (ADL) would differ from both CAI and CMI systems. In these systems the computer manages individual student progress (through a computerized or non-computerized curriculum) by continually informing the student as to what steps should be taken next. In ADL:

- the teacher and principal, not the computer program, make decisions based on the status of critical classroom variables
- the critical variables include classroom management variables, in addition to instructional variables
- the decisions made are either for an entire class or for instructional groups within the class, not for individual students
- the instructional decision making involves matching identified opportunities for improvement with research-based improvement strategies to be used by teachers.

To the best of our knowledge, at the time of this investigation there was no existing system that would guide educators in their instructional decision making according to assessments of various classroom conditions and processes.

METHODOLOGY

The specific goals of this project were: (1) to investigate the feasibility of using the computer to facilitate the implementation of Achievement Directed Leadership; and (2) to determine the advantages of the microcomputer-driven system; that is, will it reduce onerous tasks (i.e., record keeping, calculations, projections) and thus improve educators' motivation to use quantitative data in instructional decision making? This methodology section presents both the plan and procedure for conducting the investigation.

Plan of Investigation

The component's plan to meet the two above stated goals had three steps.

- design a microcomputer-based support system that would facilitate educators' use of Achievement Directed Leadership
- locate and/or develop software to implement the microcomputer support role, with assistance from local educators
- evaluate the feasibility and advantages of the microcomputer-based support system.

The scope of this investigation included these three steps, with technical feasibility at the school level being the major focus.

Procedure

This section describes the procedures the Basic Skills Component (BSC) used to carry out the plan of the investigation. The implementation of these procedures is discussed in the next part of the report, conduct of investigation and findings.

BSC staff, with assistance from an RBS computer programmer, studied the Apple II Plus computer's capabilities in terms of Achievement Directed Leadership (ADL) processes and goals in order to design a microcomputer support system that was both realistic and faithful to the ADL model. BSC decided to work with the Apple II Plus system with 64K since, at the time, this system was the one found in many schools.

The procedure for software modification/development and evaluation was as follows:

- research available software and solicit opinions of RBS programmer and outside consultants in order to identify commercially available software which could be modified to facilitate research-based decision making at the classroom level
- if software modification is not feasible, work with RBS programmer to attempt development of our own program and support materials (User's Guide, manual, data entry forms)
- have RBS staff participate in a pre-field trial with modified or new software (i.e., hands-on experience using simulated data); revise software based on informal feedback on ease of program use and advantages/disadvantages over traditional methods of monitoring ADL variables
- conduct a field trial of modified or new software; provide educators with hands-on experience (using simulated data) or a BSC demonstration, followed by a survey (see Appendix A for data collection forms) and/or unstructured interview; revise software based on survey/interview responses
- conduct additional field trials and revisions, if necessary.

Educators participating in the field trials were:

- teachers and administrators from a Pennsylvania middle school currently working with the BSC to develop a secondary version of ADL
- elementary school principals currently implementing ADL in the same Pennsylvania district
- curriculum coordinators from the same Pennsylvania district.

CONDUCT OF INVESTIGATION AND FINDINGS

This chapter describes the conceptualization of a microcomputer-based support system to facilitate Achievement Directed Leadership (ADL), the component's efforts to modify commercially available software to assist educators with the management of ADL's critical variables, and the subsequent development of new software, in conjunction with a commercially developed data-based management system.

Design of Micrcomputer-Based Support System

Figure 3 shows the microcomputer-based support system the BSC designed to facilitate ADL. It diagrams how the various levels of a school district might use the computer for instructional decision making. In step 1, long-term instructional plans and classroom data are collected and entered into the microcomputer, and class files are updated. When the principal and teacher meet for a supervisory conference (step 2), they run a conference program which analyzes the data for each classroom variable and compares the class data to research findings and/or instructional goals in order to diagnose opportunities for improvement and assess progress. The microcomputer prints out and stores a record of the data and analyses, along with strategies for developing or altering instructional plans. The teacher, with the support of the principal, implements the strategies agreed upon and the cycle begins anew.

The diagram also shows that, ideally, all individual teacher reports are incorporated into a building level summary, and all building reports are incorporated into a district summary. In step 3, principals or central office

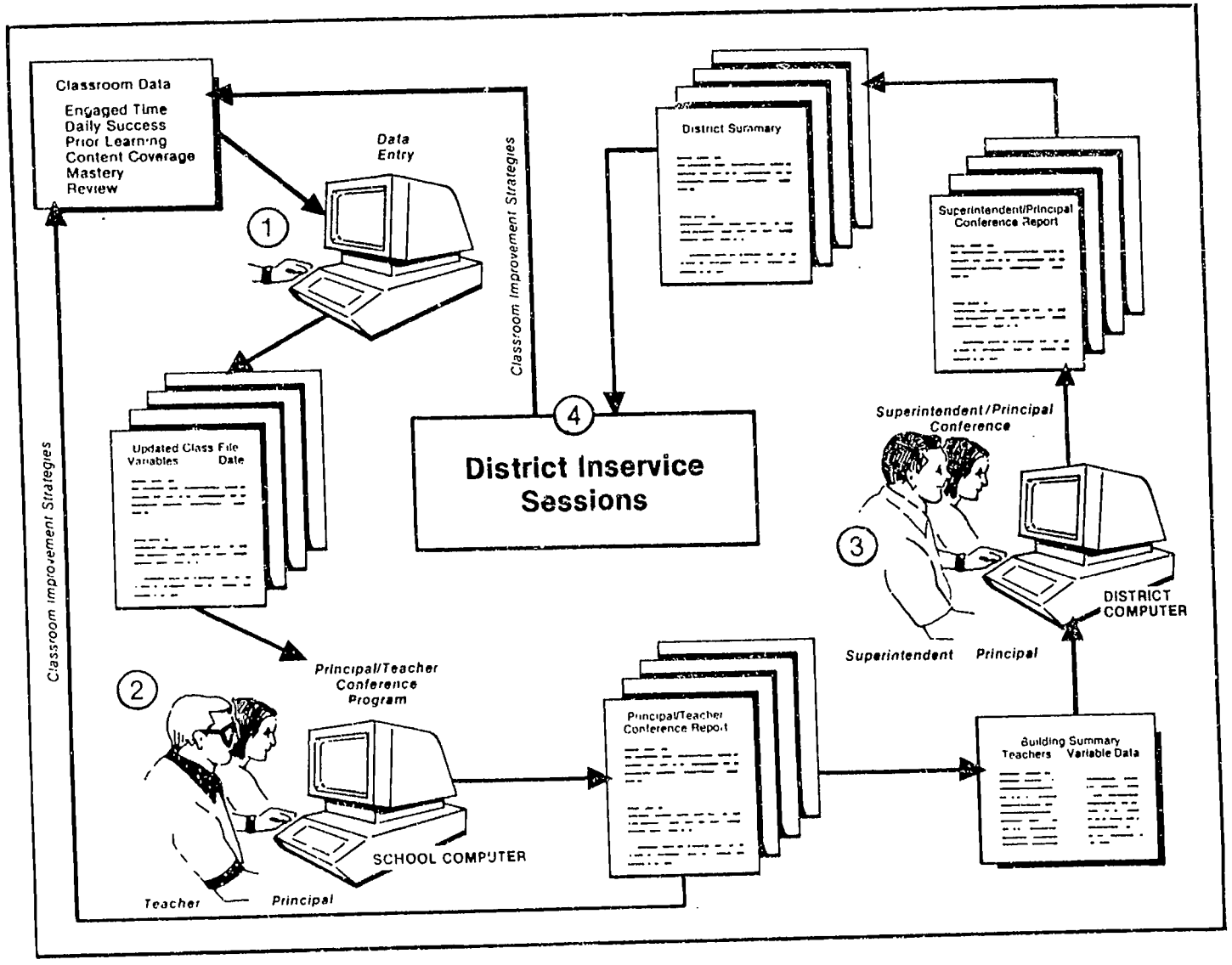

Figure 3. A computer-based support system to facilitate ADL.

staff then use these summaries to identify common opportunities for improving instruction across teachers and across schools, and to plan inservice accordingly (step 4).

Review/Modify and Evaluate Existing Software

We orginially assumed that the ways in which the microcomputer could best assist with management of Achievement Directed Leadership's (ADL's) critical variables would vary for principal and teacher. For teachers, the microcomputer could help them develop and update long-term instructional plans, which include data on a class' prior learning, success on daily work and mastery of skills on unit tests and information on the content of the year-end achievement test. For principals, the computer could provide them with a summary of this information, along with the class' average student engaged time, during the principal/teacher conference. These data could then be compared to research findings and teacher goals. When opportunities for improvement are identified, the principal and teacher could plan and implement change strategies. Thus, we set out to develop separate principal and teacher programs.

The BSC selected VisiSeries integrated software (VisiFile and VisiCalc) because it offered the possibility for creating interfacing principal and teacher programs which could be used to manage ADL data. Using VisiFile, two versions of long-term instructional planning programs were developed, varying in amount of curriculum detail. Both programs were demonstrated to five middle school teachers and three curriculum coordinators in the Pennsylvania district. The educators felt that the programs could be useful, particularly the shorter version, but six of the eight felt that the programs would not make their own work any easier. Also, these educators were not very committed

to the concept of long range instructional planning--and the potential of computer support for the planning process did not increase their commitment. In light of the fact that these initial programs did not appear to make teachers' planning and monitoring tasks less onerous or time consuming, we abandoned this line of investigation. Additional support for this decision resulted from our review of VisiCalc to create an interfacing program for principals. VisiCalc's "chart" format did not seem to offer a way of summarizing classroom data that was more efficient than ADL's principal/teacher conference form. Instead, we attempted to develop our own program which more closely followed our original conceptualization--a program that the principal and teacher could use together, during the principal/teacher participatory supervision conference, to assist with the management of classroom data.

Software Development and Evaluation

The design for the principal/teacher conference program was based on our initial conceptualization of a computer-based support system (see Figure 3, p. 7) and was patterned after Achievement Directed Leadership's (ADL's) principal/teacher conference form (see Appendix B). The conference form records information on student variables which are highly related to student achievement--student engaged time, prior learning, coverage of criterion content and academic performance--along with identified opportunities for improvement and selected improvement strategies.

The first program BSC developed calculated and analyzed student engaged time. The program was demonstrated to six middle school teachers and six administrators from the Pennsylvania district and was positively received--all felt it was easy to use and 75 percent felt it would help them implement ADL;

the other 25 percent were uncertain. As a result of this feedback, we expanded the program to include ADL's other classroom variables. The resulting program, CONFERENCE, presented questions about a class' status on the ADL variables which were to be answered during the principal/teacher conference. The program then compared the data entered for each variable to corresponding research standards and listed opportunities for improvement. Fourteen elementary principals in the Pennsylvania district previewed CONFERENCE and the accompanying User's Guide. The majority (86 percent) of the educators felt CONFERENCE would be very useful, and all found the program and User's Guide easy to use. However, upon closer consideration, BSC realized that CONFERENCE was not really helping teachers with their paperwork, i.e., maintaining records and manipulating raw data to measure the critical variables. Although the program organized the data, compared the data to research findings and listed improvement opportunities, it did very little computing--it asked for data, such as mastery levels, that teachers had to calculate. BSC felt that teachers would be tempted to guess the status of the variables during the conference rather than collect and analyze actual data. As a result of further investigation, BSC learned that a data-based management system could be added to CONFERENCE to create a program that would maintain ongoing records on each of the variables. It would also respond to CONFERENCE's requests for information through data retrieval, calculations (e.g., coverage to date) or projections (e.g., student achievement scores based on planned coverage).

Sierra's General Manager II was selected as the data-based management system that best met the need to revise CONFERENCE for three primary reasons: it could be used with the existing operating system, several filed could be opened simultaneously, and it had allocated space for a user program such as CONFERENCE. However, after setting up a filing system with information about

each of the variables, we found that General Manager II was not designed to accommodate a user program as long as CONFERENCE. Our solution was to shorten CONFERENCE to fit General Manager II's allocated space. This involved eliminating some of the program's elegance, i.e., the graphics and the space allocated for a user to enter his or her own improvement plans. The shortened program listed improvement strategies in a menu format from which a user could opt to select up to three. (See Appendix C for this final version of the program code.)

Because the revised program was completed late in the school year, there was only sufficient time to demonstrate CONFERENCE to two middle school administrators in the Pennsylvania district. During unstructured interviews, the administrators indicated that they liked the information that CONFERENCE provided--CONFERENCE would make it easier for them to monitor teachers' status on the classroom variables and to work with teachers in identifying and meeting instructional needs. Thus, the addition of the data-based management system to CONFERENCE suggests that the computer can provide useful information that supports instructional decision making by administrators.

CONCLUSIONS

The previous sections of this report describe the component's investigation into the use of the microcomputer to facilitate Achievement Directed Leadership's data-based decision making. This section presents some conclusions concerning the two major questions of this investigation: (1) is it feasible to use the computer to facilitate the implementation of Achievement Directed Leadership (ADL); and (2) are there advantages to the microcomputer-driven system, that is, will it reduce onerous tasks (i.e., record keeping, calculations, projections) and thus improve educators' motivation to use quantitative data in instructional decision making?

Technical Feasibility

The Basic Skills Component's investigation suggests that it is possible to use the microcomputer to efficiently store and manipulate data on the critical classroom variables. The BSC was successful in developing such a program for the Apple II Plus computer with 64K using Sierra's General Manager II as a data-based management system. This program, CONFERENCE, is not elaborate due to space limitations of the data-based management system, but it is consistent with the intent behind Achievement Directed Leadership. We are encouraged that, if we were to pursue a study of the impact of CONFERENCE, component members could work with the developers of General Manager II to overcome the system's space limitation and create a more sophisticated, but still user-friendly software package.

Advantages for Users

The component's field experience suggests that the advantages of using quantitative data for instructional decision making are not intuitively obvious to all educators. Those in favor of using this type of data tend to see the microcomputer as a valuable tool because of its ability to store data in an orderly fashion, and quickly retrieve and analyze data as needed. Likewise, educators that do not favor the use of quantitative data for decision making do not see the need for a microcomputer support system. These educators fear that the use of a microcomputer will reduce room for their discretion and professional judgment. Thus, although the component developed a program that appears to reduce the paperwork involved in managing quantitative data for instructional decision making and increase the accuracy and efficiency of instructional decision making, such a program can only be effective to the extent that it is implemented. Unless educators value monitoring such data for instructional decision making, the concept of a microcomputer-driven system to facilitate the process will not be either motivating or readily accepted.

In conclusion, our experience suggests that educators who favor Achievement Directed Leadership (ADL), a form of research-based instructional decision making, will accept and use such a microcomputer-based support system; educators who do not favor ADL will not accept and use such a system. However, with appropriate training, experience and incentives, more educators might come to understand and value the advantages of this type of system.

Appendix A

Data Collection Forms

ACHIEVEMENT DIRECTED LEADERSHIP (ADL)
COMPUTER SUPPORT REACTIONS

Questions 1-6 refer to the Time Program:

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
1. I believe that teachers and administrators could learn to use this program.	SA	A	U	D	SD
2. If I were a teacher or administrator implementing ADL, I would like to use this program.		A	U	D	SD
3. I think that using this program would make it easier to implement ADL.	SA	A	U	D	SD
4. I think that teachers and administrators could do a better job of implementing ADL if they used this program.	SA	A	U	D	SD

5. What do you like best about the computer program?

6. What suggestions do you have for improving the program?

Questions 7-11 refer to using the Content Program at the beginning of the year to plan instructional content:

7. If I were a teacher or administrator implementing ADL, I would like to use this program.	SA	A	U	D	SD
8. I think that using this program would make it easier to implement ADL.	SA	A	U	D	SD
9. I think that teachers and administrators could do a better job of implementing ADL if they used this program.	SA	A	U	D	SD

10. What do you like best about the computer program?

11. What suggestions do you have for improving the program?

Questions 12-16 refer to using the Content Program throughout the school year to monitor coverage and students' academic performance:

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
12. If I were a teacher or administrator implementing ADL, I would like to use this program.	SA	A	U	D	SD
13. I think that using this program would make it easier to implement ADL.	SA	A	U	D	SD
14. I think that teachers and administrators could do a better job implementing ADL if they used this program.	SA	A	U	D	SD

15. What do you like best about the computer program?

16. What suggestions do you have for improving the program?

Response to CONFERENCE

1. I think that having a program like CONFERENCE would be:

   ( ) very useful ( ) somewhat useful ( ) of limited use ( ) not useful

2. In its current form, CONFERENCE is:

   ( ) very easy to use ( ) easy to use ( ) not easy to use ( ) not usable

3. CONFERENCE could be improved by making the following changes:

   _____

   _____

   _____

   _____

   _____

4. In its current form, the Users Guide for CONFERENCE is:

   ( ) very easy to use ( ) easy to use ( ) not easy to use ( ) not usable

5. The Users Guide for CONFERENCE* would be more helpful if it included information about:

   _____

   _____

   _____

6. The Users Guide for CONFERENCE would be more helpful if information about the following was not included:

   _____

   _____

   _____

7. Other comments:

   _____

   _____

   _____

*If you have written comments on your copy of the Users Guide please feel free to give that copy to BSC staff.

Appendix B

Principal/Teacher Conference Form

7/29/85

PRINCIPAL/TEACHER CONFERENCE FORM

Teacher_____ Grade_____ Date_____

A. Information Collection

		Reading/ Language Arts	Math
1a.	What was the entering achievement level of the class?	_____percentile	____percentile
1b.	What is your achievement goal for the class?	_____percentile	____percentile
1c.	Are prior learning strengths and weaknesses (as identified on the School Year Planning Guide) addressed in short-term instructional plans?	_____	____
2a.	How many content items have been covered to-date?	_____	____
2b.	At this rate, how many content items will be covered by the time the test is administered?	_____	____
2c.	Assuming an 80 percent mastery rate, what is the predicted percentile rank for the class?	_____percentile	____percentile
3a.	On the average, what percent of the class masters each curriculum unit?	_____%	____%
3b.	Do short-term plans indicate that periodic review of previously mastered content is taking place?	_____	____
4a.	What percent of the class is highly successful on daily work at least half of the time?	_____%	____%
4b.	What is the average student engaged time?	_____minutes	____minutes
4c.	What is the average allocated time?	_____minutes	____minutes
4d.	What is the average engagement rate?	_____%	____%
4e.	Students' unengaged behaviors were primarily in what category (M,S,D,U,O)?	_____	____

B. Comparison and Identification

Circle data that reflect an opportunity.

C. Selection and Preparation

Describe strategies related to each opportunity.
1. Attention to prior learning.
2. Coverage of criterion content.
3. Academic performance.
4. Time spent.

D. Improvement Plan (indicating what, when, where, and how)

Teacher will:

Principal will:

Appendix C

CONFERENCE Program Code

```
]LIST

10  REM  CONFERENCE PROGRAM
20 AU$ = "%"
30  & OPEN:SC = 9: DIM S(SC):W$ =
     "":KQ$ = ""
40  FOR S = 1 TO SC: & INFO,S,L(S
    ): NEXT S
50  DIM D$(L(SC)): DIM KQ$(L(SC))

60  DIM SU(32)
80 D$ =  CHR$ (4)
90  DIM G(12),OP(13),UN$(120),U2$
    (120),U3$(120),U4$(120)
100  REM  INTRODUCTION
110  HOME
120  PRINT "PLEASE ENTER THE FOLL
    OWING INFORMATION:": PRINT :
     PRINT
130  PRINT "1. ";
140  INVERSE
150  PRINT "TODAY'S ";
160  NORMAL
170  &  POS FLD,6,1: & PRTNAME,3:
     PRINT : PRINT "   ";: &  INPUT
    ,TD$,0
180  IF  LEN (TD$) = 0 THEN  PRINT
    : PRINT "NO ENTRY MADE.  TRY
     AGAIN.": PRINT : PRINT : GOTO
    170
190  IF F9 = 1 THEN  GOTO 300
200  PRINT : PRINT : PRINT "2. ";

210  &  POS FLD,6,2: & PRTNAME,3:
     PRINT : PRINT "    ";: &  INPUT
    ,TC$,0: IF F9 = 1 THEN  GOTO
    300
220  PRINT : PRINT : PRINT "3. ";
    : &  POS FLD,6,3: & PRTNAME,
    3: PRINT : PRINT "   ";: &  INPUT
    ,S$,0: IF F9 = 1 THEN  GOTO
    300
230  PRINT : PRINT : PRINT "4. ";
    : &  POS FLD,6,4: & PRTNAME,
    3: PRINT : PRINT "   ";: &  INPUT
    ,G$,0
240  PRINT : PRINT : PRINT "5.  "
    ;: &  POS FLD,6,5: & PRTNAME
    ,3: PRINT : PRINT "   ";: &
     INPUT ,CL$,0
250  PRINT
260  PRINT : PRINT "6 WOULD YOU L
    IKE A PRINTED": PRINT "   SU
    MMARY OF THIS CONFERENCE? ";
    : & SEL,0,Y
270  IF  USR (0) = 1 THEN X$ = "Y
    "
280  IF  USR (0) = 0 THEN X$ = "N
    "
```

```
290  PRINT
300 F9 = 0: PRINT "IS THIS CORREC
     T?  ";: & SEL,0,Y
310  IF  USR (0) = 0 THEN  GOTO 3
     30
320  IF  USR (0) = 1 THEN  GOTO 3
     40
330  HOME : GOTO 110
340  &  READ ,1,D$(1).KQ$
344  IF  USR (0) AND IT = 0 THEN
      HOME : VTAB 12: PRINT "THER
     E ARE NO TEST RECORDS FOR ":
      PRINT "GRADE ";G$;" ";: &  POS
     FLD,6,3: &  PRINT ,S$: END
350 P$ = G$ + S$:PK$ = D$(1) + D$
     (2)
360  IF P$ <  > PK$ THEN  GOTO 34
     0
370 IT =  VAL (D$(9))
380  &  READ ,6,D$(1),KQ$
385  IF  USR (0) AND F2 = 0 THEN
      HOME : VTAB 12: PRINT "THER
     E ARE NO TEACHER RECORDS FOR
     ": &  POS FLD,6,2: &  PRINT
     ,TC$: END
390 KEY$ = TC$ + S$ + G$ + CL$: IF
     KEY$ <  > D$(L(5) + 2) + D$(
     L(5) + 3) + D$(L(5) + 4) + D
     $(L(5) + 5) THEN  GOTO 380
400 F2 = 1
410 AC =  VAL (D$(L(5) + 6)):GA =
      VAL (D$(L(5) + 7))
420 TX$ = D$(L(5) + 8):TS$ = D$(L
     (5) + 9)
440  HOME
450  VTAB 12: PRINT  TAB( 13);"PL
     EASE WAIT.."
460  PRINT  TAB( 10);"COMPUTER WO
     RKING"
470  &  READ ,8,D$(1),KQ$(1)
475  IF  USR (0) AND F3 = 0 THEN
      HOME : VTAB 10: PRINT "THER
     E ARE NO MASTERY RECORDS FOR
     ": &  POS FLD,6,2: &  PRINT
     ,TC$: PRINT : PRINT "GRADE "
     ;G$;" ";: &  POS FLD,6,3: &
      PRINT ,S$: PRINT : PRINT "C
     LASS ";CL$: END
480  IF  USR (0) THEN  GOTO 610
490 K2$ = D$(L(7) + 1) + D$(L(7) +
     2) + D$(L(7) + 3) + D$(L(7) +
     4)
500  IF KEY$ <  > K2$ THEN  GOTO
     470
510 VN = VN + 1
515 F3 = 1
520  IF  VAL (D$(L(7) + (6 + VN))
     ) >  = 80 THEN SU = SU + 1
530  IF D$(L(7) + (6 + VN)) <  >
     "" THEN C = C + 1
```

```
540  IF D$(L(7) + (6 + VN)) < >
     "" THEN  GOTO 510
550  IF  VAL (SQ$) < = VAL (D$(
     L(7) + 6)) THEN SQ$ = D$(L(7
     ) + 6):U = U + 1:UN$(U) = D$
     (L(7) + 5)
560 SU = ( INT ((SU / C * 100) +
     .5))
570 SU(U) = SU:SU = 0: IF SU(U) <
     80 THEN NM = NM + 1
580 VN = 0:C = 0
590  IF SQ$ = "" THEN  PRINT "THE
     RE ARE NO TEST RECORDS": PRINT
     "FOR ";: &  POS FLD,8,1: &  PRINT
     ,TC$
600  GOTO 470
610  &  READ ,2,D$(1),KQ$:NS =  VAL
     (D$(L(1) + 1)):NT =  VAL (D$
     (L(1) + 2))
615  IF  USR (0) AND NS = 0 AND N
     T = 0 THEN  HOME : VTAB 12: PRINT
     "THERE IS NO CALENDAR FILE":
      END
620  &  READ ,7,D$(1),KQ$(1)
625  IF  USR (0) AND F4 = 0 THEN
      HOME : VTAB 12: PRINT "THER
     E ARE NO PLANNING GUIDE": PRINT
     "RECORDS FOR GRADE ";G$;" ";
     : &  POS FLD,6,2: &  PRINT ,
     S$: END
627  IF  USR (0) THEN  GOTO 740
640 K3$ = D$(L(6) + 1) + D$(L(6) +
     2) + D$(L(6) + 3) + D$(L(6) +
     4) + D$(L(6) + 5)
650 K4$ = KEY$ + TX$: IF K3$ < >
     K4$ THEN  GOTO 620
655 F4 = 1
660  FOR IC = 13 TO 37 STEP 4
670  IF D$(L(6) + IC) =  CHR$ (11
     5) OR D$(L(6) + IC) =  CHR$
     (211) OR D$(L(6) + IC) =  CHR$
     (119) OR D$(L(6) + IC) =  CHR$
     (215) THEN SF = 1
680  NEXT IC
690 DT = DT +  VAL (D$(L(6) + 43)
     ):TS = TS +  VAL (D$(L(6) +
     44))
700  IF DT < = NI THEN NP = NP +
      VAL (D$(L(6) + 44))
710  IF  VAL (SQ$) > = VAL (D$(
     L(6) + 10)) THEN DY = DY +  VAL
     (D$(L(6) + 43)):SK = SK +  VAL
     (D$(L(6) + 44))
720  IF DT < NT THEN ST = ST +  VAL
     (D$(L(6) + 44)):S2$ = D$(L(6
     ) + 10):I2 = I2 + 1:U2$(I2) =
     D$(L(6) + 9)
730 K5$ = D$(L(6) + 3) + D$(L(6) +
     2):I3 = I3 + 1:U3$(I3) = D$(
     L(6) + 9): GOTO 620
```

```
740 S1 = ((SK / TS) * 100) + .5:S
    1 =  INT (S1):S2 = ((ST / TS
    ) * 100) + .5:S2 =  INT (S2)

750  HOME
760  IF X$ = "Y" THEN  &  PR#
770  GOSUB 1540
780  PRINT : PRINT  TAB( 13)"PRIO
    R LEARNING": PRINT  TAB( 13)
    "***************": PRINT
790  PRINT "ENTERING ACHIEVEMENT-
    ";AC;" ";AU$
800  PRINT : PRINT "GOAL ACHIEVEM
    ENT-";GA;" ";AU$
810  PRINT : PRINT "STRENGTHS AND
     WEAKNESSES HAVE ";
820  IF SF = 0 THEN OP(1) = 1: PRINT
    "NOT ";
830  PRINT "BEEN": PRINT "IDENTIF
    IED ON YOUR SCHOOL YEAR": PRINT
    "PLANNING GUIDE"
835  IF X$ = "Y" THEN  PRINT D$;"
    PR#0"
840  VTAB 23: INPUT "PRESS RETURN
     TO CONTINUE...";M$
845  IF X$ = "Y" THEN  PRINT D$;"
    PR#1": PRINT  CHR$ (12)
850  HOME : PRINT : PRINT  TAB( 1
    2)"CONTENT COVERAGE": PRINT
     TAB( 12)"*****************":
     PRINT
855  IF X$ = "Y" THEN  PRINT D$;"
    PR#0"
860  PRINT "HOW MANY INSTRUCTIONA
    L DAYS": INPUT "HAVE BEEN US
    ED..";NI: PRINT : PRINT "HOW
     MANY INSTRUCTIONAL DAYS": INPUT
    "SINCE YOUR LAST UNIT TEST..
    ";U1:NI = NI - U1
865  IF X$ = "Y" THEN  PR# 1
870  PRINT
880  PRINT "YOUR LAST UNIT TEST W
    AS ON UNIT ";UN$(U)
890  PRINT : PRINT "YOU PLANNED O
    N USING ";DY: PRINT "INSTRUC
    TIONAL DAYS BY THAT DATE"
900  PRINT : PRINT "YOU ACTUALLY
    USED ";NI;" DAYS"
910  IF NI > DY THEN  PRINT : PRINT
    "YOU ARE ";NI - DY;" DAY";: IF
    N1 - DY > 1 THEN  PRINT "S";

920  IF NI > DY THEN  PRINT " BEH
    IND YOUR PLANS"
930  IF NI < DY THEN  PRINT : PRINT
    "YOU ARE ";DY - NI;" DAY";: IF
    DY - NI > 1 THEN  PRINT "S";

940  IF NI < DY THEN  PRINT " AHE
    AD OF YOUR PLANS"
```

```
950  IF NI = DY THEN  PRINT : PRINT
     "YOU ARE IN AGREEMENT WITH Y
     OUR SYPG"
955  PRINT D$
956  IF X$ = "Y" THEN  PR# 0
960  PRINT : PRINT : INPUT "PRESS
      RETURN TO CONTINUE..";BL$: HOME

965  IF X$ = "Y" THEN  PRINT D$;"
     PR#1"
970  PRINT : PRINT "YOU HAVE COVE
     RED ";S1;"% OF THE SKILLS": PRINT
     "THAT YOU PLANNED ON COVERIN
     G": PRINT "BY TEST DATE"
980  PRINT : PRINT "ACCORDING TO
     YOUR SYPG YOU WILL": PRINT "
     COVER ";S2;"% OF THOSE SKILL
     S BY TEST DATE"
985  IF X$ = "Y" THEN  PRINT D$;"
     PR#0"
990  FLASH : VTAB 10
1000  HTAB 13: PRINT "WORKING"
1010  NORMAL
1020  &  READ ,4,D$(1),KQ$
1025  IF  USR (0) AND F5 = 0 THEN
      HOME : VTAB 12: PRINT "THER
     E IS NO CONTENT FILE FOR THI
     S CLASS": END
1030  IF  USR (0) THEN  GOTO 1070

1040 K6$ = D$(L(3) + 1) + D$(L(3)
      + 2)
1050  IF K5$ <  > K6$ THEN  GOTO
     1020
1055 F5 = 1
1060 I5 = I5 + 1:U4$(I5) = D$(L(3
     ) + 11): GOTO 1020
1070 I6 = I3: FOR I3 = 1 TO I6
1080  FOR I4 = 1 TO I5
1090  IF UN$(I3) = "" THEN  GOTO
     1110
1100  IF UN$(I3) = U4$(I4) THEN C
     3 = C3 + 1
1110  IF U2$(I3) = "" THEN  GOTO
     1130
1120  IF U2$(I3) = U4$(I4) THEN C
     1 = C1 + 1
1130  IF U3$(I3) = "" THEN  GOTO
     1150
1140  IF U3$(I3) = U4$(I4) THEN C
     2 = C2 + 1
1150  NEXT I4: NEXT I3
1160 EF = 7
1170 CD = (C3 / IT) * 100 + .5:CD
      =  INT (CD)
1180 CT = (C1 / IT) * 100 + .5:CT
      =  INT (CT)
1190 CY = (C2 / IT) * 100 + .5:CY
      =  INT (CY)
1200  NORMAL
```

```
1210  PRINT  CHR$ (11)
1215  IF X$ = "Y" THEN  PRINT D$;
     "PR#1"
1220  PRINT : PRINT "COVERAGE TO
     DATE OF ITEMS ON TEST IS ";C
     D;"%"
1230  PRINT : PRINT "COVERAGE BY
     TEST DATE IS ";CT;"%"
1240  PRINT
1250  PRINT : PRINT "COVERAGE BY
     THE END OF THE YEAR IS ";CY;
     "%"
1260 K6$ = S$ + G$ + TS$
1270  FOR I = 1 TO 100: NEXT I
1280 C0 =  INT (C1 * .8 + .5)
1290  &  READ ,3,D$(1),KQ$(1)
1295  IF  USR (0) AND F6 = 0 THEN
      HOME : VTAB 12: PRINT "THER
     E IS NO NORMS TABLE FOR THIS
      CLASS": END
1300  IF  USR (0) THEN  GOTO 1370

1310 K7$ = D$(L(2) + 2) + D$(L(2)
      + 1) + D$(L(2) + 3)
1320  IF K6$ <  > K7$ THEN  GOTO
     1290
1325 F6 = 1
1330  IF C0 =  VAL (D$(L(2) + 8))
      THEN P =  VAL (D$(L(2) + 9)
     ):FP = 1
1340  IF  VAL (D$(L(2) + 9)) <  INT
     (GA / .8 + .5) THEN  GOTO 12
     90
1350 K =  VAL (D$(L(2) + 8))
1360  IF FP <  > 1 THEN  GOTO 129
     0
1365  IF X$ = "Y" THEN  PRINT D$;
     "PR#0"
1370  VTAB 23: INPUT "PRESS RETUR
     N TO CONTINUE...";BL$
1375  IF X$ = "Y" THEN  PRINT D$;
     "PR#1"
1380  HOME : PRINT : PRINT "PREDI
     CTED ACHIEVEMENT GIVEN": PRINT
     "COVERAGE TO TEST OF ";C1;"
     ITEMS": PRINT "AND 80% MASTE
     RY IS ";P; SPC( 1);"%ILE"
1390  PRINT
1400 EF = 7
1410  IF P < GA - EF THEN OP(2) =
     1: PRINT : PRINT "TO REACH Y
     OUR ACHIEVEMENT GOAL OF ";GA
     ;"%": PRINT "YOU WILL NEED T
     O INCREASE COVERAGE": PRINT
     "TO ";K;" ITEMS (ASSUMING 80
     % MASTERY)": GOTO 1450
1420 OP(4) = 0
1430  PRINT : PRINT "THIS LEVEL O
     F COVERAGE IS": PRINT "CONSI
     STENT WITH YOUR ": PRINT "AC
```

```
    HIEVEMENT GOAL OF ";GA;"%"
1440  NORMAL : VTAB 23
1450  IF X$ = "Y" THEN  PRINT D$;
    "PR#0"
1455  VTAB 23: INPUT "PRESS RETUR
    N TO CONTINUE...";M$
1460  HOME : VTAB 10
1470  GOTO 1790
1480  &  POS FLD,6,1: PRINT "DATE
    :  ";: &  PRINT ,TD$
1490  PRINT : PRINT M$
1500  INPUT XX$
1510  IF  LEN (XX$) = 0 THEN  PRINT
    : PRINT "NO ENTRY MADE.TRY A
    GAIN.": PRINT : GOTO 1490
1520  IF  LEN (XX$) > L THEN  PRINT
    : PRINT "TOO LONG.";L;" CHAR
    ACTERS ONLY.": PRINT : GOTO
    1490
1530  RETURN
1540  PRINT "TEACHER:  ";
1550  &  POS FLD,6,2: &  PRINT ,T
    C$
1560  PRINT : PRINT
1570  PRINT "GRADE:  ";
1580  &  POS FLD,6,4: &  PRINT ,G
    $
1590  PRINT : PRINT : PRINT "SUBJ
    ECT:  ";
1600  &  POS FLD,6,3: &  PRINT ,S
    $
1610  PRINT : PRINT
1620  &  POS FLD,6,1: PRINT "DATE
    :  ";: &  PRINT ,TD$
1630  PRINT : PRINT
1640  RETURN
1650  &  POS FLD,6,3: &  PRINT ,S
    $
1660  PRINT : PRINT M$
1670  INPUT XX$
1680  IF  LEN (XX$) = 0 THEN  PRINT
    : PRINT "NO ENTRY MADE.TRY A
    GAIN.": PRINT : GOTO 1660
1690  IF  ASC (XX$) <  > 78 AND  ASC
    (XX$) <  > 89 THEN  PRINT : PRINT
    "ENTRY MUST BE YES OR NO": PRINT
    : GOTO 1660
1700  RETURN
1770 NZ$ = EA$(I,J + 1): RETURN
1780 NZ$ = EA$(I,J): RETURN
1790  IF X$ = "Y" THEN  PRINT D$;
    "PR#1": PRINT  CHR$ (12)
1795 U = 0
1796  IF NM > 0 THEN OP(3) = 1
1800  HOME : IF U + 1 >  VAL (SQ$
    ) THEN  GOTO 2000
1810  HTAB 5: PRINT "TOPICS";
1820  HTAB 18: PRINT "UNIT";
1830  HTAB 27: PRINT "% OF CLASS"
```

```
1840  HTAB 24: PRINT "REACHING MA
      STERY"
1850  HTAB 25: PRINT "(80% OR BET
      TER)"
1860  HTAB 24: PRINT "ON LAST UNI
      T TEST"
1870  PRINT "==================
      ==================": PRINT
      : PRINT
1880  IF U = 0 THEN  &  READ ,7,D
      $(1),K0$(1),F
1890  IF U > 0 THEN  &  READ ,7,D
      $(1),K0$(1)
1900  IF  USR (0) THEN  GOTO 2000

1910 K8$ = D$(L(6) + 1) + D$(L(6)
       + 2) + D$(L(6) + 3) + D$(L(
      6) + 4) + D$(L(6) + 5)
1920  IF K8$ <  > K4$ THEN  GOTO
      1800
1930 U = U + 1
1940 IN = IN + 4
1945  IF X$ = "Y" AND D$(L(6) + (
      7 + IN)) = "" THEN  PRINT  TAB(
      20);D$(L(6) + 9); TAB( 31);S
      U(U):IN = 0: PRINT D$;"PR#0"
      : VTAB 23: INPUT "PRESS RETU
      RN TO CONTINUE...";BL$: PRINT
      D$;"PR#1": PRINT  CHR$ (12):
       GOTO 1800
1946  IF X$ = "Y" AND D$(L(6) + (
      7 + IN)) = "" THEN  PRINT D$
      ;"PR#1": PRINT  CHR$ (12): GOTO
      1800
1950  IF D$(L(6) + (7 + IN)) = ""
       THEN  VTAB 10: HTAB 20: PRINT
      D$(L(6) + 9): VTAB 10: HTAB
      31: PRINT SU(U):IN = 0: VTAB
      23: INPUT "PRESS RETURN TO C
      ONTINUE...";BL$: GOTO 1800
1960  &  POS FLD,7,7 + IN: POKE 9
      ,0
1970  &  PRINT ,D$(L(6) + (7 + IN
      ))
1980  PRINT
1990  GOTO 1940
2000  IF X$ = "Y" THEN  PRINT D$;
      "PR#0"
2005  HOME : VTAB 13
2010  PRINT  TAB( 18);"TIME"
2020  PRINT  TAB( 18);"****"
2030  PRINT D$;"BLOAD CHAIN,A520"

2040  CALL 520"CONF.PART3"

]PR#0
]LIST

30 D$ =  CHR$ (4)
40  DIM T$(13,12),AV(3),U(5),C$(5
```

```
     )
50   DIM LI(10),CO(10)
60   DIM T2$(13,12)
6000   REM  TIME
6001 C = 0
6005   &  READ ,9,D$(1),KQ$(1)
6006   IF  USR (0) AND F7 = 0 THEN
       HOME : VTAB 12: PRINT "THER
      E ARE NO TIME OBSERVATIONS":
       PRINT "FOR THIS CLASS": END

6010   IF  USR (0) THEN  GOTO 6100

6015 K9$ = D$(L(8) + 1) + D$(L(8)
       + 2) + D$(L(8) + 3) + D$(L(
      8) + 4)
6020   IF K9$ <  > KEY$ THEN  GOTO
      6005
6025 F7 = 1
6030 T$(C,0) = D$(L(8) + 5)
6035 T$(C,1) = D$(L(8) + 6)
6040 T$(C,2) = D$(L(8) + 7)
6050 T$(C,3) = D$(L(8) + 8)
6055 T$(C,4) = D$(L(8) + 9)
6060 T$(C,5) = D$(L(8) + 10)
6065 T$(C,6) = D$(L(8) + 11)
6070 T$(C,7) = D$(L(8) + 12)
6075 T$(C,8) = D$(L(8) + 13)
6080 T$(C,9) = D$(L(8) + 14)
6085 T$(C,10) = D$(L(8) + 15)
6090 T$(C,11) = D$(L(8) + 16)
6091 C = C + 1
6095   GOTO 6005
6100 C = C - 1
6101   IF X$ = "Y" THEN  PRINT D$;
      "PR#1"
6102   FOR V = 0 TO C
6104   HOME : PRINT "THE FOLLOWING
       OBSERVATION DATA"
6105   PRINT "HAVE BEEN RECORDED:"

6106   PRINT "==================
      ====================": PRINT
      : PRINT
6110   &  POS FLD,9,5
6113   & PRTNAME,2
6114   POKE 9,0
6115   PRINT "...";: &  PRINT ,T$(
      V,0)
6120   PRINT : &  POS FLD,9,6
6122   & PRTNAME,2
6124   POKE 9,0
6125   PRINT "...";: &  PRINT ,T$(
      V,1)
6130   PRINT : &  POS FLD,9,7
6132   & PRTNAME,2
6134   POKE 9,0
6135   PRINT "...";: &  PRINT ,T$(
      V,2)
6140   PRINT : &  POS FLD,9,8
```

```
6142  & PRTNAME,2
6143  POKE 9,0
6145  PRINT "...";: &  PRINT ,T$(
      V,3)
6150  PRINT : PRINT : &  POS FLD,
      9,9
6152  & PRTNAME,2
6153  POKE 9,0
6155  PRINT "...";: &  PRINT ,T$(
      V,4)
6160  PRINT : &  POS FLD,9,10
6162  & PRTNAME,2
6163  POKE 9,0
6165  PRINT "...";: &  PRINT ,T$(
      V,5)
6170  PRINT : &  POS FLD,9,11
6172  & PRTNAME,2
6173  POKE 9,0
6175  PRINT "...";: &  PRINT ,T$(
      V,6)
6180  PRINT : &  POS FLD,9,12
6182  & PRTNAME,2
6183  POKE 9,0
6185  PRINT "...";: &  PRINT ,T$(
      V,7)
6190  PRINT : PRINT : &  POS FLD,
      9,13
6192  & PRTNAME,2
6193  POKE 9,0
6195  PRINT "...";: &  PRINT ,T$(
      V,8)
6200  PRINT : &  POS FLD,9,14
6202  & PRTNAME,2
6203  POKE 9,0
6205  PRINT "...";: &  PRINT ,T$(
      V,9)
6210  PRINT : &  POS FLD,9,15
6212  & PRTNAME,2
6213  POKE 9,0
6215  PRINT "...";: &  PRINT ,T$(
      V,10)
6220  PRINT : &  POS FLD,9,16
6222  & PRTNAME,2
6223  POKE 9,0
6224  PRINT "...";: &  PRINT ,T$(
      V,11)
6225  IF X$ = "Y" THEN  PR# 0
6226  PRINT : VTAB 23: INPUT "PRE
      SS RETURN TO CONTINUE...";BL
      $
6227  IF X$ = "Y" THEN  PRINT D$;
      "PR#1": PRINT  CHR$ (12)
6228  NEXT V
6229  FOR I = 0 TO C
6240 T$(I,9) =  STR$ ( INT (100 *
      VAL (T$(I,9)) + .5))
6245 T$(I,10) =  STR$ ( INT ( VAL
      (T$(I,10)) + .5))
6260 T$(I,11) =  STR$ ( INT ( VAL
      (T$(I,11)) + .5))
```

37

```
6270 AV(0) = AV(0) +  VAL (T$(I,1
     0))
6280 AV(1) = AV(1) +  VAL (T$(I,9
     ))
6290 AV(2) = AV(2) +  VAL (T$(I,1
     1))
6295  IF  VAL (T$(I,10)) > TH THEN
     TH =  VAL (T$(I,10))
6300  NEXT I
6310  FOR I = 0 TO 2
6320 AV(I) = AV(I) / (C + 1)
6330 AV(I) =  INT (AV(I) + .5)
6340  NEXT I
6345  IF X$ = "Y" THEN  PRINT D$;
     "PR#1"
6350  HOME : PRINT
6360  PRINT  TAB( 14)"SUMMARY SHE
     ET": PRINT
6370  PRINT " DATE   OBSVR PRT  A
     T"; SPC( 5);"ER"; SPC( 5);"S
     ET"
6375  FOR I = 0 TO C
6380  PRINT : &  POS FLD,9,5: POKE
     9,0: &  PRINT ,T$(I,0)
6390  PRINT  SPC( 2)
6400  &  POS FLD,9,6: POKE 9,0: &
      PRINT ,T$(I,1)
6401  PRINT  SPC( 3)
6402  &  POS FLD,9,7: POKE 9,0: &
      PRINT ,T$(I,2)
6404  PRINT  TAB( 20)T$(I,10);" M
     IN  ";
6406  PRINT T$(I,9);"%"; SPC( 2);

6408  PRINT T$(I,11);" MIN"
6410  NEXT I
6420 I = 20: IF AV(0) < 100 THEN
     I = 21
6430 J = 2: IF AV(2) < 100 THEN J
      = 3
6440  PRINT : PRINT  TAB( 7)"AVER
     AGES"; TAB( I);AV(0);" MIN
     ";AV(1);"%"; SPC( J);AV(2);"
      MIN"
6445  IF X$ = "Y" THEN  PRINT D$;
     "PR#0"
6450  PRINT : PRINT : INPUT "PRES
     S RETURN TO CONTINUE...";M$
6565  PRINT D$;"BLOAD CHAIN,A520"

6570  CALL  520"TIME2"

]PR#0
]LIST

30 D$ =  CHR$ (4)
6000  REM  TIME
6770 C$(0) = "M":C$(1) = "U":C$(2
     ) = "S":C$(3) = "D":C$(4) =
     "D"
```

```
6772  DIM AL(11),ER(11)
6780  DATA      6,"A--GR.1 READING
      /LANG",3,38,110,130,210,10
6790  DATA    "B--GR.3 READING/LAN
      G",5,48,88,113,170,198,205,1
      2
6800  DATA    "C--GR.5 READING/LAN
      G",3,40,78,92,135,7
6810  DATA    "D--GR.1 MATH",5,5,3
      4,46,140,152,165,6
6820  DATA    "E--GR.3 MATH",3,8,4
      6,61,108,8
6830  DATA    "F--GR.5 MATH",2 17,
      32,46,99
6840  READ F1
6850  FOR I = 1 TO F1
6860  READ ZZ$(I),K(I)      ;
6870  FOR J = 1 TO K(I) + 1
6880  READ CA(I,J)
6890  NEXT J
6891 EA$(I,1) = "TIME BELOW RANGE
      "
6892 EA$(I,2) = "BELOW EXPECTED A
      CHIEVEMENT LEVEL"
6893 EA$(I,3) = "AT EXPECTED ACHI
      EVEMENT LEVEL"
6894 EA$(I,4) = "ABOVE EXPECTED A
      CHIEVEMENT LEVEL"
6895 EA$(I,5) = "TIME ABOVE RANGE
      "
6896  IF K(I) <  > 2 THEN  GOTO 6
      900
6897 EA$(I,2) = "TIME BELOW AVERA
      GE"
6898 EA$(I,3) = "TIME ABOVE AVERA
      GE"
6899 EA$(I,4) = EA$(I,5): GOTO 69
      10
6900  IF K(I) = 3 THEN  GOTO 6910

6901 EA$(I,7) = EA$(I,5)
6902 EA$(I,6) = EA$(I,2):EA$(I,5)
      = EA$(I,3)
6910  READ MC(I)
6920  NEXT I
6925  HOME :M$ = "IS THIS AN ELEM
      ENTARY CLASS? ": GOSUB 19080
      :X1$ = XX$
6927  IF  ASC (X1$) = 78 THEN YX$
      = "G":K(I) = 1:CA(I,1) = 10
      :CA(I,2) = 11( EA$(I,1) = "T
      IME BELOW RANGE":EA$(I,2) =
      "TIME IN RANGE":EA$(I,3) = "
      TIME ABOVE RANGE":MC(I) = 99
      : GOTO 7410
6930  HOME : PRINT "THE FOLLOWING
      COMPARISON OPTIONS": PRINT
      "ARE AVAILABLE:": PRINT
6940  FOR I = 1 TO F1
6950  PRINT : PRINT ZZ$(I)
```

```
6960  NEXT I
6970  PRINT : PRINT "WHICH OPTION
      DO YOU WANT TO USE? ": INPUT
     "(TYPE ONE LETTER)";YX$
6990  REM  DATA ANALYSIS
7060  IF X$ = "Y" THEN  PRINT D$;
     "PR#1": PRINT  CHR$ (12)
7410  PRINT : PRINT : HOME : PRINT

8280  PRINT  TAB( 16)"COMPARISON"

8290  IF  ASC (X1$) = 78 THEN  GOTO
     8840
8300 NG = AV(2): GOSUB 19860:E$ =
     NZ$
8305  IF MC = 99 THEN MC = 0
8306 JH = J
8310  PRINT : PRINT : PRINT "ENTE
     RING ACHIEVEMENT OF": PRINT
     "YOUR CLASS IS ";AC;"%"
8311  PRINT : PRINT "YOUR ACHIEVE
     MENT GOAL IS ";GA;"%"
8312  PRINT : PRINT "AVERAGE STUD
     ENT ENGAGED TIME IS ";AV(2);
     " MIN. ": PRINT E$
8313  IF X$ = "Y" THEN  PRINT D$;
     "PR#0"
8315  IF E$ = "TIME BELOW RANGE" OR
     E$ = "TIME BELOW AVERAGE" OR
      LEFT$ (E$,5) = "BELOW" THEN
     OP(4) = 1: GOSUB 19930
8336  IF  LEFT$ (E$,2) = "AT" THEN
      GOSUB 19965
8337  IF  LEFT$ (E$,5) = "ABOVE" THEN
      GOSUB 20000
8338  IF (K(I) <  = 3) OR JH <  =
     3 THEN  GOTO 8354
8339  IF  VAL (AZ$) = 1 AND  LEFT$
     (E$,5) = "ABOVE" THEN  GOTO
     8370
8340  IF  VAL (AZ$) = 2 AND  LEFT$
     (E$,5) = "ABOVE" THEN  GOTO
     8360
8341  PRINT : PRINT "THIS ZONE BE
     GINS AT ";CA(I,JH - 1) - 1: PRINT
     "AND GOES DOWN TO ";CA(I,JH -
     2)
8345  GOTO 8360
8354  IF  VAL (AZ$) = 1 THEN NG =
     AV(2): GOTO 8370
8355  IF  VAL (AZ$) = 2 THEN  GOTO
     8360
8356  PRINT "THIS ZONE BEGINS AT
     ";CA(I,J)
8360  PRINT :M$ = "WHAT IS YOUR S
     TUDENT ENGAGED TIME GOAL? ":
     L = 3: GOSUB 19000:NG =  VAL
     (XX$)
8370  GOSUB 19860: HOME : PRINT "
     YOUR GOAL IS ";NG;" MIN.": PRINT
```

```
     : PRINT "EXPECTED ACHIEVEMEN
     T:": PRINT NZ$: PRINT
8380 M$ = "IS THIS THE GOAL YOU I
     NTENDED? ": GOSUB 19080: IF
      ASC (XX$) = 78 GOTO 8360
8382 ER = AV(1)
8383  IF AV(1) < 80 THEN ER = 79
8384  IF AV(1) >  = 90 THEN  PRINT
     "YOUR CLASS'S ENGAGEMENT RAT
     E IS GOOD": GOTO 8420
8385 DF = 90 - ER
8386  HOME : PRINT "IN ORDER TO A
     TTAIN YOUR SET GOAL OF ";NG:
      PRINT "YOU CAN USE ANY OF T
     HE FOLLOWING": PRINT "COMBIN
     ATIONS:"
8387  PRINT : PRINT "   ENGAGEMEN
     T RATE      ALLOCATED TIME "
8388  PRINT "    ****************
        ***************"
8390  FOR Z = 1 TO DF
8394 ER = ER + 1
8395 ER(Z) = ER
8400 AL(Z) = NG / ER(Z) * 100:AL(
     Z) =  INT (AL(Z) + .5)
8408  PRINT Z;"."; TAB( 9);ER(Z);
      TAB( 28);AL(Z)
8410  NEXT Z
8415  PRINT : PRINT
8420  PRINT : PRINT : PRINT "YOUR
      SELECTION? (1 TO ";Z - 1;")
     ";
8421  INPUT "..";CN$
8424  IF  VAL (CN$) < 1 OR  VAL (
     CN$) > Z THEN  PRINT "PLEASE
      ENTER 1 TO ";Z - 1;: GOTO 8
     421
8425 AL = AL( VAL (CN$)):ER = ER(
      VAL (CN$))
8430  VTAB (23): INPUT "PRESS RET
     URN TO CONTINUE...";BL$
8449  REM  UNENGAGED BEHAVIORS
8550  HOME : PRINT "UNENGAGED BEH
     AVIORS WILL BE TOTALED": PRINT
     "FOR THE MOST RECENT OBSERVA
     TIONS."
8560  PRINT "HOW MANY OBSERVATION
     S SHOULD BE": INPUT "INCLUDE
     D? ";I1
8570  IF I1 > C + 1 OR I1 < 0 THEN
      PRINT : PRINT "VALUE MUST B
     E BETWEEN 1 AND ";C + 1: GOTO
     8560
8580  FOR I = 0 TO I1 - 1
8590 U(0) = U(0) +  VAL (T$(I,4))

8600 U(1) = U(1) +  VAL (T$(I,7))

8610 U(2) = U(2) +  VAL (T$(I,5))
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8620 U(3) = U(3) +  VAL (T$(I,6))

8630 U(4) = U(4) +  VAL (T$(I,8))

8640  NEXT I
8650 F = 0
8660  FOR I = 0 TO 3
8670  IF U(I) >  = U(I + 1) THEN
      GOTO 8710
8680 S = U(I):U(I) = U(I + 1):U(I
      + 1) = S
8690 Z$ = C$(I):C$(I) = C$(I + 1)
     :C$(I + 1) = Z$
8700 F = 1
8710  NEXT I
8720  IF F = 1 THEN  GOTO 8650
8725  IF X$ = "Y" THEN  PRINT D$;
     "PR#1": PRINT  CHR$ (12)
8730  PRINT : PRINT "UNENGAGED BE
     HAVIOR"; SPC( 5);"FREQUENCY"

8740  PRINT
8750  FOR I = 0 TO 4
8760  IF C$(I) = "M" THEN  PRINT
     "MGMT/TRANS"; TAB( 26);U(I)
8770  IF C$(I) = "S" THEN  PRINT
     "SOCIALIZING"; TAB( 26);U(I)

8780  IF C$(I) = "D" THEN  PRINT
     "DISCIPLINE"; TAB( 26);U(I)
8790  IF C$(I) = "U" THEN  PRINT
     "UNOCC/OBS"; TAB( 26);U(I)
8800  IF C$(I) = "O" THEN  PRINT
     "OUT OF ROOM"; TAB( 26);U(I)

8810  NEXT I
8825  IF X$ = "Y" THEN  PRINT D$;
     "PR#0"
8830  PRINT : PRINT : INPUT "PRES
     S RETURN TO CONTINUE";M$
8835  GOTO 8910
8837  REM
8838  REM  SECONDARY LEVEL ANALYS
     IS
8839  REM
8840 M$ = "WHAT IS SCHEDULED TIME
     ? ":L = 3: GOSUB 19000:AL =
      VAL (XX$)
8850  IF (AL < AV(0) - 5) OR (AL >
     AV(0) + 5) THEN OP(10) = 1
8860  IF AV(1) >  = 85 THEN  PRINT
     : PRINT "YOUR CLASS'S ENG.RA
     TE IS GOOD": GOTO 8890
8870 OP(11) = 1:OP(12) = 1
8880  PRINT : PRINT "YOU SHOULD P
     ROBABLY TRY TO INCREASE": PRINT
     " YOUR ENGAGEMENT RATE OF ";
     AV(1);"%"
8885  PRINT : INPUT "WHAT IS YOUR
      ENGAGEMENT RATE GOAL? ";ER
```

```
8870 NG =  INT (AL * ER / 100 + .
     5)
8900  IF (NG < AV(2) - 5) OR (NG >
     AV(2) + 5) THEN OP(4) = 1
8902  PRINT : PRINT "RESULTING ST
     .ENG.TIME GOAL IS ";NG;" MIN
     ."
8904  PRINT : PRINT : INPUT "PRES
     S RETURN TO CONTINUE";M$
8910  IF X$ = "Y" THEN  PRINT D$;
     "PR#1"
8911  IF X$ = "Y" THEN  PRINT  CHR$
     (12)
8916  HOME : PRINT : PRINT
8920  PRINT "YOUR TIME GOALS ARE:
      "
8930  PRINT : PRINT  TAB( 5);"ST.
     ENG.TIME = ";NG;" MIN."
8940  PRINT : PRINT  TAB( 5);"ENG
     .RATE = ";ER;"%"
8950  PRINT : PRINT  TAB( 5);"ALL
     OC.TIME = ";AL;" MIN."
8955  IF NG > AV(2) THEN OP(4) =
     1
8956  IF AL > AV(0) THEN OP(5) =
     1
8957  IF ER > AV(1) THEN OP(6) =
     1
8960  PRINT D$;"BLOAD CHAIN,A520"

8970  CALL 520"CONF.PART4"
8980  GOTO 19999
8990  END
19000  PRINT : PRINT M$
19010  INPUT XX$
19020  IF  LEN (XX$) = 0 THEN  PRINT
     : PRINT "NO ENTRY MADE.TRY A
     GAIN.": PRINT : GOTO 19000
19030  IF  LEN (XX$) > L THEN  PRINT
     : PRINT "TOO LONG.";L;" CHAR
     ACTERS ONLY.": PRINT : GOTO
     19000
19040  RETURN
19080  PRINT : PRINT M$
19090  INPUT XX$
19100  IF  LEN (XX$) = 0 THEN  PRINT
     : PRINT "NO ENTRY MADE.TRY A
     GAIN.": PRINT : GOTO 19080
19110  IF  ASC (XX$) <  > 78 AND
      ASC (XX$) <  > 89 THEN  PRINT
     : PRINT "ENTRY MUST BE YES O
     R NO": PRINT : GOTO 19080
19120  RETURN
19860  REM  FIND ZONE NZ$ CORRES.
     10 COV/ST.ENG.TIME NG
19870 I =  ASC (YX$) - 64
19875 MC = MC(I)
19880  FOR J = 1 TO K(I) + 1
19890  IF NG < CA(I,J) THEN  GOTO
     19920
```

```
19900  NEXT J
19905 NZ$ = EA$(I,J + 1)
19910  IF NZ$ = "" THEN NZ$ = EA$
     (I,J - 1):J = JH: RETURN
19920 NZ$ = EA$(I,J): RETURN
19930  REM  BELOW ZONE
19940  IF AC >  = 80 THEN  PRINT
     : PRINT "YOU SHOULD MOVE TO
     AT LEAST THE AT ZONE":J = 2
19950  IF AC < 80 THEN  PRINT : PRINT
     "YOU SHOULD MOVE TO THE ABOV
     E ZONE":J = 3:JH = JH - 1
19955 NZ$ = EA$(I,J)
19960  RETURN
19965  REM  AT ZONE
19970  IF AC >  = 80 THEN  PRINT
     : PRINT "IT'S OK TO REMAIN I
     N THE AT ZONE": PRINT "DO YO
     U WANT TO:": PRINT : PRINT "
     1)REMAIN IN THE AT ZONE": PRINT
     : PRINT "2)MOVE TO THE ABOVE
      ZONE"
19975  IF AC >  = 80 THEN  PRINT
     : INPUT "PLEASE ENTER 1 OR 2
     .."; AZ$: IF  VAL (AZ$) <  >
     1 AND  VAL (AZ$) <  > 2 THEN
      GOTO 19975
19976  IF AC >  = 80 AND  VAL (AZ
     $) = 2 THEN J = 3: PRINT "TH
     IS ZONE BEGINS AT "; CA(I,J)
19977  IF AC >  = 80 THEN  GOTO 1
     9990
19980  IF AC < 80 THEN  PRINT : PRINT
     "YOU SHOULD MOVE TO THE ABOV
     E ZONE":J = 3
19985 NZ$ = EA$(I,J)
19990  RETURN
20000  REM  ABOVE ZONE
20005  PRINT "DO YOU WANT TO:"
20015  PRINT : PRINT "1)REMAIN WH
     ERE YOU ARE IN THE ABOVE ZON
     E": PRINT "2)MOVE HIGHER IN
     THE ABOVE ZONE": PRINT : INPUT
     "PLEASE ENTER 1 OR 2..";AZ$:
      IF  VAL (AZ$) <  > 1 AND  VAL
     (AZ$) <  > 2 THEN  GOTO 2001
     5
20020  RETURN

]PR#0
]LIST

10000  REM  SUMMARY OF CONFERENCE

10010  IF X$ = "Y" THEN  PRINT D$
     ;"PR#1": PRINT  CHR$ (12)
10013  PRINT : PRINT : HOME
10014  PRINT  TAB( 12)"CONFERENCE
     SUMMARY"
10016  PRINT  TAB( 12)"**********
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     ********"
10018  PRINT
10020  PRINT "YOU HAVE IDENTIFIED
       IMPROVEMENT": PRINT "OPPORT
      UNITIES IN THE FOLLOWING ARE
      AS:"
10040  IF OP(1) = 1 THEN  PRINT :
       PRINT  SPC( 5);"PRIOR LEARN
      ING:ADDRESSING": PRINT  SPC(
      5);"STRENGTHS & WEAKNESSES I
      N": PRINT  SPC( 5);"UNIT PLA
      NS"
10050  IF OP(2) = 1 THEN  PRINT :
       PRINT  SPC( 5);"COVERAGE OF
       CRITERION-RELATED": PRINT  SPC(
      7);"CONTENT"
10070  IF OP(3) = 1 THEN  PRINT :
       PRINT  SPC( 5);"MASTERY OF
      CONTENT UNITS": PRINT  SPC(
      5);"IN ";NM;" OUT OF ";U;" T
      OPICS"
10090  IF OP(4) = 1 THEN  PRINT :
       PRINT  SPC( 5);"STUDENT ENG
      AGED TIME"
10100  IF OP(5) = 1 THEN  PRINT :
       PRINT  SPC( 5);"ALLOCATED T
      IME"
10110  IF OP(6) = 1 THEN  PRINT :
       PRINT  SPC( 5);"ENGAGEMENT
      RATE--": PRINT  SPC( 7);"MOS
      T FREQUENT UNENG.BEH.--";C$(
      0)
10120  IF  ASC (X$) = 89 THEN  PRINT
      D$;"PR#0"
10121  VTAB 24: INPUT "PRESS <RET
      URN> TO CONTINUE...";BL$
10122  HOME
10125  PRINT : PRINT "WHAT AREAS
      WOULD YOU LIKE TO IMPROVE IN
      ?"
10130  PRINT  SPC( 5)"1) PRIOR LE
      ARNING:ADDRESSING"
10140  PRINT  SPC( 8)"STRENGTHS A
      ND WEAKNESSES IN"
10150  PRINT  SPC( 8)"LESSON PLAN
      S"
10155  PRINT
10160  PRINT  SPC( 5)"2) COVERAGE
       OF CRITERION-RELATED"
10170  PRINT  SPC( 8)"CONTENT"
10175  PRINT
10180  PRINT  SPC( 5)"3) MASTERY
      OF CONTENT UNITS"
10185  PRINT
10190  PRINT  SPC( 5)"4) STUDENT
      ENGAGED TIME"
10191  PRINT
10195  PRINT : PRINT  SPC( 5)"5)
      ENTER YOUR OWN COMMENTS"
10197  PRINT
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```
10198  PRINT  SPC( 5)"6) END CONF
     ERENCE"
10200  PRINT : PRINT : PRINT "YOU
     R SELECTION?"
10201 ROW =  PEEK (37): VTAB ROW:
      HTAB 18
10202  GET S$
10205  IF  VAL (S$) < 1 OR  VAL (
     S$) > 6 THEN  GOTO 10202
10206  PRINT S$
10207  VTAB 24: HTAB 1: INPUT "PR
     ESS <RETURN> TO CONTINUE..."
     ;BL$
10210  ON  VAL (S$) GOSUB 11000,1
     2000,13000,14000,19000,25000

10215  GOTO 10122
10290  HOME : PRINT "THIS IS THE
     END OF ": PRINT "THE CONFERE
     NCE PROGRAM."
10300  PRINT : PRINT "TWO CONFERE
     NCE TASKS REMAIN": PRINT "TO
      BE COMPLETED."
10310  PRINT : PRINT  SPC( 5);"(1
     ) CHOOSE THE AREAS THAT YOU
     WANT": PRINT  SPC( 9);"TO IM
     PROVE UPON"
10320  PRINT : PRINT  SPC( 5);"(2
     ) DESCRIBE THE IMPROVEMENT P
     LAN,"
10330  PRINT  SPC( 9);"INDICATING
      WHAT,WHEN,": PRINT  SPC( 9)
     ;"WHERE,AND HOW."
10340  END
11000  HOME : PRINT  SPC( 5)"SUGG
     ESTIONS FOR IMPROVEMENT IN"
11005  PRINT  SPC( 3)"DETERMINING
      STRENGTHS AND WEAKNESSES"
11006 D$(L(5) + 20) = ""
11007 D$(L(5) + 21) = ""
11008 D$(L(6) + 22) = ""
11010  FOR X = 1 TO 39
11020  PRINT "*";
11030  NEXT X
11040  PRINT : PRINT
11050  PRINT "1) DETERMINE FROM L
     AST YEAR'S ITEM"
11060  PRINT  SPC( 3)"ANALYSIS OR
      GROUP ANALYSIS REPORT"
11070  PRINT  SPC( 3)"FROM STANDA
     RDIZED TEST"
11075  PRINT
11080  PRINT "2) DETERMINE FROM L
     AST YEAR'S TEST"
11085  PRINT
11090  PRINT "3) DISCUSS WITH LAS
     T YEAR'S TEACHER(S)
11095  PRINT
11100  PRINT "4) GIVE DIAGNOSTIC
     TEST AT BEGINNING OF"
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11110  PRINT  SPC( 3)"YEAR"
11120  VTAB 21
11130  PRINT "ENTER UP TO THREE S
     TRATEGIES, OR "
11140  PRINT "PRESS <R> TO RETURN
      TO MENU"
11150  VTAB 22: HTAB 30
11155 C = 0:X = 30
11160 C = C + 1
11170  IF C = 4 THEN C = 0: GOTO
     11200
11180  VTAB 22: HTAB X: GET A$
11190  IF A$ = "R" THEN  GOTO 112
     00
11191  IF  VAL (A$) < 1 OR  VAL (
     A$) > 4 THEN  GOTO 11180
11192  PRINT A$
11195  IF C = 1 THEN D$(L(5) + 20
     ) = A$:X = 33
11196  IF C = 2 THEN D$(L(5) + 21
     ) = A$:X = 36
11197  IF C = 3 THEN D$(L(5) + 22
     ) = A$:X = 39
11199  GOTO 11160
11200  VTAB 24: HTAB 1
11210  FOR Z = 1 TO 2000: NEXT Z:
      RETURN
12000  HOME : PRINT  SPC( 5)"SUGG
     ESTIONS FOR IMPROVEMENT IN"
12001 D$(L(5) + 24) = ""
12002 D$(L(5) + 25) = ""
12003 D$(L(5) + 26) = ""
12010  PRINT  SPC( 14)"COVERAGE"
12020  FOR Z = 1 TO 39
12030  PRINT "*";
12040  NEXT Z
12050  PRINT : PRINT
12060  PRINT "1) SPEND LESS TIME
     ON SKILLS RELATING"
12070  PRINT  SPC( 3)"TO CLASS'S
     PRIOR LEARNING STRENGTHS"
12080  PRINT "2) REARRANGE TOPICS
      TO TEACH UNTESTED"
12090  PRINT  SPC( 3)"SKILLS AFTE
     R TEST"
12100  PRINT "3) COVER ONLY CORE
     SKILLS IN EACH"
12110  PRINT  SPC( 3)"CHAPTER"
12120  PRINT "4) INCREASE THE TIM
     E SET ASIDE FOR"
12130  PRINT  SPC( 3)"INSTRUCTION
     "
12140  PRINT "5) INCREASE GENERAL
      PACE OF INSTRUCTION"
12150  PRINT "6) RESEARCH MOST EF
     FICIENT AND"
12160  PRINT  SPC( 3)"EFFECTIVE T
     EACHING FOR SPECIFIC"
12170  PRINT  SPC( 3)"TOPICS"
12180  PRINT "7) GROUP STUDENTS H
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     OMOGENEOUSLY"
12190  VTAB 21
12200  PRINT "ENTER UP TO THREE S
     TRATEGIES"
12210  PRINT "PRESS <R> TO RETURN
      TO MENU"
12215 C = 0:X = 30
12240  VTAB 22: HTAB X
12245 C = C + 1
12246  IF C = 4 THEN  GOTO 12500
12250  GET A$
12260  IF A$ = "R" THEN  GOTO 125
     00
12270  IF  VAL (A$) < 1 OR  VAL (
     A$) > 7 THEN  GOTO 12250
12280  PRINT A$
12290  IF C = 1 THEN D$(L(5) + 24
     ) = A$:X = 33
12300  IF C = 2 THEN D$(L(5) + 25
     ) = A$:X = 36
12310  IF C = 3 THEN D$(L(5) + 26
     ) = A$:X = 39
12315  PRINT
12320  GOTO 12240
12500  FOR Z = 1 TO 2000: NEXT Z:
      RETURN
13000  HOME : PRINT  SPC( 5)"SUGG
     ESTIONS FOR IMPROVEMENT IN"
13001 D$(L(5) + 28) = ""
13002 D$(L(5) + 29) = ""
13003 D$(L(5) + 30) = ""
13010  PRINT  SPC( 8)"MASTERY OF
     CONTENT UNITS"
13020  FOR Z = 1 TO 39
13030  PRINT "*";
13040  NEXT Z
13045  PRINT : PRINT
13050  PRINT "1) ANALYZE DAILY SU
     CCESS PATTERNS-"
13060  PRINT "2) DETERMINE UNIT T
     EST VALIDITY"
13070  PRINT  SPC( 3)"OR ALIGNMEN
     T WITH INSTRUCTION"
13080  PRINT "3) HOMOGENEOUSLY GR
     OUP STUDENTS FOR"
13081  PRINT  SPC( 3)"REMEDIATION
      AND/OR PRIOR LEARNING"
13082  PRINT  SPC( 3)"DEFICIENCIE
     S"
13090  PRINT "4) LOWER STANDARDS
     OR NON-CORE SKILLS"
13100  PRINT "5) RETEACH USING A
     DIFFERENT APPROACH"
13110  PRINT "6) SLOW PACING"
13120  PRINT "7) INCREASE MOTIVAT
     ION"
13130  PRINT "8) DECREASE ABSENCE
     "
13140  VTAB 21
13150  PRINT "ENTER UP TO THREE S
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     TRATEGIES, OR"
13110  PRINT "PRESS <R> TO RETURN
     TO MENU"
13115  C = 0:X = 30
13175  C = C + 1
13176  IF C = 4 THEN C = 0: GOTO
     13500
13180  VTAB 22: HTAB X
13190  GET A$
13200  IF A$ = "R" THEN  GOTO 135
     00
13210  IF  VAL (A$) < 1 OR  VAL (
     A$) > 9 THEN  GOTO 13190
13220  PRINT A$
13230  IF C = 1 THEN D$(L(5) + 28
     ) = A$:X = 33
13240  IF C = 2 THEN D$(L(5) + 29
     ) = A$:X = 36
13250  IF C = 3 THEN D$(L(5) + 30
     ) = A$:X = 39
13260  GOTO 13175
13500  FOR Z = 1 TO 2000: NEXT Z:
     RETURN
14000  IF C$(0) = "M" THEN  GOSUB
     15000
14020  IF C$(0) = "U" THEN  GOSUB
     16000
14030  IF C$(0) = "O" THEN  GOSUB
     17000
14040  IF C$(0) = "S" OR C$(0) =
     "D" THEN  GOSUB 18000
14041 D$(L(5) + 32) = ""
14042 D$(L(5) + 33) = ""
14043 D$(L(5) + 34) = ""
14050  VTAB 21
14060  PRINT "ENTER UP TO THREE S
     TRATEGIES, OR"
14070  PRINT "PRESS <R> TO RETURN
     TO MENU"
14080 C = 0:X = 30
14090 C = C + 1
14100  IF C = 4 THEN  GOTO 14999
14110  VTAB 22: HTAB X
14120  GET A$
14130  IF A$ = "R" THEN  GOTO 149
     99
14140  IF  VAL (A$) < 1 OR  VAL (
     A$) > 5 THEN  GOTO 14120
14150  PRINT A$
14160  IF C = 1 THEN D$(L(5) + 32
     ) = A$:X = 33
14170  IF C = 2 THEN D$(L(5) + 33
     ) = A$:X = 36
14180  IF C = 3 THEN D$(L(5) + 34
     ) = A$:X = 39
14190  GOTO 14090
14990  FOR Z = 1 TO 2000: NEXT Z:
     RETURN
14999  FOR Z = 1 TO 2000: NEXT Z:
     RETURN
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```
15000  HOME : PRINT  SPC( 5)"SUGG
     ESTIONS FOR IMPROVEMENT IN"
15010  PRINT "ENGAGEMENT RATE-MAN
     AGEMENT/TRANSITION"
15020  FOR Z = 1 TO 39
15030  PRINT "*";
15040  NEXT Z
15050  PRINT : PRINT
15060  PRINT "1) HAVE MATERIALS A
     ND SUPPLIES READY"
15070  PRINT  SPC( 3)"IN ADVANCE"

15075  PRINT
15080  PRINT "2) USE MORE ROUTINE
     S AND STANDARD"
15090  PRINT  SPC( 3)"PROCEDURES"

15095  PRINT
15100  PRINT "3) REDUCE TIME STUD
     ENTS WANT FOR HELP"
15110  PRINT  SPC( 3)"ON NEW ACTI
     VITY"
15115  PRINT
15117  PRINT "4) MINIMIZE INTERRU
     PTIONS"
15118  PRINT
15120  PRINT "5) SET TIME LIMITS"

15130  RETURN
16000  HOME : PRINT  SPC( 5)"SUGG
     ESTIONS FOR IMPROVEMENT IN"
16010  PRINT "ENGAGEMENT RATE-UNO
     CCUPIED/OBSERVING"
16020  FOR Z = 1 TO 39
16030  PRINT "*";
16040  NEXT Z
16050  PRINT : PRINT
16060  PRINT "1) PLAN CONTINUOUS
     ACTIVITIES
16070  PRINT
16080  PRINT "2) MOVE AROUND ROOM
     "
16085  PRINT
16090  PRINT "3) REINFORCE GOOD B
     EHAVIOR"
16095  PRINT
16100  PRINT "4) RESTRUCTURE PHYS
     ICAL ENVIRONMENT"
17000  HOME : PRINT  SPC( 5)"SUGG
     ESTIONS FOR IMPROVEMENT IN"
17010  PRINT  SPC( 7)"ENGAGEMENT
     RATE-OUT OF ROOM"
17020  FOR Z = 1 TO 39
17030  PRINT "*";
17040  NEXT Z
17050  PRINT : PRINT
17060  PRINT "1) REFUSE PERMISSIO
     N FOR UNNEXCESSARY"
17070  PRINT  SPC( 3)"EXCURSIONS"
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17080  PRINT
17090  PRINT "2) ALLOW ONLY 1 STU
     DENT AT A TIME TO GO"
17100  PRINT  SPC( 3)"TO THE LAVO
     RATORY"
17200  PRINT
17300  PRINT "3) TIGHTEN SCHOOL P
     OLICIES"
18000  HOME : PRINT  SPC( 5)"SUGG
     ESTIONS FOR IMPROVEMENT IN"
18010  PRINT "ENGAGEMENT RATE-SOC
     IALIZING/DISCIPLINE"
18020  FOR Z = 1 TO 39
18030  PRINT "*";
18040  NEXT Z
18050  PRINT : PRINT
18060  PRINT "1) SEPARATE STUDENT
     S"
18070  PRINT
18080  PRINT "2) STATE EXPECTATIO
     NS AND MONITOR"
18090  PRINT  SPC( 3)"BEHAVIOR"
18100  PRINT
18110  PRINT "3) REINFORCE GOOD B
     EHAVIOR"
18120  RETURN
19000  HOME : VTAB 5:A1$ = "":A2$
      = ""
19005 V = 0:D$(L(5) + 36) = "":D$
     (L(5) + 37) = ""
19190  PRINT "PLEASE ENTER YOUR C
     OMMENTS BELOW:"
19200  PRINT : PRINT
19300  &  POS FLD,6,36
19310  &  INPUT ,W$,0
19315  PRINT
19320  &  POS FLD,6,37
19330  &  INPUT ,W2$,0
19340 D$(L(5) + 36) = W$
19350 D$(L(5) + 37) = W2$
19360  VTAB 24: INPUT "PRESS <RET
     URN> TO RETURN TO MENU";BL$
19370  RETURN
25000  IF X$ = "Y" THEN  PRINT  CHR$
     (4);"PR#1"
25005  HOME : PRINT : PRINT "THIS
      IS THE END OF THE CONFERENC
     E"
25010  PRINT "PROGRAM. YOUR DATA
      IS BEING STORED AS"
25020  PRINT "FOLLOWS:"
25021 D$(L(5) + 19) = ""
25022 D$(L(5) + 23) = ""
25023 D$(L(5) + 31) = ""
25024 D$(L(5) + 27) = ""
25030  PRINT
25035 D$(L(5) + 10) =  STR$ (NM)
25036 D$(L(5) + 11) =  STR$ (U)
25037  IF OP(3) = 1 THEN D$(L(5) +
     27) = "X"
```

```
25040  &  POS FLD,6,10
25050  & PRTNAME,0
25060  &  PRINT ,D$(L(5) + 10)
25070  &  POS FLD,6,11
25080  & PRTNAME,0
25090  &  PRINT ,D$(L(5) + 11)
25095  PRINT
25100  IF OP(1) = 1 THEN D$(L(5) +
     19) = "X"
25110  IF OP(2) = 1 THEN D$(L(5) +
     23) = "X"
25120  IF OP(4) = 1 OR OP(5) = 1 OR
     OP(6) = 1 THEN D$(L(5) + 31)
      = "X"
25130 D$(L(5) + 12) =  STR$ (CT)
25140 D$(L(5) + 13) =  STR$ (AV(2
     ))
25250 D$(L(5) + 14) =  STR$ (AV(0
     ))
25260 D$(L(5) + 15) =  STR$ (AV(1
     ))
25270 D$(L(5) + 16) =  STR$ (NG)
25280 D$(L(5) + 17) =  STR$ (AL)
25290 D$(L(5) + 18) =  STR$ (ER)
25295 D$(L(5) + 35) = C$(0)
25300  &  POS FLD,6,12
25310  & PRTNAME,0
25320  &  PRINT ,D$(L(5) + 12)
25330  &  POS FLD,6,13
25335  PRINT
25340  & PRTNAME,0
25350  &  PRINT ,D$(L(5) + 13)
25360  &  POS FLD,6,14
25370  & PRTNAME,0
25380  &  PRINT ,D$(L(5) + 14)
25390  &  POS FLD,6,15
25400  & PRTNAME,0
25410  &  PRINT ,D$(L(5) + 15)
25415  PRINT
25420  &  POS FLD,6,16
25430  & PRTNAME,0
25440  &  PRINT ,D$(L(5) + 16)
25450  &  POS FLD,6,17
25460  & PRTNAME,0
25470  PRINT "  ";D$(L(5) + 17);
25480  &  POS FLD,6,18
25490  & PRTNAME,0
25500  &  PRINT ,D$(L(5) + 18)
25505  PRINT
25510  &  POS FLD,6,19
25520  & PRTNAME,0
25530  &  PRINT ,D$(L(5) + 19)
25540  &  POS FLD,6,20
25550  & PRTNAME,0
25560  &  PRINT ,D$(L(5) + 20)
25570  &  POS FLD,6,21
25580  & PRTNAME,0
25590  &  PRINT ,D$(L(5) + 21)
25595  PRINT
25610  PRINT "COVERAGE  ";
```

```
25620  &  PRINT ,D$(L(5) + 22)
25630  &  POS FLD,6,23
25650  &  PRINT ,D$(L(5) + 23)
25660  &  POS FLD,6,24
25670  & PRTNAME,0
25680  &  PRINT ,D$(L(5) + 24)
25690  &  POS FLD,6,25
25700  & PRTNAME,0
25710  &  PRINT ,D$(L(5) + 25)
25720  &  POS FLD,6,26
25730  & PRTNAME,0
25740  &  PRINT ,D$(L(5) + 26)
25745  PRINT
25750  &  POS FLD,6,27
25760  & PRTNAME,0
25770  &  PRINT ,D$(L(5) + 27)
25780  &  POS FLD,6,28
25790  & PRTNAME,0
25800  &  PRINT ,D$(L(5) + 28)
25810  &  POS FLD,6,29
25820  & PRTNAME,0
25830  &  PRINT ,D$(L(5) + 29)
25840  &  POS FLD,6,30
25850  & PRTNAME,0
25860  &  PRINT ,D$(L(5) + 30)
25865  PRINT
25870  &  POS FLD,6,31
25880  & PRTNAME,0
25890  &  PRINT ,D$(L(5) + 31)
25900  &  POS FLD,6,32
25910  & PRTNAME,0
25920  &  PRINT ,D$(L(5) + 32)
25930  &  POS FLD,6,33
25940  & PRTNAME,0
25950  &  PRINT ,D$(L(5) + 33)
25960  &  POS FLD,6,34
25970  & PRTNAME,0
25980  &  PRINT ,D$(L(5) + 34)
25985  PRINT
25990  &  POS FLD,6,35
26000  & PRTNAME,0
26010  &  PRINT ,D$(L(5) + 35)
26020  &  POS FLD,6,36
26030  & PRTNAME,0
26035  PRINT
26040  &  PRINT ,D$(L(5) + 36)
27050  &  POS FLD,6,37
27060  & PRTNAME,0
27070  &  PRINT ,D$(L(5) + 37)
27080  & RECUPD,6,D$(1)
```