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The Modification of a Computer Simulation for use in the Professional Training of South African Secondary School Teachers with Specific Reference to the Probationary Year.

by

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ABSTRACT

The topic of this thesis arose out of a desire to meet the need for a practical means of supplementing the preparation of Higher Diploma of Education (H.D.E.) students for their future role as first-year teachers. It was established that this need was not adequately filled by conventional university teacher-training methods.

The literature about computerised simulation of role-playing and teaching activities was investigated and the investigation indicated that such simulations had been relatively successful.

A published American computer simulation, TENURE, in which the student plays the role of a first-year teacher, was selected for modification to meet the needs of South African students. This program is implemented in the TUTOR computer language and runs on the Control Data South Africa PLATO system.

In order to determine the needs of South African students, two groups of Rhodes University students worked through the simulation as it was being modified. The modifications were adapted according to the students' responses to a questionnaire.

The simulation has been tested by 72 H.D.E. students and several educationists and the response has been positive.

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CHAPTER 1 INTRODUCTION

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CHAPTER 1 INTRODUCTION

1.1 The purpose of this study

The purpose of this study was to investigate the feasibility of using a computer simulation in the training of South African Higher Diploma of Education (H.D.E.) students and if an area was found where a computer simulation could play a useful role, to develop a computer simulation which would fulfil this role competently.

A survey of the literature on the problems of beginning teachers in their new schools and interviews with H.D.E. students after their periods of teaching practice suggested that student teachers and beginning teachers found that their university teacher training courses had not prepared them adequately for the demands made upon them by the part they had to play within the school community as well as within the classroom. University teacher training programmes were criticised for being too theoretical and divorced from the day-to-day school experience.

It was decided to examine the demands made upon a beginning teacher by the role he is called upon to play within the school environment and to develop a computer simulation to simulate some of the situations that he might encounter when carrying out his duties. It was hoped that such a simulation might help a student teacher to develop the skills that he would need as a first year teacher when establishing workable relationships with members of his school community.

1.2 A brief introduction to simulations

1.2.1 Nature and origin of simulations

In a typical simulation the participant takes on a role which is a representation of the role in the 'real world', and then makes decisions in response to his assessment of the situation in which he finds himself. He experiences the simulated consequences which relate

to his decisions and performance and is able to monitor the results of his actions and to reflect on the relationship between his decisions and the consequences. The simulation can deal with such diverse topics as choosing careers, directing international affairs or operating a business.

The earliest known simulation was the Chinese war-game 'Wei-hai' (meaning encirclement) which is estimated by Andrew Wilson (1968) to have originated in about 3000 BC. Chess is probably a derivative of this game. War games have become increasingly popular with the passage of time, being used widely as a training technique. By 1963 some 200 operational war-gaming models were listed. (Wilson, 1968). The increased popularity of war games is due to the impracticality of experimenting with real people and equipment.

One of the earliest devices to be consciously described as a simulation was the Link Trainer used during the Second World War to train pilots. Nowadays all pilots and astronauts use sophisticated simulators as a major part of their training. Man's landing on the moon was simulated many times on earth before the momentous event took place.

1.2.2 Computer simulations and their advantages

Simulations are not new :

> "What is new is the inclusion of computers in simulations, where the computer is used to model a 'microworld'; it provides a dynamic metaphor of some slice of reality, complete with data about events within the microworld and preprogrammed rules governing the interaction of those events. The goals are the same as always : promotion of skill mastery, concept development, and the general benefits of guided inquiry." (Palmer and Snyder, 1986).

Computer simulation is an instructional methodology that uses the full power of the computer for enhancing the learning process. Most adults

tend to learn contextually. They prefer to learn 'in service' or with the help of manuals and thus to build upon their existing skills and knowledge. Computer simulations can help to create conditions where learning takes place. They are particularly suited to the needs of adult learners because they provide a context-based study that is readily applicable.

Pierfy (1977) notes that simulations generate more interest in subject matter and encourage better retention of information than conventional methods do. Computer simulations are strong motivators in that users find active participation in a learning situation more exciting than passive participation. The philosophy of 'learning by doing' has been long advocated. (Bruner, 1973; Papert, 1980, for example).

Simulations also have the advantage of facilitating the transfer of knowledge from the simulated situation to the real situation. The computer simulation enables the user to try out different approaches to solving a problem whereas books or similar learning materials only provide information and hints on how to go about it. Freed to explore and experiment within a world over which he has control the user learns because he sees the consequences of his actions.

Computer simulations can speed up processes that normally take long periods of time and can enhance learning efficiency by providing 'real-world' situations without any of the distractions that normally accompany them. They enable the user to move from the known to the unknown in exciting yet non-threatening ways. They are safe, convenient and controllable.

In general it can be claimed that computer simulations are powerful learning tools:

> "They encourage active learning by demanding student participation, and they are efficient both logistically and instructionally." (Alessi and Trollip, 1985).

1.2.3 Computer simulation of the teacher's role

For many students in university lecture rooms, the course content seems divorced from the 'real world' of the classroom. Computer simulation, with its concrete approach to situations, may well be an important tool in the attempt to bridge the gap between these two contexts. The user (in this case the student-teacher) of the computerised simulation is given a chance to experience realistic school-related situations and to take 'real-world' decisions in a risk-free, non-threatening environment. He is no danger to himself nor to others; he can make his mistakes and learn from them. Hopefully, if he is later faced by similar situations during his first teaching year, he will be able to apply his learned insight to them. All the advantages of computerised simulations mentioned above would work to achieve these aims.

When examining the literature on computer simulations in education and training (full details of which are discussed in Chapter 3) the program TENURE (Gaede, 1981) was pinpointed as a successful simulation of school-related situations which concentrated on the development of the role of the first-year teacher and his relationships with members of the school community. This simulation was developed for the PLATO computer system which operates on a CDC computer. When the program was examined and tested at the Rhodes University Computer Based Education Unit it was decided that with modifications it would serve as a useful tool in the training of South African Higher Diploma of Education (H.D.E.) students with regard to preparing them for their probationary year of teaching.

TENURE, with the permission of its author, was modified and then used by 50 H.D.E. students at Rhodes University in 1986. They evaluated the program by answering a questionnaire. In accordance with the findings from the questionnaire, the simulation was further modified and then used by 22 H.D.E. students in 1988. These students also evaluated the program by responding to a questionnaire. A description of this work together with final recommendations and conclusions comprises the main body of this dissertation. In Chapter 4 the original TENURE simulation

is described and the modifications considered necessary to adapt it for use in South African universities are presented. Chapter 5 describes the use of the modified simulation (henceforth called Tenure S.A. Version 1) by the first group of students and their reactions to it and pinpoints further modifications to be made. Chapter 6 describes how these further modifications were made to the simulation (henceforth called Tenure S.A. Version 2) and the reactions of the second group of students to it. Conclusions are drawn and recommendations are made in Chapter 7. A full program listing of Tenure S.A. Version 2 can be found in Appendix A.

CHAPTER 2 THE ROLE OF THE FIRST YEAR TEACHER AND UNIVERSITY PREPARATION FOR IT

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CHAPTER 2 THE ROLE OF THE FIRST YEAR TEACHER AND UNIVERSITY PREPARATION FOR IT

2.1 The role of the first year teacher within the school community

Traditionally first year teachers find their probationary year of teaching difficult and sometimes frustrating. Many schools treat the beginning teacher as if he were fully experienced and give him a full workload. This fact combined with the increasing conflict and stress of teaching pupils whose attitude to authority is becoming less deferential, severely tests his ideals and persistence. This method of 'throwing the new teacher into the deep-end' produces many casualties and some do not survive. (Hannam et al., 1976).

2.1.1 Relationship with the school principal

The principal plays a dominant role in the new teacher's adjustment to life within the school community as he is seen by most teachers to be the ultimate authority within the school. Whether a first year teacher considers the school a worthwhile place to work in is to a large extent dependent on whether the principal conforms to his idea of how a principal of a school should behave. In many cases the new teacher must be prepared to learn to work with a principal who does not measure up to his ideal.

2.1.2 Relationship with the staff

The first year teacher finds himself at the bottom of the hierarchical staff pile and is often made aware of his inferior status by senior teachers on the staff. In many schools he has to conform to the senior staff's idea of good order, personal conduct and classroom discipline in order to be accepted and in time promoted.

A new teacher's colleagues are responsible to a large extent for his feeling of worth and well-being in that he is sensitive to their opinions of him. It is often in the staffroom that he will seek support

and encouragement for his actions in the classroom. It is important for him to develop a working relationship with those members of staff that he is in close contact with and this implies that he must be prepared to develop those skills which will enable him to do so. Up to this point he has been accustomed to relating to a peer group of his own age who share his interests, but now he must learn to get along with a broader mix of people.

> "His peer group is no longer age related but is dependent on a common occupation. They may be fussy, conservative teachers who fear innovation, dynamic executive model career teachers or uncommitted housewives." (Algie, 1983).

2.1.3 Relationship with the pupils

In the university environments covered by this thesis (largely white, English-speaking universities) the student is encouraged to move away from authoritarianism towards increasingly liberal educational attitudes. The first year teacher usually starts out by applying this ideology in his handling of the pupils. However he often finds that the pupils have stereotyped expectations of what schools and teachers are like and generally speaking these are not favourable. This antagonistic behaviour on the part of the pupils often results in the new teacher's goodwill and idealism being replaced by the authoritarianism that he actually dislikes.

> "...the attitudes of beginning-teachers undergo dramatic changes as they establish themselves in the profession, away from the liberal ideas of their student days towards the traditional patterns in many schools." (Lacey, 1977).

A further complicating factor in the development of the relationship between the first year teacher and his pupils is that often they are close together in age and yet are called upon by the society of the school to play very differing roles. His adjustment to his new role

can be made difficult by the sexual attraction that he can feel for older pupils of the opposite sex.

The first year teacher has to appreciate that there is an element of realism in the insistence of many experienced teachers on maintaining control in that, although not all children want to learn, their attendance at school is compulsory. If he wants to help with the education of children he has to join in, accept the pupils and staff for what they are, and make the school work.

2.1.4 Relationship with the parents of pupils

Parents are often critical of the way a school is run and of the way their children are handled. There may be a difference of opinion between parents and teachers as to what qualities should be developed in the pupils since parental attitudes to discipline often vary widely as do their socio-economic backgrounds. In most of the white high schools in South Africa parents are able to exert their influence on the running of the school through the stewardship of the elected school committee. The new teacher needs to develop the skill of working with the parents towards the common goal of the welfare of the pupil.

> "By the very nature of character formation, no one other than parents can ordinarily have one-tenth of their influence; and if the parents are continually reinforcing their own influence by the day-to-day treatment of the child, other adults can have little expectation of outweighing the parents' influence." (Musgrave and Taylor, 1969).

2.1.5 Need for developing skills for working within the school community

In order to survive, the first year teacher has to adapt rapidly to the way the school functions within the greater school community. He has to move from the supportive environment of his university's education department to a sometimes hostile often critical working place. He has to cope with the demands made upon him by the expectations of others.

His response to these demands will have a direct bearing on the development of his relationships with these people.

> "Schools, like other social organizations, confront their members with adaptive dilemmas and these can be examined in terms of 'role set' and 'role demands', 'role conception' and 'role performance'. A person occupying a particular status may perceive demands and expectations that he should behave in ways which are at odds with his own conception of his role, and neither his ideal image nor the expectation of others may match his actual role performance. The size of the discrepancy between these role demands, role conception and role peformance is a measure of the conflict experienced by a person occupying a particular status. The picture may be still more complicated, for the role demands made by different individuals and groups are not necessarily in agreement : the role set usually implies an array of conflicting expectations." (Musgrave and Taylor, 1969).

2.2 University preparation of trainee teachers to meet the demands of the first year of teaching

2.2.1 Teaching practice

Students normally regard teaching practice as the most useful part of their teacher training course. Williams (1963) found that 75% of a sample of 1736 first year teachers held this view and Wall and May (1972) found that nearly half of their sample of teachers would have prefered to have spent more time in the schools when they were receiving their training. This attitude was also prevalent among the Rhodes University H.D.E. students who were interviewed in 1986 as part of this study.

> "The usual arrangement of blocks of theory presented in relatively abstract terms interspersed with blocks of 'real' experience in schools has serious limitations. Such an arrangement tends to make students undervalue the importance of theory, and see their prime task as establishing themselves as competent practitioners. They

feel under pressure to win the approval of teachers, heads and their supervising tutors, and are reluctant to conceive of themselves as learners in a developing situation." (Hannam et al, 1971).

The student on teaching practice finds himself involved in an often artificial existence where he is neither 'fish nor fowl'. He has no clearly defined status in that the pupils consider him to be inferior in authority to the regular staff whilst to the teachers he is not fully acceptable as a colleague and sometimes is considered to be an intruder in the staffroom. It is often with obvious reluctance that he is given some classes to teach and then only whilst the regular teacher sits at the back maintaining tacit discipline. A frequent complaint voiced by teachers is that they don't want to give anything of importance to a student to teach because they would have to re-teach it.

In conjunction with this feeling of inferiority the student might be further pressured by his university supervisor's visits to 'crit' his teaching since he may feel these visits to be threatening. The 'crit' lesson is often also of an artificial nature in that it is far better prepared than the student's other lessons and can be the product of a conspiracy between the student and the pupils to ensure that the supervisor observes a model lesson delivered to model children with no hint of difficulty or conflict to spoil its perfection.

2.2.2 Simulation of school-related situations

The earliest educationally-orientated simulations were those of role-play. Role-play relies on the spontaneous performance of participants when placed in a hypothetical situation. In such typical classroom simulations one student is invited to step into the teacher's shoes whilst his fellow students play the role of his pupils. This type of simulation has the obvious drawback that the class of 'pupils' cannot duplicate the character and spontaneity of the real class that the student may have to teach.

More imaginative use of simulations may be made however and two examples designed by Tunmer (1983) are described here :

2.2.2.1

A 'dossier' of the things that may go wrong in teaching practice is compiled. This includes information on the background of an imaginary school; a list of staff with their qualifications, personalities and experience; the school rules and the school's information sheet for student-teachers. The dossier also includes a letter of complaint from a parent regarding the student's teaching; a note of complaint from a teacher about the student's actions during a lesson being observed; a supervisor's report of a lesson which showed promise but revealed problems which he was asked to put right if the lesson could be repeated; a note from the teacher refusing his permission to the latter as it would throw out yet further his work schedule for the class. This material is read privately by students and then is discussed in small tutorial groups. Discussion centres around the two questions : what went wrong? and what steps could be taken to put it right?

2.2.2.2

An 'in-brief-case' exercise is devised to simulate the administrative problems a first year teacher might encounter. During a free period he takes from his brief-case six items : a set of short papers to be marked; a notice about a P.T.A. meeting; a letter from a worried parent; a list of tennis team results; a note from the vice-principal about a schedule of pupils; a note from the principal about a pupil whose difficult behaviour has been disrupting the class. The teacher's task is to decide what is to be done in the 40 minutes of free time that he has and what should be postponed. On a schedule the students record their decisions and justifications for their actions. In a follow-up tutorial groups argue about how to set priorities and how to find criteria to assess such decisions.

Tunmer points out that these tasks provoke lively argument which is not only closely linked to arguments put forward in education and method classes but also requires the student to apply theory to a realistic and recognisable situation. Simulations of these types can prepare students for similar decision-making not only during teaching practice but also in their first years of teaching.

Tansy and Unwin (1969) at Berkshire College of Education were the first in Britain to develop simple and flexible exercises which replicate classroom problems for student teachers. In another study a team of educationists developed a simulation called 'Severnside Comprehensive'. This situational simulation was designed to assist in-service teachers and was used as the basis of a series of TV programmes on Harlech TV.

In 1975, the University of Cambridge Department of Education replaced a formal lecture course by twelve 'situations' developed in a simulated 'Coalstream' school. These situations cover typical discipline problems, curriculum issues, problems of administration and management and so on. The students discuss their responses to these situations in workshop sessions which seek to marry theory and practice.

2.2.3 Micro Teaching

Much work has been done in this field in order to prepare student teachers for their professional duties and because of the size and depth of the subject it was decided not to examine it in this study.

CHAPTER 3 A REVIEW OF COMPUTER SIMULATIONS AND THEIR APPLICATION TO EDUCATION AND TRAINING

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CHAPTER 3 A REVIEW OF COMPUTER SIMULATIONS AND THEIR APPLICATION TO EDUCATION AND TRAINING

3.1 Definition of a computer simulation

The advent of the microcomputer has resulted in increased interest in the design of Computer Assisted Learning (CAL) materials. This instructional software can be roughly classified into several areas :

drill and practice programs
tutorial programs
simulations
problem-solving programs

This study does not intend to analyse CAL software in general and will be limited to a discussion of computer simulations.

Currently the term 'simulation' is applied to a variety of computer programs that differ widely in the instructional processes represented. In its broadest sense the phrase 'to simulate' means to imitate an aspect of reality. This term could be applied to everything from simulated diamonds to mockups of space flights and landings. However, instructional simulations include three important characteristics maintain McGuire et al. (1976).

These are :

1. a realistic setting in which the user is presented with a problem;

2. the user executes a sequence of enquiries, decisions and actions; and

3. the user receives information about the ways in which the simulation evolves and changes in response to his actions.

Even bearing these characteristics in mind, there is some confusion as to what ought to be called a computer simulation since programs that claim to be simulations often differ widely not only in user participation but also in the nature of the instructional process that the exercise represents.

Gredler (1986) identified four different types of computer simulation in order to distinguish dynamic graphics and variable-assignment exercises from the diagnostic and group-interactive simulations. A summary of her classification table is given in Figure 3-1 below. This table refers to two examples :

OREGON TRAIL : Users make periodic decisions about the amount of money to be spent on food and other supplies for a covered wagon trip from the East to the West of the United States. The users assign different values to the variables and receive information about the effects of these assignments.

LEMONADE STAND: Users determine the number of glasses of lemonade they wish to sell, the selling price per glass, and the amount of money to be spent on advertising. The goal is to discover which combination of the three variables provides the most profit.

.../Figure 3-1

Summary of Types of Computer "Simulations"

Type	Description
1. Structured Questions and Graphics "Simulations"	(a) Student views simulated situation(s) and answers specific questions, e.g., What compound should be added to produce an acid?
	(b) May be drill-and-practice or tutorial.
2. Variable-Assignment Exercises	(a) Student assigns values to a discrete number of variables; same decisions are executed over and over. Example: *Oregon Trail, Lemonade Stand*.
	(b) May be complex, including other decisions; however, all decisions are repeatedly executed.
	(c) Student does not apply a particular area of expertise; instead, S plays against a predetermined optimum set of values arbitrarily established by the microcomputer programmer.
3. Diagnostic Simulations	(a) Student is presented with a realistic problem and engages in sequential decision making; situation evolves as simulation progresses.
	(b) Problem may be visual "critical incident" or a verbal problem.
	(c) Optimum strategy is typically derived from an established area of expertise, e.g., physicians, police officers, and so on. At conclusion, student's set of decisions is compared with the optimum.
4. Group-Interactive	(a) Students are presented with a community or international situation and develop plans and strategies to solve problems and/or to meet goals.
	(b) Roles are related to job functions and are structured.

Figure 3-1

Alessi and Trollip (1985) identify three types of simulations. These are :

1. Procedural simulations which teach a set of rules by allowing the student to manipulate the simulation.

2. Process simulations in which the user selects values of various parameters and then watches the ensuing process develop without intervention.

3. Situational simulations in which the user plays an important role integral to the simulation.

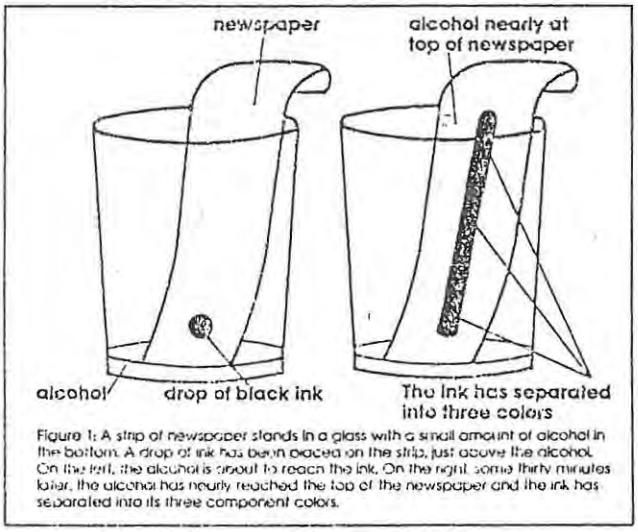


Figure 1: A strip of newspaper stands in a glass with a small amount of alcohol in the bottom. A drop of ink has been placed on the strip, just above the alcohol. On the left, the alcohol is about to reach the ink. On the right, some thirty minutes later, the alcohol has nearly reached the top of the newspaper and the ink has separated into its three component colors.

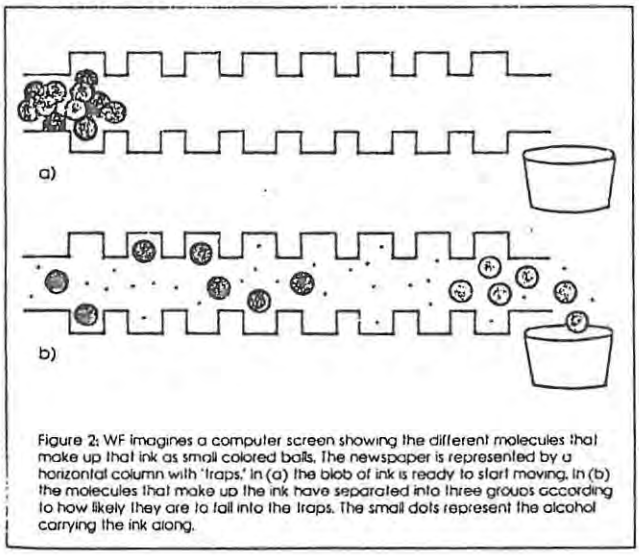


Figure 2: WF imagines a computer screen showing the different molecules that make up that ink as small colored balls. The newspaper is represented by a horizontal column with 'traps.' In (a) the blob of ink is ready to start moving. In (b) the molecules that make up the ink have separated into three groups according to how likely they are to fall into the traps. The small dots represent the alcohol carrying the ink along.

Figure 3-2(a)

Figure 3-2(a) above and Figure 3-2(b) below depict a sequence from a typical procedural simulation on chromatography in which the user chooses both the mix of molecules and the shape of the traps in the

particular substrate. This corresponds to using different substances in place of the drop of ink and other things besides the newspaper to do the separating. In the manual version of the experiment, the student places a drop of black ink on a strip of newspaper. The end of the strip is dipped in rubbing alcohol. As the rubbing alcohol travels up the newspaper it carries the drop of ink with it. But the black ink is actually made of two or three coloured components, blue, red and perhaps green, that travel with the alcohol at different rates. Thus, after some time, the student sees the black spot separating into two or three spots. This separation technique is called chromatography. The simulation is described in a paper by Finzer and Peterson (1986).

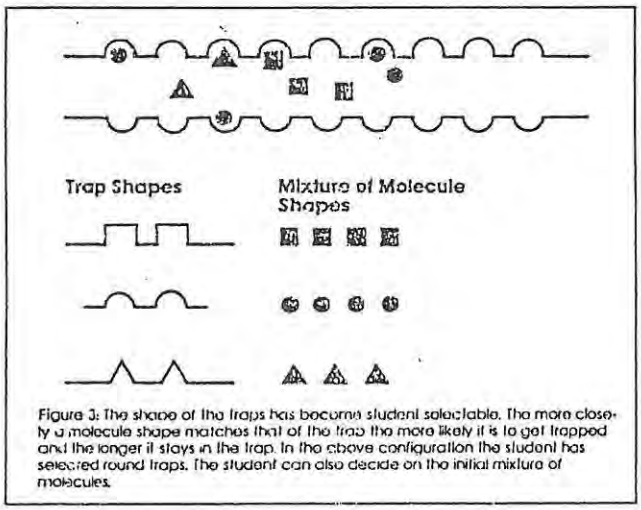


Figure 3: The shape of the traps has become student selectable. The more closely a molecule shape matches that of the trap the more likely it is to get trapped and the longer it stays in the trap. In the above configuration the student has selected round traps. The student can also decide on the initial mixture of molecules.

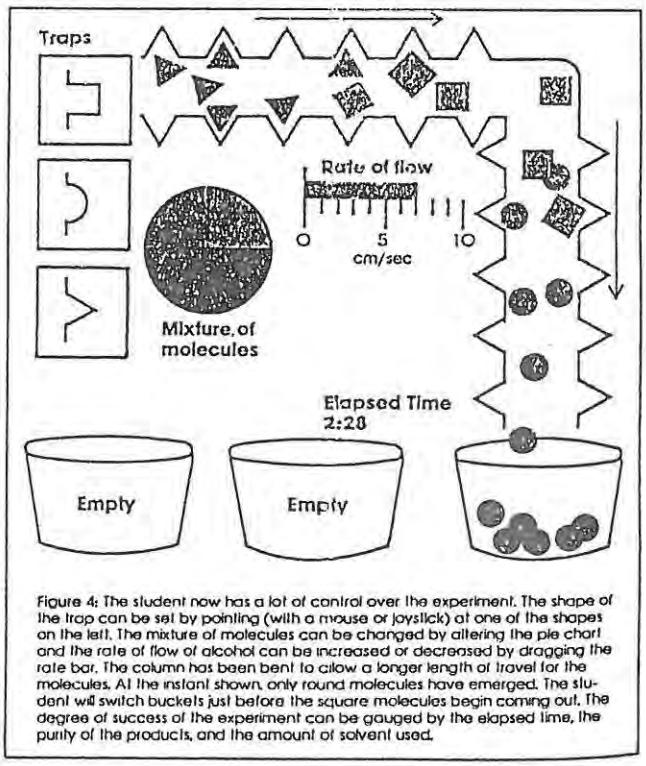


Figure 4: The student now has a lot of control over the experiment. The shape of the trap can be set by pointing (with a mouse or joystick) at one of the shapes on the left. The mixture of molecules can be changed by altering the pie chart and the rate of flow of alcohol can be increased or decreased by dragging the rate bar. The column has been bent to allow a longer length of travel for the molecules. At the instant shown, only round molecules have emerged. The student will switch buckets just before the square molecules begin coming out. The degree of success of the experiment can be gauged by the elapsed time, the purity of the products, and the amount of solvent used.

Figure 3-2(b)

TENURE meets all the above criteria of a typical diagnostic/situational simulation. It is a type of simulation which deals with the attitudes and behaviour of people in different situations. Such a simulation allows the student to explore the effects of different approaches to a situation, or to play different roles in it.

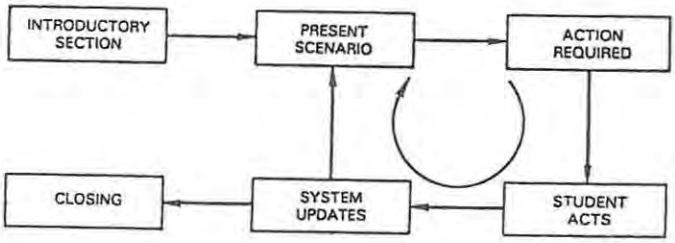
> "TENURE is a typical situational simulation. It is a role-playing simulation in which the student takes on the role of a new teacher, and tries to be successful in that role. A number of principals are simulated, and each time the simulation is used one is chosen at random. By going through the simulation a number of times the student learns a set of behaviours which will optimize the probability of being re-hired." (Alessi and Trollip, 1985).

3.2 General flow of a situational simulation

Situational simulations usually consist of three main parts. They start with an introducton followed by a cycle which may be repeated frequently and end with a conclusion. The cycle typically consists of the presentation of a scenario about which the user is asked to make a decision and to take some action to which the system changes in response.

This classical underlying flow is closely followed by TENURE as can be seen in the flowchart in Figure 4-1 in Chapter 4.

Alessi and Trollip (1985) describe the general flow of a typical situational simulation in the diagram shown in Figure 3-3 below.



The general structure and flow of simulations.

Figure 3-3

3.2.1 Introduction of a simulation

The introduction of a simulation needs to state the objectives and purpose of the activity. It should also give clear and complete directions because some of the activities the users are asked to engage in may be complicated and varied. The opening of a simulation also sets the stage by describing the context of the simulation, the procedures the user will engage in and the situations that he can expect to encounter.

3.2.2 Main body of a simulation

The main body of a simulation can be said to consist of four parts :

- Context
- Presentation
- System feedback
- User control

3.2.2.1 Context

The context of a simulation is the phenomenon being simulated. The objects in the context are any physical entities being described. Examples of such objects are chemical apparatus, road signs and school principals. If the objects are people, as they are in TENURE, the complexity of the program is increased since the rules governing human behaviour are far less understood than those governing the behaviour of inanimate objects. Also, when people are involved in a simulation, the precision of the context becomes less defined. Since very little is understood about human behaviour, such simulations usually incorporate a great deal of chance. Consequently they are the least precise and the most difficult to program.

Simulations can differ in levels of realism depending on whether the context is one that occurs in the real world just as simulated or whether it does occur but not exactly as simulated, (an example of the

latter would be when a user doubles the birthrate of a country at will), or whether the context is totally imaginary.

The sequence of the context refers to whether the events that occur do so in a linear, cyclic or complex fashion. Since there is only one way to bake a cake, the events of a cake-baking simulation are essentially linear whereas the events that occur in the first year of teaching are often unpredictable and the events of such a simulation would not follow in a strict order and would be considered complex. It must be noted however that the context of a simulation must of necessity be simplified in order to make the simulation easier to design and program and to facilitate learning for the user.

Simulations vary greatly with respect to the number of correct solutions available. Process simulations have no solution since the user simply uses the simulation and observes the results whereas some simulations such as TENURE have several correct or incorrect paths. When designing a simulation the number of possible solutions in a context is usually reduced as a matter of convenience and necessity.

In some contexts the user is the primary actor to which objects in the simulation react whilst in other contexts the roles are reversed. In most situational simulations like TENURE both the user and the context act and react. In TENURE decisions made by the user cause reaction by the simulated pupils, teachers, parents and principal. Their reactions in turn shape the next action of the user.

3.2.2.2 Presentation

According to Alessi and Trollip (1985), most simulations contain four types of presentation which can be textual or pictorial. They are :

Choices to be made
Objects to be manipulated
Events to react to
Systems to investigate

Choices to be made are usually textual because they involve the choice of one option from among many. On the otherhand, objects to be manipulated such as chemical apparatus are usually pictorial. Events to which a user must react and systems which he must investigate are usually of mixed mode.

3.2.2.3 System feedback

After taking an action the user usually receives some type of feedback about the result of the action. In tutorials and drill and practice programs that feedback is both corrective and immediate. In simulations however where real world situations are being replicated, feedback is usually delayed until the time such information would occur naturally in reality. This feedback can be natural or artificial. For instance in a simulation of flying an aeroplane if the user mismanages the activity and the plane crashes, natural feedback would be the event of the plane crashing whereas artificial feedback could also be given in the written message, "You have just crashed the aeroplane!" The main reason for such artificial feedback is to give immediate, more understandable information about an event. Natural feedback is more realistic and often more interesting. The feedback of the TENURE simulation is natural and more details about it can be found in the next chapter.

3.2.2.4 User control of a simulation

The amount of control that a user has over a simulation depends largely upon the type of simulation with which he is interacting. In a population prediction program for example the user has considerable control since he selects the values for the parameters at the outset and the process and outcome of the simulation depend entirely upon these values. In a situational simulation like TENURE however, the user's control is less developed. The type of control that the user of a situational simulation has is usually limited to restarting within the simulation or repeating the simulation. The option of restarting within the simulation is given to the user in the case where the

simulation is very long or where the student chooses an option that causes a failure such as crashing an aeroplane.

3.2.3 Completion of a simulation

The user completes a simulation when the process being simulated comes to its end or when he has followed and completed a path through the simulation which has led to success or failure. Often the simulation, as is the case with TENURE, offers the user the option of doing the simulation again either immediately or at a later date.

3.3 The application of computer simulations to education and training

3.3.1 Computer simulations in teacher training situations

In studying the feasibility of using computer simulations in the training of teachers at the University of Illinois, Flake (1975) maintained that the computer played a dynamic role. Her students 'taught' simulated classes and dealt with problems that arose during this activity. One of her students commented : "No amount of talking, reading, or observation could have given me as much insight into planning, teaching strategy, reacting to student responses, etc."

There have been several attempts to introduce computer simulations into teacher training programmes and to assess their instructional effectiveness. Some of these studies are described here.

3.3.1.1 Relationship of computerised simulation to ratings of student-teachers' performance

In 1985 J. Powell of the University of Georgia investigated the relationship between ratings of teaching performance of student-teachers by the simulation TENURE (Gaede, 1981) and ratings given by observers using the Teacher Performance Assessment Instruments (Georgia State Department of Education, 1980).

Thirty six students of the Department of Elementary Education at the University of Georgia used TENURE, Gaede's computerised simulation of the first year of teaching, just before teaching practice and again just after teaching practice. The performance of each of these students in the categories 'Pupil', 'Faculty', and 'Parents' was rated by the simulation. Each student was also rated on teaching performance during teaching practice by his university supervisor and school supervisor who used the Teacher Performance Assessment Instruments (TPAI). Three of these instruments were used : Teaching Plans and Materials, Classroom Procedures, and Interpersonal Skills.

Results indicated improved performance in each category of the simulation after teaching practice. A significant correlation was found between Teaching Plans and Materials and the 'Faculty' category of the first simulation experience. Significant differences were found between Classroom Procedures and the 'Parents' category of the second simulation experience and between Interpersonal Skills and the 'Faculty' category of the first simulation experience. (Powell, 1985). Powell goes on to say that

> "In summary, results indicated that preservice elementary teachers can benefit from computerised simulation and that observer ratings using three instruments contained in the TPAI can show positive relationships to computerised simulation of problem-solving in teaching."

3.3.1.2 Student-teachers' reactions to using computer-simulated pupils in their preparation for teaching in the elementary school

In 1982 H. Strang and A. Loper of the University of Virginia developed a simulation program to assist in the preparation of elementary school teachers. The simulation affords the students the opportunity of practising their teaching skills on four computer-simulated pupils. These simulated pupils are pre-programmed with a knowledge probability (the likelihood of answering questions based on subject matter correctly) and with an enthusiasm probability (the likelihood of being

willing to participate). The student-teacher communicates verbally with the pupils via a computer operator who codes and keys the verbal interaction into the computer terminal. The terminal's display directs the operator, who acts as the pupil's voice, as to what to say to the student-teacher. Strang and Loper (1983) maintain that the rapidly executed program routines coupled with careful operator training ensure a pace of dialogue not much slower than that normally found in the classroom.

Following each session the program produces a printed student- teacher profile which displays a frequency and lapse time for various measures which relate to the way that the student-teacher has initiated pupil interaction and the degree to which the student-teacher has used appropriate feedback and positive instruction in conducting the lesson. (Strang & Loper, 1983).

The authors conducted research into the question of whether the simulation's environment was sufficiently 'real' in order to be of value in teacher training. They found that the student-teachers responded in ways that were similar to those that would be expected in the actual classroom. In particular they found that the student-teachers questioned and gave more instruction and feedback to 'low-knowledge' pupils than to 'high-knowledge' pupils. They also assigned lower grades to the 'low-knowledge' pupils and perceived them as having less academic potential. Similarly they rated the 'low-initiative' pupils as less motivated and less socially skillful than their 'high-initiative' counterparts.

In 1985 Loper and Strang modified the simulation to form two skill modules. Each module consisted of a series of simulated lessons followed by a debriefing session during which each student-teacher was advised on attaining the skill goal of the module. During each lesson the 'pupils' were programmed to answer accurately when the student-teachers used the targeted skill competently. In addition to this student-teachers received appropriate computer-generated feedback in order to assist them in reaching the targeted skill. In the first

module student-teachers were encouraged to inform pupils whether their content-based answers were correct or not. In the second module they were encouraged to adapt the pace of their questioning depending on whether they were introducing or reviewing material.

After successfully completing a module each student-teacher met with a lecturer who reviewed his progress with the aid of printed records of the simulation sessions.

The student-teachers' reactions to the simulation were very favourable. All of them enjoyed the post-module debriefing sessions. Eighty six percent indicated that the pacing module had helped them to pace questions more appropriately and ninety one percent reported similar benefits from the feedback module.

The results of these initial tests of the simulation indicate that the student-teachers respond in the same way to the simulated pupils as they would be expected to in the case of actual pupils. In addition, they are responsive to the individual characteristics pre-programmed for the simulated pupils. Thus the simulation appears to have much potential as a training device. (Kauffman et al., 1985).

3.3.1.3 Student-teacher reactions to the instructional merit of computer simulation programs relative to more conventional instructional activities

In 1977 D. Reynolds and R. Simpson of North Carolina State University used a group of computer-based simulations designed by V. Lunetta of the University of Iowa in a pilot study involving human transactions and classroom management. The goal of the project was to assess student reactions to the relative instructional merit of the computer simulation, role-playing activities and small group discussions.

The simulations are typical situational simulations and present problems in classroom management, discipline and pupil relations. The student, in the simulated role of the teacher, must select one of several suggested courses of action and his choice leads to a follow-up

situation. This pattern continues until a 'stable' situation is reached. At best the problem is resolved in a professionally acceptable manner that betters pupil relations. At worst the 'teacher' gets himself into an untenable position and needlessly antagonises his pupils. (Lunetta, 1977).

Reynolds and Simpson's study exposed the students to one of three modes of preparing for instructing in the school classroom: discussion, role-playing or computer simulation. All the materials presented in the three modes of instruction were based on situations taken from Lunetta's simulations. The discussion and role-playing students saw only the statement of the problem and suggested alternatives whilst the computer students saw, in addition, the probable results according to Lunetta's models. An attitudinal survey was administered to the students afterwards.

The results of the attitude survey indicated that no one method of instruction produced statistical differences in student attitudes. However when faculty preparation time was taken into account, it was found that using the computer simulations saved a considerable amount of time and could free lecturers for more individualised work with students.

3.3.1.4 Field testing the effectiveness and efficiency of computer simulations for inservice and preservice preparation of teachers of emotionally or behaviourally handicapped (EH/BH) children

In 1985 M. Wood, C. Coombs and W. Swan of the University of Georgia, Athens, identified four groups of potential users who could benefit from computer simulations : experienced EH/BH teachers who sought to update their skills, experienced special education teachers who wanted to learn EH/BH teaching skills, student EH/BH teachers in training, and people responsible for EH/BH teacher training or administration. They set out a field testing project to determine to what extent each of these groups benefited from the computer simulation.

The computer program simulates a special class in a hypothetical elementary school which contains five pupils identified as seriously emotionally or behaviourally handicapped. The user has to use information from school records, assessment reports etc. to carry out the extensive planning necessary as a preliminary to the first day of school. The format of the user responses is largely open-ended. Each response section affords opportunities for the user to collect information, solve problems, make decisions and receive feedback on the decisions.

After using the simulation the participants were asked to rate 21 criterion statements concerning the usefulness of the program on a scale of 1 to 5. The statements fell into three major categories : content validity, effectiveness and efficiency.

The results Wood and his colleagues received indicated that the program was judged to be useful overall and in the three categories mentioned above. User criticism of the program was aimed at the mechanics of using the computer and the program. The users also voiced the universal criticism of computer simulations namely that they did not have sufficient freedom to respond in unique ways in their interactions with the computer. There appeared to be no statistically significant differences among the ratings given by the four targeted user groups. Wood et al. (1985) conclude that

> "Results indicate that an interactive program has considerable potential usefulness for experienced EH/BH special education teachers and generic special education teachers. The simulation also appears to be useful as a part of preservice teacher preparation, as judged by the students and leadership people responsible for their training both in college and afterwards as beginning teachers."

3.3.2 Computer simulations in other areas of professional training

3.3.2.1 The use of computer simulations in the evaluation of registered nurse students in a baccalaureate programme

Faculty staff of the College of Nursing of Ohio State University found that evaluating competencies in clinical judgement of registered nurses entering a baccalaureate programme was problematic as the courses these students had taken previously differed widely. In 1984 E. Shaw-Nickerson and K. Kisker described how a suite of simulation programs to evaluate educational and experiential learning as a means of according appropriate credit for clinical nursing courses was developed by these faculty members in conjunction with computer experts from the same university. Successful completion of 'The Registered Nurse Student: A Facilitation Option for the Bachelor of Science in Nursing' allowed students to complete the degree in six rather than nine quarters.

These computer simulations are situational simulations which replicate typical patient/nurse situations that are in accord with course and level expectations. They are designed to measure the student's ability to use her decision-making skills in the process of nursing simulated patients. The student is given information regarding the nature and state of the patient, the level of her responsibility and the duration of the interaction with the patient. She is then presented with a list of options representing general nursing strategies from which she makes a selection. Realistic feedback pertaining to the patient's response is provided and the student is then presented with another list of options from which to choose. This process continues until the nursing care is completed or the student is stopped from using the program beacuse she is employing unsound nursing techniques.

Initial testing of the simulations has been encouraging. They were successfully tested for the purposes of providing student feedback about the nature of the experience and to establish the passing

percentage score for the simulation. Shaw-Nickerson and Kisker (1984) conclude :

> "The faculty are pleased with the preliminary findings of the project. There has been an increase in the number of registered nurses making the decision to enter the program. The nursing simulations used in junior and senior nursing courses have been highly successful."

3.3.2.2 The use of computerised case-management simulations in counsellor training

Findings from several years of research on using the computer in counselling suggest that it may have very useful applications in counsellor training.

> "The benefits of the client model for counselor (sic) training are apparent in the capacity of the computer to simulate an actual setting. Several counselors may 'interview' the same 'client' and can compare their own approaches to those of their fellow trainees. In addition, given the future development of a library of programs to represent different types of clients, a counselor could interview any number of client types from the safe distance of the keyboard." (Phillips, 1983).

In 1985 N. Berven of the University of Wisconsin examined three computerised case-management simulations with respect to their reliability and validity in counselling psychology. These simulations are based on actual patients who have been treated by local rehabilitation centres. Each simulation provides the user with a report of the initial interview with the patient and a list of sources of information from which he can request reports and take action. The process of repeatedly taking actions and receiving reports continues until the user indicates that he is finished and the case is closed. The computer keeps a record of the sequence of the user's actions during the treatment of the case.

The simulations were completed by one group of experienced counsellors and three groups of counsellors at different levels of experience and professional training. Significant relationships were found between performance on the simulations and levels of training and experience. This type of simulation has several potential uses in training professional counsellors. It could be used to evaluate the effectiveness of training methods for evolving clinical problem-solving skills as well as in gaining a better understanding of the process of clinical problem-solving. It could also be used to assess the level of problem-solving skills of students at various points in their training and as part of the actual licensing and certification examinations. (Berven, 1985).

3.4 Conclusion

Few training programmes are designed to guarantee that trainees acquire basic practical skills. Training typically consists of reading and discussing skills and trainees seldom are provided with systematically planned opportunities for direct experience and feedback on performance. Using computer-simulated training situations such as are found in TENURE, is one way that such experience and feedback can be provided. Such simulations also have the advantage of being potentially useful tools in evaluating the level of a trainee's practical skills during his training course. Such uses have important implications for teacher training.

> "The realistic, interactive, and truely useful computer simulation of pupils is obviously in its infancy. Technological advances will undoubtedly bring new possibilities and new methods. Even with currently available technology however, it appears that one can simulate a teaching situation that will give teacher trainees valuable experience in interacting with 'children' prior to their first reponsibilites for teaching actual children. While simulations can never replace actual experience in real classrooms, they do hold promise for advancing the training of teachers significantly." (Kauffman, Strang & Loper, 1985).

CHAPTER 4 TENURE : THE ORIGINAL SIMULATION AND THE FIRST MODIFICATIONS MADE TO IT

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CHAPTER 4 TENURE : THE ORIGINAL SIMULATION AND THE FIRST MODIFICATIONS MADE TO IT

4.1 Description of the original simulation

The original program, TENURE : A Simulation of First Year Teaching (Gaede, 1981), was written by Owen F. Gaede in 1975 when he was a member of the Department of Secondary Education of Georgia Southern College. It was revised in 1981 and is published in the PLATO courseware library which is distributed in South Africa by Control Data South Africa. The simulation is available only on the PLATO system and users have access to it through terminals linked to a CDC mainframe computer.

TENURE is written in TUTOR, a programming language specially developed for writing educational software for the PLATO system. This language allows for sophisticated judging of student responses - allowances can be made for misspellings, lower and upper case letters and extra words. A student's response may be a long string of text from which the numerical part may be judged separately from the rest.

PLATO allows varying routes through a program. Depending on his answer, a student may be jumped from one 'unit' or section of the program to another. The student also has access to help units or data units by pressing certain designated keys. After using such units the student will be returned to where he left off. More discussion on the individual paths through the TENURE simulation can be found in section 4.1.2.5.

TENURE is a situational simulation (definition according to Alessi and Trollip, 1985) that replicates some of the situations a beginning teacher might encounter in his first year of teaching. In this program the student plays the role of a newly qualified teacher who is employed by the principal of a high school to teach the subject of his choice.

According to a random factor he is allocated one of four principals of widely differing personalities. The first principal is innovative and interested in staff and pupils, the second is a rigid disciplinarian who imposes his will on members of the school, the third is not really interested in the affairs of his school and is merely biding his time until retirement, and the fourth is unpredictable in all spheres. The principal's personality and educational ideology are kept hidden from the student and although hinted at during the course of the simulation, are only revealed at the end.

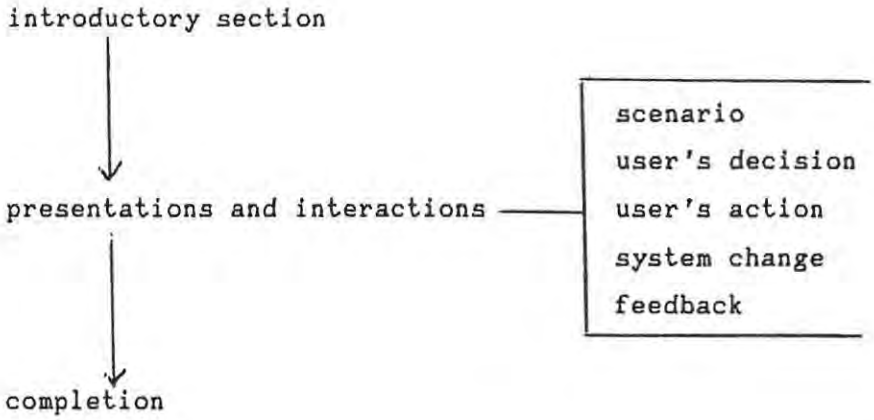
During the simulation the student is expected to select classroom activities and allocate time to them, select a grading scale for his pupils' marks and decide on how to deal with classroom rules and seating. During the major portion of the simulation he is confronted by a variety of situations involving pupils who require disciplining, interfering parents, overbearing senior colleagues, extra-mural activities, and so on. As each situation is presented, the student is expected to react to it by selecting one of a group of possible solutions. He is scored according to his selection. Now and then the student receives communications from the principal informing him of his progress. At the end of the simulation he finds out whether he has achieved tenure or not.

4.1.1 Aim of the simulation

In TENURE the way in which a student can achieve success is to please his principal, his colleagues, the pupils and their parents. In order to do so he has to behave circumspectly and it is hoped that by working through the simulation a number of times, the student can learn some of the skills which will enable him to function in the school's social system. It is important for a simulation to be repeated a number of times to reinforce desired behaviour if it is accepted that human behaviour is learned by observation and modelling. (Chambers & Sprecher, 1983).

4.1.2 Structure of the simulation

TENURE follows the classic general flow of a simulation by consisting of three major parts :



In addition it supports student branching to data and help units.The overall structure of TENURE is illustrated by the flowchart in Figure 4-1. This figure appears on the next page.

.../Figure 4-1

General flow and structure of TENURE simulation

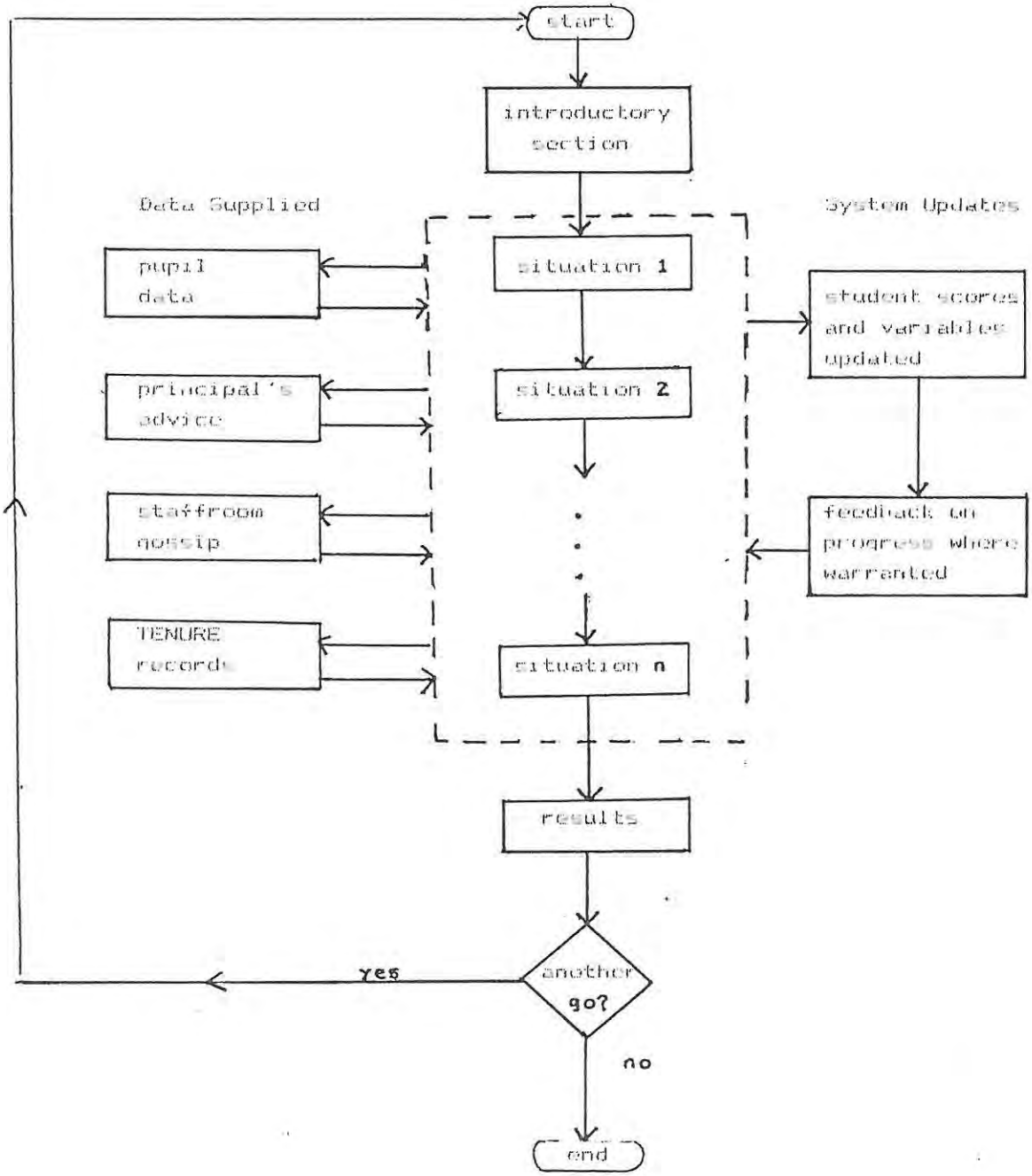


Figure 4-1

4.1.2.1 Introductory section

In the opening section of the simulation the student is interviewed by the school principal and if the interview is successful he is offered a temporary teaching post in the subject of his choice. He is given information about the data the simulation offers him (see Figure 4-2) and is asked to respond to questions relating to his teaching techniques. His responses are stored and are later used to influence his score, the marks allocated to his pupils, and to decide on his path through the simulation.

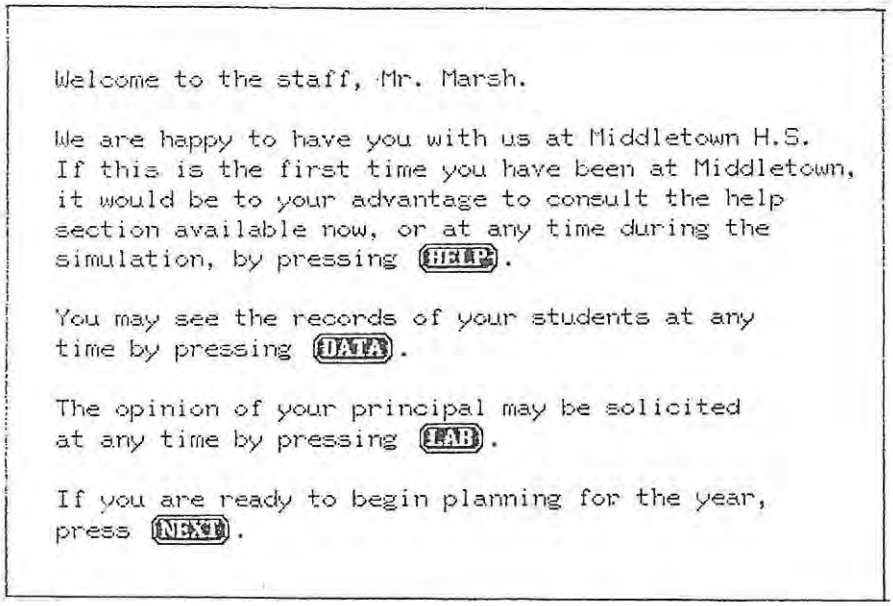


Figure 4-2

4.1.2.2 Main body of the simulation and system update

Following the introductory section the student is presented with a series of situations to which he responds by selecting one of a set of

possible actions. Depending upon his choice he is given a score in each of four categories :

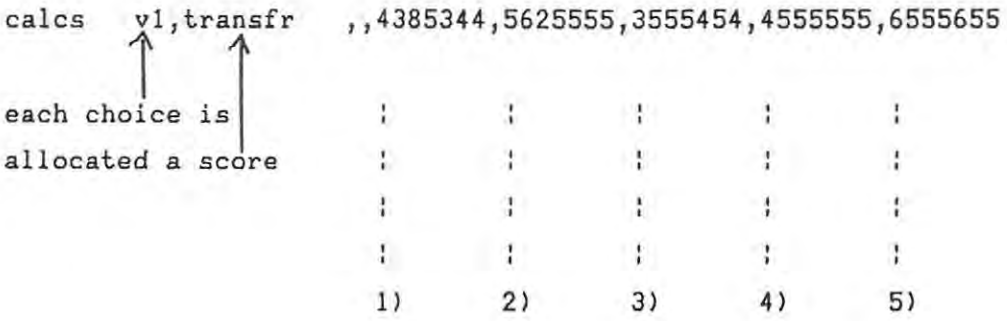
1) relationship with principal
2) relationship with pupils
3) relationship with colleagues
4) relationship with parents

These scenarios may best be illustrated by looking at one scenario in some detail. What follows is a simplified version of the original tutor code for a situation labelled TALK :

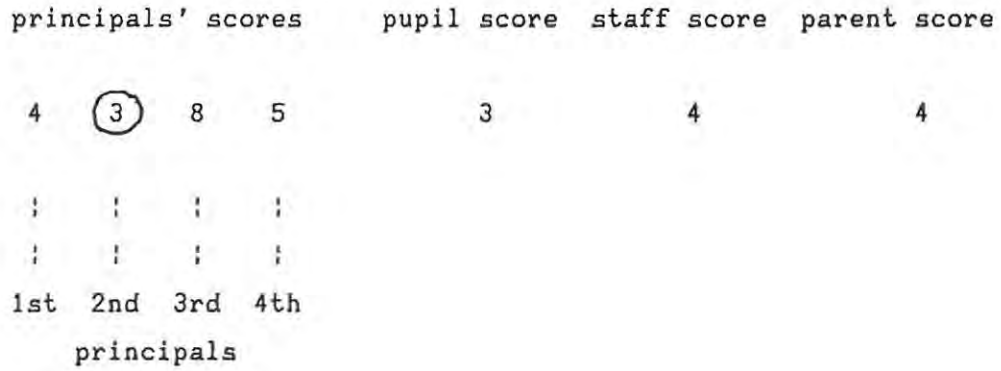
```
unit    TALK
        lecture in class one day. Bill Anderson is making
        sarcastic comments which the rest of the class finds very
        amusing and entertaining. He simply speaks out in class
        interrupting your lecture whenever he feels like it. What
        will you do?

          1. Ignore him and his comments and hope that some of the
             lecture gets across.
          2. Single him out and reprimand him. If he continues
             then send him to the principal.
          3. Try to top his sarcasm and put him in his place.
          4. Keep him after school for detention.
          5. Try to find out why he seems to need so much
             attention after taking some sort of disciplinary
             action.
do      TAB
jump    CHEAT
```

The student is given a choice of five actions each of which is given a score. The five scores are to be found in the line :



Assuming that the student has been allocated principal two, the extreme conservative, and that he chooses the first action, he will then be allocated the score 4385344. If this score is analysed it can be seen that out of a range of marks from 1 to 9 in each of the four categories he received :



giving him an overall score of 14 out of a possible 36 marks. This scoring is carried out by the TAB unit which is mentioned in the fragment of code above. If the student's current score in any of the four categories is very low or very high he is given appropriate feedback. Note that the scores he receives in the pupil, staff and parent categories do not vary with principal type.

4.1.2.3 Data supplied by the simulation

The simulation supplies the student with data in four areas. This data is available at any point in the duration of the simulation.

1) Pupil data

This data comprises a class record sheet which is updated once during the simulation according to the teaching techniques selected by the student. Below is an example of such a record sheet.

Here is your gradebook. It is time to assign mid-semester grades. Grades are weighted as you requested.

Name	Tests	Quizzes	Homework	Class Part.	Labwork	TOTAL PTS.	Percent	GRADE
Anderson, Bill	74	75	163	452		764	76	B
Ashbrook, Betty	70	69	150	480		769	77	B
Bear, Chuck	87	83	178	555		904	90	A
Bell, Judy	77	76	158	505		816	82	A
Calvin, Rich	92	95	192	600		979	98	A
Clark, Beth	75	77	165	459		776	78	B
Elliott, John	84	91	187	554		916	92	A
Ellis, Sally	93	96	200	592		981	98	A
Harmon, Joe	61	64	155	439		719	72	B
Larson, Bob	90	88	198	600		976	98	A
Larson, Tim	80	76	173	524		853	85	A
Novak, Susan	83	89	194	551		917	92	A
O'Brien, Tom	68	77	154	476		775	77	B
Roberts, Cris	94	90	200	600		984	98	A
Starr, Jim	70	76	162	516		824	82	A
Talbot, Holly	100	100	200	600		1000	100	A
Washington, Dave	68	68	150	440		726	73	B
Wilson, Danny	90	95	191	576		952	95	A
Wilson, Mary	71	71	164	516		822	82	A
Wood, Rosie	98	100	200	600		998	100	A
AVERAGES:	81	83	177	532	0	873	87	
Possible:	100	100	200	600	0			

Figure 4-3

2) Principal's advice

During the simulation the student is given five opportunities to request a meeting with his principal in order to find out how he is progressing. The advice that he receives depends on his current score with his principal except in the case of the indecisive principal where a chance factor influences the type of feedback given. The 'conservative' principal encourages this advice-seeking by a slight addition to the student's score whereas the principal who doesn't like to be disturbed discourages this activity by slightly decreasing the student's score.

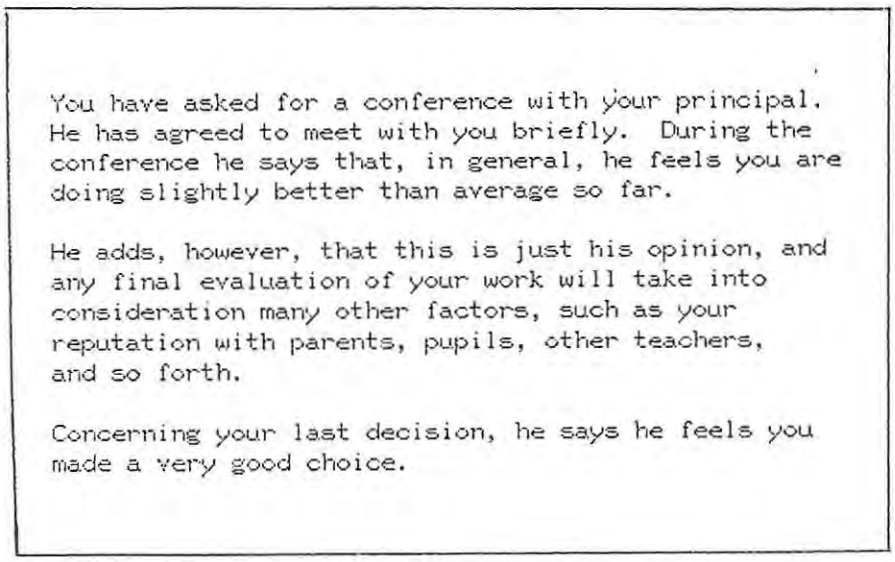


Figure 4-4

3) Staffroom gossip

If a student 'visits' the staffroom he is given a randomly selected item of gossip which might be of a general nature or might hint at the

type of principal he has been allocated or might give him an indication of either his pupils' or their parents' opinion of him. If the information is of the last type, its content would depend upon the student's score in the category selected by the system. Each time he makes use of this facility his score with his principal is slightly diminished and his score with his colleagues slightly increased.

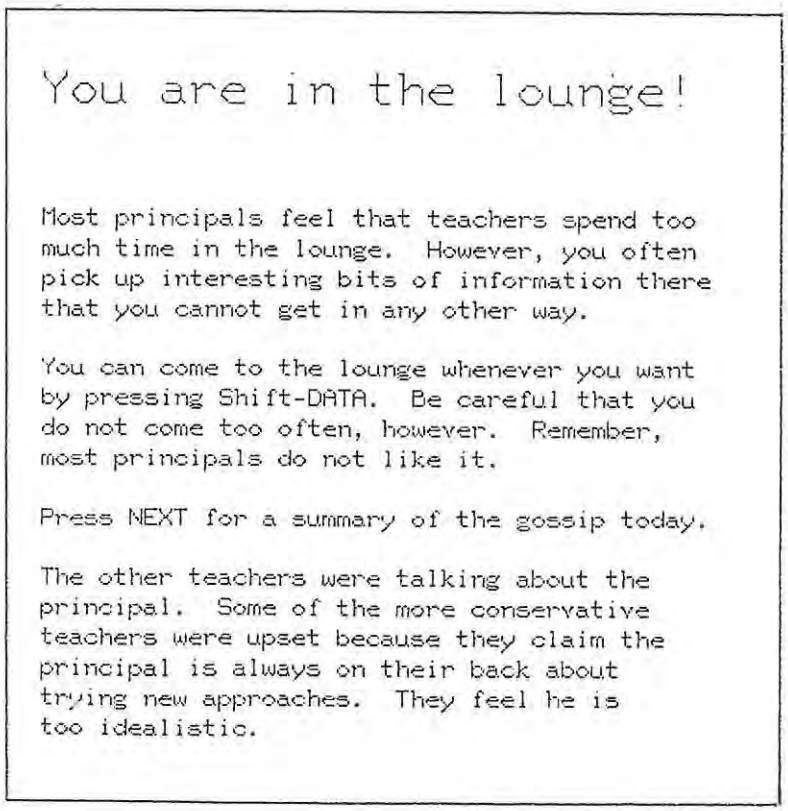


Figure 4-5

4) TENURE records

The student has access to the records of past users of the simulation. These records display the names of the highest scorers and their scores in the principal, pupils, staff and parent categories. The records are re-initialised after every 500 users.

Records of Middletown H.S.
(Re-initialized on 12/30/84)

Best Reputation with Principal:
Score: 95.0
Staton (craig stat of izfamily) on 01/04/85

Best Overall Score:
Score: 81.0
Staton (steven sta of izfamily) on 01/02/85

Best Reputation with Students:
Score: 54.0
Staton (craig stat of izfamily) on 01/03/85

Best Reputation with Peers:
Score: 61.0
Hobson (hobson of assist) on 03/11/87

Best Reputation with Parents:
Score: 55.0
Staton (craig stat of izfamily) on 01/04/85

Note: These records are re-initialized every 500 simulations.
(Re-initialization will occur in 167 simulations.)
Press NEXT for more records.

Figure 4-6

4.1.2.4 Results

At the end of the simulation the student is told which principal he was allocated and is given his scores and overall result. As mentioned above, the student is assessed in each of the four categories as the simulation progresses. In addition to these scores, his teaching ability is rated during the introductory section. Figures 4-7, 4-8 and 4-9 give an example of what a student might see on completion of the simulation. In addition to these results he is able to access a summary of his class's ratings which displays the top achievers and the most recently fired users. He is also able to see score distributions for all four principals.

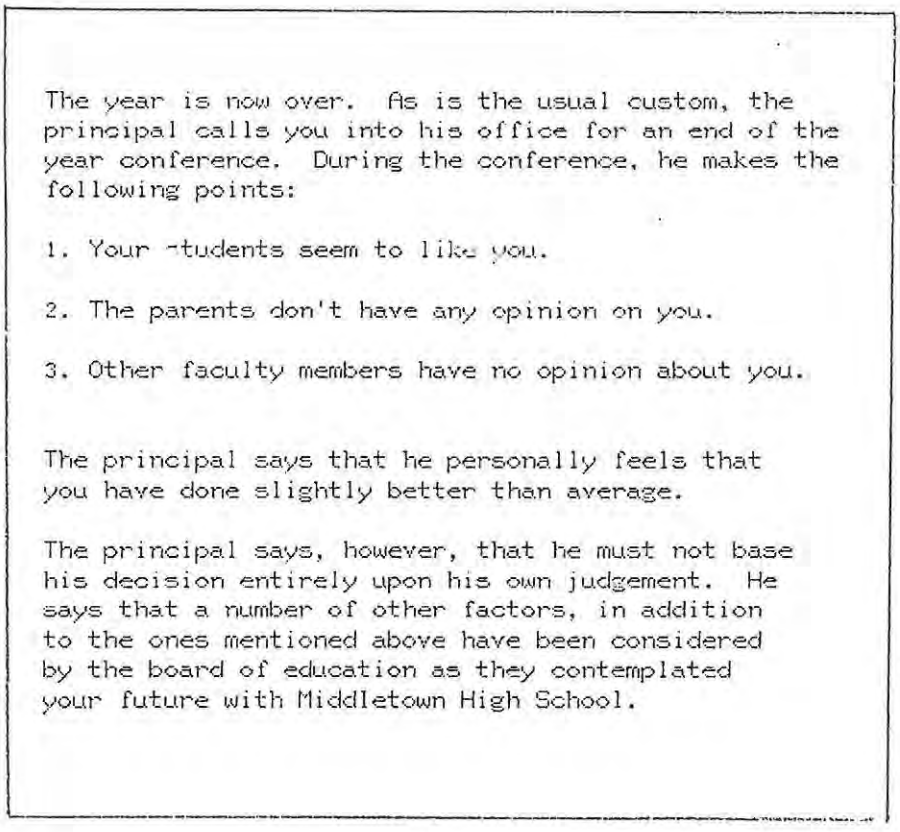


Figure 4-7

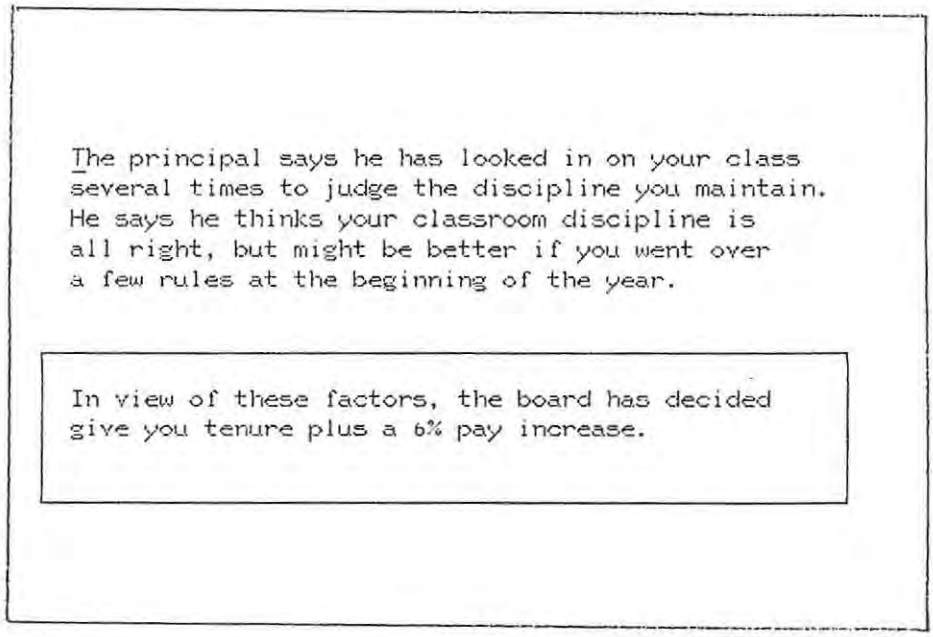


Figure 4-8

Figure 4-9 appears on the next page

.../Figure 4-9

Your principal for this simulation has been Jay Bittner. He is very liberal in his philosophies toward education. He favors freedom and responsibility for the students and a creative,innovative learning environment.

For your general information the average score with this principal is 41.95. You scored 38 points with him.

Here are your other scores:

Type of score	Your Score	Average Score
Pupils	40	34.25
Faculty	35	29.67
Parents	29	29.29
Overall	38.8	31.85

Figure 4-9

4.1.2.5 Individual paths through the simulation

The simulation allows one user a certain amount of variation of experience when compared with another. This individualization is achieved firstly by the random allocation of one of four principals. In addition to this each student is randomly allocated a number from 1 to 4 which is stored in a variable called "path". According to this number the student will be allocated a certain path through the list of

situations. So one student who has the same principal as another will not necessarily experience exactly the same situations as his fellow.

The student's choice of a teaching subject and club or society to supervise also influences the choice of scenarios presented to him. A further variation to the route that a student follows through the simulation comes about by some situations being displayed to members of one sex only. In addition to these devices a chance factor is often used to further differentiate one user's experiences from another's.

An example of a fragment of an individualized path is shown in Figure 4-10 which appears on the next page.

There is a further means of individualization in that depending upon a randomly allocated value of a variable "mon" some users have additional difficulty in obtaining a teaching position or tenure because of the school district's poor financial position. Finally, whether a student elects to join a teacher body also affects the course of his path through the simulation and the situations that he experiences.

.../Figure 4-10

Flowchart showing individualised paths based on sex, chance, average grade of pupil and a random variable called path.

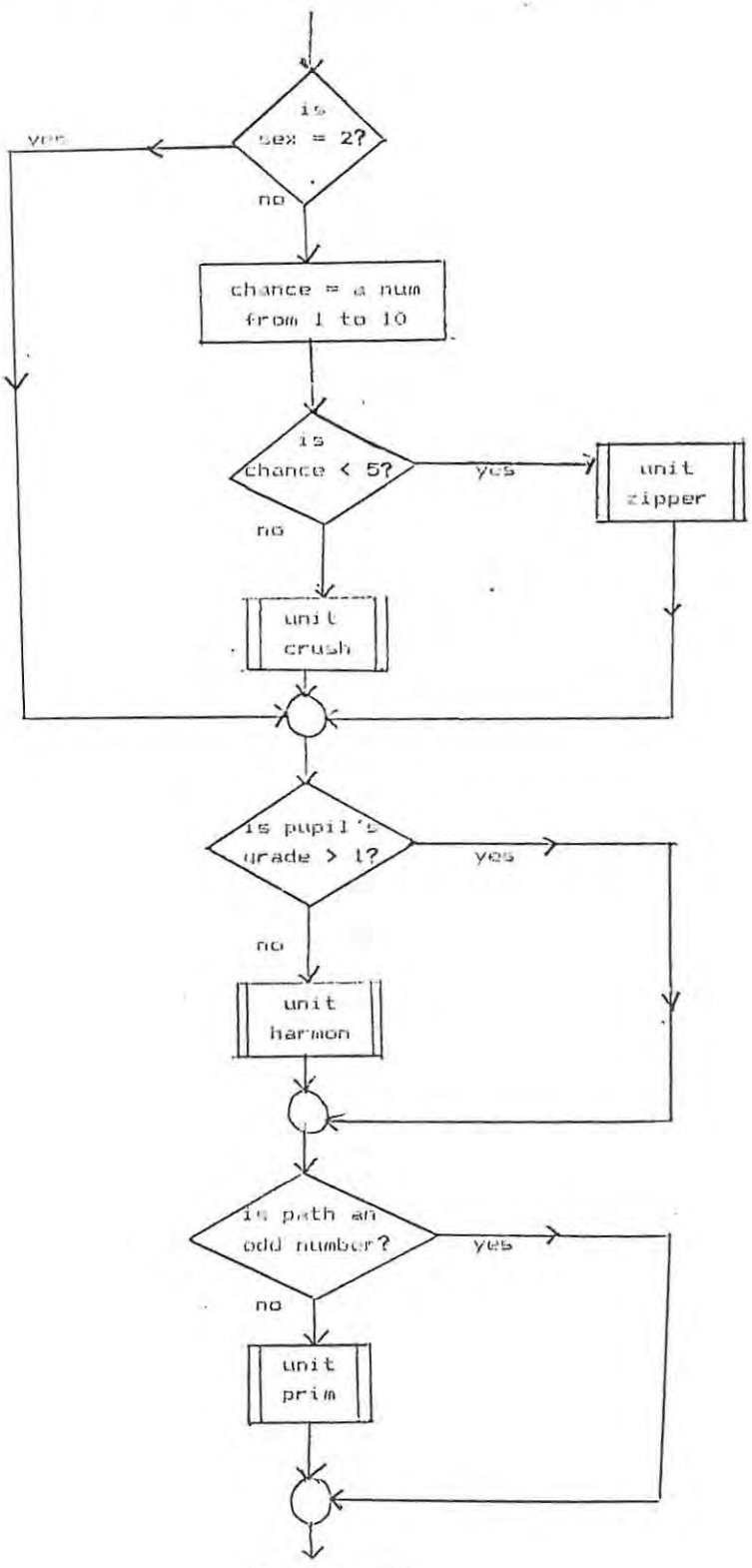


Figure 4-10

In some cases the presentation of a situation is dependent upon the response of the student to a prior situation. For example in the unit RULES the student is asked whether he would allow class rules to develop as they were required or whether he would formally discuss the rules. If he chooses the latter action he is presented with unit SELECT containing a list of class rules for his approval. If he chooses the former action he bypasses the unit SELECT. This is illustrated in Figure 4-11 below.

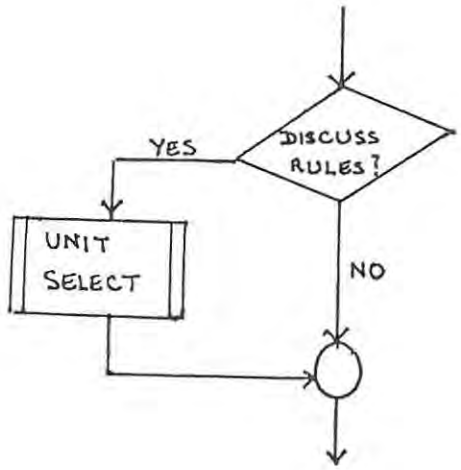


Figure 4-11

4.2. Description of Tenure S.A. Version 1

4.2.1 Aims of the modification

The main aim of the modification to TENURE was to make it a workable tool for the South African student. It is essential for a student to identify with the structure and content of the simulation in order to benefit from using it. The situations presented by the simulation must be credible and the language intelligible. The simulated school and the community it serves must realistically fit a South African environment.

The student must feel comfortable with the people with whom he is interacting. It is important for the modifications to ensure that the simulation has a high level of realism since its context is intrinsic to its goals as set out in section 4.1.1 above. The importance of a high level of realism has already been discussed in Chapter 3 of this study.

4.2.2 Modification of language

The first modification made was the translation of the language of the simulation into South African English parlance. Since TENURE is designed to identify with the North American student, its language is colloquial and extensive modifications were made to its vocabulary, grammar and tone.

Some examples of the educational terminology that needed alteration were :

tenure, faculty, student-taught, ditto sheet, pop quiz, department chairman, make-up test, term paper, grade point average (GPA), etc.

All sentences that contained American slang, spelling and colloquial grammar were amended. For example a South African student might find the following sentence difficult to follow :

"Tell her you won't count the test heavily on her final grade."

In places the tone adopted by a member of the school community would have been unacceptable in the equivalent South African context. For example, a new teacher would be very unlikely to tell his principal :

"I'm sorry, but I understood that I was hired to teach --not be (sic) a short order (sic) cook."

And on the other hand, even though a principal may find a new teacher rather trying, he would not say:

"You stink!"

4.2.3 Modification of context

TENURE'S simulated school, Middleton High, is an example of a North American middle-class co-educational school. It was decided to modify this and create Albany High which is typical of a South African white middle-class co-educational school. Wherever possible the context of the simulation was given a South African flavour. This was accomplished in several different ways :

4.2.3.1 Names of people and places

The names of the principal, staff, pupils and parents were selected from those representative of the British, Dutch and Portuguese settlers who came to South Africa. Place names are fictitious but could be anywhere in South Africa.

4.2.3.2 The school environment

The school subjects offered to the student by Tenure S.A. Version 1 were designed to be typical of those found in schools administered by the Provincial Education Departments. It was necessary to change the sports and societies of TENURE from, for example, American football and the Honor society to rugby and the Environmental Studies group. In order to give a fuller picture of the South Africanisation of the school environment a few further examples of necessary changes are mentioned here : The 'lounge' became the staffroom, the school 'halls' became the more familiar school corridors. The 'department chairman' became the head of department and the 'Board of Education' the School Committee.

4.2.3.3 The educational environment

In the original TENURE program, the new teacher is expected to interact with two teacher bodies in the United States, the N.E.A. and the American Federation of Teachers. The simulation brings pressure to bear on him to join one of these bodies and later on there is a chance that he might become embroiled in strike action by the body he joined thus jeopardising his job. Although the South African student can become a member of one or more teacher associations, the possibility of these bodies calling out their members in a general strike action is not feasible so these sections of the simulation were omitted altogether.

There is a further part of TENURE'S overall educational environment that has no counterpart in South Africa. This is the concept of the school being financed by the school district. Depending on the randomly allocated value of a student variable "mon", a student's acquiring of a post becomes dependent upon the financial position of the school district. This variable and those sections that refer to it were also omitted from Tenure S.A. Version 1.

4.2.3.4 The probationary year and assessment

As mentioned above, the final assessment of the student by the TENURE simulation indicates whether he has achieved tenure or not. Depending on his final overall score, he will be placed into one of six categories. These are :

1. Teacher fired
2. Probation
3. 6% Pay rise
4. Tenure plus 6% pay rise
5. Tenure plus 20% merit rise
6. Promoted to Dept. Chairman

The modifications that were made to these categories were guided by the probationary procedure in practice in the Cape Province. At present in

the Cape Province a beginning teacher is first appointed to a school for a twelve month probationary period. During this time he is assessed by his head of department, the principal and an Inspector of Education. At the end of the probationary period he may be given a permanent appointment, have the appointment extended on probation for a further twelve months or have his appointment withdrawn. (A copy of the E.273 assessment form can be found in Appendix C.) Tenure S.A. Version 1's assessment categories are :

1. Teacher fired
2. Further probation
3. Temporary post
4. Permanent post
5. Permanent senior post

4.2.4 Modification of overall structure of the simulation

A questionnaire designed to extract the student's opinion of the simulation was appended to the program so that the student could respond immediately on completion of the simulation. This questionnaire can be found in Appendix B.

At the beginning of the simulation a unit was added which describes the aims of the simulation and requests response to the questionnaire.

A unit which informs the student of the data available to him and how he can access it was designed so that it could be displayed at regular intervals through the course of the simulation.

It was necessary to restructure the individual paths through the simulation because the addition and deletion of situations had disturbed the balance of the distribution of events and hence the individual scoring.

4.2.4.1 Situations

The modifications made to TENURE involved removing some of the situations that either had no counterpart in the South African school or which might embarass or alienate a South African student, and substituting more suitable examples. For example one of the units referred to supervision on the part of the new teacher of the Honor society. Another unit referred to his embarassment at finding his fly undone, and so forth. These units were replaced by more suitable situations involving common school societies and less sexually explicit incidents. In order to make the simulation more topical, extra situations referring to the important role of sport in the school and the contraversial subject of discussing South African politics in the classroom were included.

4.2.4.2 Feedback and supplied data

The feedback the student receives during the course of the simulation was left largely unchanged except that in places it was toned down without losing its general import.

There were few changes made to the data except that the GPA scores were removed from the pupils' class records and references to national standardised tests were omitted. The grades of the five-point scale used were changed from alphabetic to numeric symbols so that there was no confusion with the standardised grades used in the secondary school. The option of grading 'on the curve' was removed as H.D.E. students are unlikely to understand its meaning.

4.2.4.3 Scoring and results

The system of scoring as it was described above was maintained in its original form. It was necessary, however, in rating certain of the options offered by some of the situations to modify the scores allocated to the 4 areas (Ref. 4.1.2.2) in order to reflect the South African school environment more accurately. In order to obtain

guidance as to whether it was possible to apply some objective form of score allocation, the unit TALK described in section 4.1.2.2 was given to four members of the Rhodes Education Department so that they could rate each of the areas in each of the 5 alternative options. It was of interest to the author to note that there was no correlation between the scores allocated by these educationists. The author therefore submits that the scores allocated by the simulation to the student users must be considered to be subjective and based on the author's own educational experience together with advice sought from the author's supervisors.

The results displayed to the student were modified to exclude the names of the top scorers and those who had been fired. They still included the remainder of the results as described above in Figures 4-7, 4-8 and 4-9.

4.2.5 Student data capture

PLATO makes provision for capturing all the student's key-presses in a PLATO student data file. Full use was made of this facility to automatically capture all the responses that the student made whilst executing both the simulation and questionnaire. An example of the data captured is given in Figure 4-12 below.

In addition to this data capture, a TUTOR -output- statement was used to store the student's scores and the contents of the more important student variables. This information was also written to the PLATO student data file when the student exited the program, regardless of whether he had completed it or not.

.../Figure 4-12

```
*****************************************************************************************************

data file rtendat1        printed at 12.40.27. on 86/05/22.


*****************************************************************************************************

signin                fergusson              rtenure     05/02/86        14.56

response     4.6      fergusson              rtenure     area first       unit apply      arrow  1
                      FERGUSSON    OK

response     4.8      fergusson              rtenure     area first       unit apply      arrow  2
                      2 OK

response     5.9      fergusson              rtenure     area first       unit apply      arrow  3
                      1 OK

response     7.9      fergusson              rtenure     area first       unit experi     arrow  4
                      2 OK
```

Figure 4-12

4.2.6 Program testing and debugging

All aspects of both the simulation and the questionnaire with their attendant data capture were thoroughly tested before execution by students. Members of the Rhodes University Department of Education helped extensively in this activity.

CHAPTER 5 ANALYSIS AND IMPLICATIONS OF STUDENT RESPONSE TO TENURE S.A. VERSION 1

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CHAPTER 5 ANALYSIS AND IMPLICATIONS OF STUDENT RESPONSE TO TENURE S.A. VERSION 1

5.1 Student use of the simulation

During a three week period in April 1986, the class of Higher Diploma of Education students executed the simulation and responded to the questionnaire before they went to schools on teaching practice. They were able to use the computer terminals when it suited them provided they had previously made bookings. Their responses to the simulation and the questionnaire were captured in a PLATO student data file.

The majority of the students had no difficulty in completing the task. Four students did not complete the simulation and one needed help to re-enter the system after exiting it prematurely. The average time taken to execute the simulation was 56 minutes.

For this initial testing the students were not given the option of re-doing the simulation, but four students requested another chance of using the program in order to improve their ratings.

5.2 Description of the questionnaire

The questionnaire is designed to be on-line and was delivered to the students immediately after they had completed the simulation. Its format is very similar to that of the simulation so that the flow from the simulation to the questionnaire is uninterrupted. It was hoped that this would facilitate the spontaneity and accuracy of the students' replies. The questionnaire can be found in Appendix B.

The information the questionnaire is designed to extract falls into six areas:

a) academic and biographical background of student

b) student's opinion of the areas selected for presentation by the simulation

c) student's opinion about individual situations presented by the simulation

d) student's attitude to assessment by the simulation

e) student's perception of the relevance and usefulness of data supplied by the simulation

f) student's overall impression of the simulation

5.3 Composition of the student respondents

Fifty students answered the questionnaire. Of these 54% had attended single sex schools as pupils whilst the remaining 46% had attended co-educational schools. When asked to comment on the discipline in their schools 2% said that it had been lax, 58% said that their schools' discipline was moderate, 36% had attended schools with a rigid discipline, whilst 4% said the discipline at their schools had been oppressive.

Of the students who had obtained degrees, 12% had Honours degrees and 68% had Bachelor's degrees. 20% of the students still had to complete their degrees.

Only 4% of the students had taught formally in a school whilst 32% had some informal tutoring experience. When asked which subject they would most like to teach, the breakdown was as follows:

Subject	% of class
English	24%
Geography	16%
History	10%

Mathematics	8%
Accountancy	8%
Guidance	6%
Xhosa	6%
Afrikaans	4%
Economics	2%
French	2%
Biology	2%
Music	2%
Art	2%
Biblical Studies	2%
Computer Studies	2%
Physical Education	2%
Undecided	2%

5.4 Findings from the questionnaire

5.4.1 Students' opinions of the areas selected for presentation by the simulation

Most of the students (88%) agreed that the four areas covered by the simulation, namely situations that a first year teacher might encounter in developing his relationships with the principal, his pupils, his colleagues and the parents of his pupils, were appropriate. They were willing to suggest other situations within these areas that the simulation might address and 72% of the students responded with suggestions of their own. Some of these suggestions were :

> More directly confrontational situations between teacher and pupil(s)
>
> Situations where pupils try to become overly familiar with the teacher
>
> Confrontations between teacher and rigidly conservative members of staff

Coping with malicious rumours spread by a resentful pupil about the teacher

More situations dealing with 'problem' pupils

Personality clashes between teacher and pupil(s)

Clash between teacher and dictatorial Head of Department over teaching methods

A frequent complaint (made by 52% of the students) was that they felt pressured by the simulation to please one or more of the personalities (especially the principal) in the four divisions of the school community mentioned above. These personalities, according to 40% of the students, exerted so much influence that they were not able to respond as spontaneously as they would have liked.

Two of the students commented :

"Pressure to please the principal dominated all I did."

"I found that all the members of the school community brought pressure to bear on me."

It can be maintained that this pressure to please is realistic given the dynamics of a school population and the need of the first-time teacher to establish his competence in the classroom and to find acceptance in the staffroom. Many staff groups are strongly hierarchical and the newcomer's position is at the bottom of the pyramid. He is expected to keep his place and to toe the line if he is to be accepted and promoted.

"Schools, like other social organizations, confront their members with adaptive dilemmas... A person occupyimg a particular status may perceive demands and expectations that he should behave in ways which are at odds with his own conception of his role, and

neither his ideal image nor the expectation of others may match his actual role performance." (Musgrave and Taylor, 1969).

5.4.2 Students' feelings about individual situations presented by the simulation

The majority of the students were satisfied that the individual situations presented were sufficiently real to be worthy of consideration. In fact 90% of the students said that similar situations had arisen when they were pupils at school.

Some of the students commented :

"The information was clear and the situations were realistic."

"I liked the detailed situations."

"I liked comparing my response to the alternatives given."

"The situations were very realistic - I'll know what to expect."

"Some of the situations are informative."

"Food for thought."

There were very few students who found any of the situations artificial, contrived or ambiguous.

However, a constant criticism which ran like a thread throughout the students' responses to the questionnaire was that the range of alternative actions to a situation was too limited. Many students would have liked to have responded more personally. They found that the alternatives offered them were too restrictive. Many of the students voiced this complaint :

"The answers were too limited; space for comment too brief."

"I couldn't justify my choice."

"It didn't allow for expansion of expression."

"One can't be spontaneous and direct - alternatives too limited."

"It is frustrating not being able to give one's own response."

"I was unable to discuss the situation and give my own answers."

This criticism is justified but unfortunately it is very difficult to simulate human behaviour and the variety of possible human responses to a situation. The fact that the simulation is computerised does not make it any more restrictive than other types of simulations since it suffers from the universal limitation of closed response simulations in that it has to offer a selection of pre-determined solutions.

For the sake of both convenience and efficiency the number of possible solutions has to be reduced. Under these circumstances all that can be done to improve a simulation is to take into account as many of the human responses as possible and to offer the most obvious as alternative courses of action. Too much detail can clog and confuse a simulation. There is a point beyond which the addition of more detail adds unnecessary complexity, and may unbalance the simulation. It is not possible in terms of the nature of the scoring system of TENURE to include open responses as they cannot be assessed by the program. This problem is discussed further in section 7.5 of this dissertation.

5.4.3 Students' attitudes to assessment by the simulation

When asked how they felt about being assessed by the simulation, 86% of the students had no objection, but 40% of this group felt that they had been rated unfairly. The reasons given for this criticism were several:

a) having discussed the simulation with their peers they had discovered that it is easier to succeed with the progressive principal than with the other three

b) there is insufficient feedback on progress during the course of the simulation

c) it is difficult to please all the sectors of the school community simultaneously

d) there should be more information given at the start of the simulation about the individual principal's attitudes and convictions

It would be best to examine each of these four statements individually:

a) it is easier to get a high score with the progressive principal than with the other three

When the data on student responses to the simulation was examined it was found that those students who had been allocated the progressive principal had indeed achieved better scores with their principal than the other students. This is to be expected, considering that the normal student's enthusiasm for innovation would have been more favourably received by this particular principal than by any of the other three.

Considering the subjectivity of human nature it may be argued that this discrepancy in the scores ought not to be considered unfair nor unrealistic. In the actual school situation the principal has the major say in the assessment of the first year teacher at the end of his probationary year. It can be argued that the increased difficulty of succeeding with an 'awkward' headmaster has definite parallels in reality. The main aim of the simulation is to teach the student to develop skills for working within the social system of the school. Perhaps if all scores of other members of the H.D.E. group were removed

from the final assessment the student would view the simulation more as a learning experience and less as a competition.

Here is a selection of remarks made by students about the less progressive principals :

"The principal was biased, too traditional."

"The principal was harsh."

"The principal judged me without allowing me to explain my teaching methods."

"The Head's changeability made his views less credible."

"Having different principals was unfair!"

"If I had known the principal's views I would have answered differently."

b) there is insufficient feedback on progress during the course of the simulation

Depending on the student's overall score during the simulation, he is given feedback on his progress. It seemed that the score categories upon which the feedback depends needed tuning and that the student should be given more access to his principal.

c) It was difficult to please all the sectors of the school community simultaneously

This statement may be considered an accurate description of one of the problems facing a beginning teacher. It is important that the student be made aware of this dilemma by the simulation.

"...he (the new teacher) has to come to terms with the demands made on him by the pupils and their parents, colleagues and local advisors and to try to transfer what he has learnt at college into action in the classroom." (Raggett, 1975).

d) there should have been more information given about the individual principal's attitudes and convictions.

This criticism is valid. In the real school environment the new teacher would very soon be told the head's attitudes and convictions by the staff and pupils and would tailor his dealings with the principal accordingly. In the simulation the student is not told explicitly about the principal's personality and ideology until the time of his assessment. He receives only the occasional hint during the course of the program.

When asked how they felt about seeing their scores in relation to those of the other students in the H.D.E. group, only 12% objected but, when some of their remarks about assessment were examined, there was an underlying resentment at being 'exposed'. Here is a selection of relevant remarks :

"I'm happy that I wasn't rated as a bad teacher."

"My low score made me feel inferior."

"I should have been given a running total of my scores."

"The score was not fair - there was no room for negotiation."

"The identity of the highest scorer should not have been revealed to the class."

"Shouldn't display top scorer's score."

"I was upset by my low score."

"There shouldn't be score comparisons."

"The score was offputing."

5.4.4 Relevance and usefulness of the data supplied by the simulation

5.4.4.1 Pupil data

Most students (90%) had accessed the pupil data supplied by the simulation and of these 53% were dissatisfied with its content. Most of these students wanted fuller class records, detailed extra-mural activities and some indication of personality traits and family background.

5.4.4.2 Advice from the principal

Many students (79%) asked advice from the Principal when it was offered. Of these students 56% found his advice to be of no use.

5.4.4.3 Staffroom gossip

Many students (82%) visited the staffroom during the course of the simulation. Of these students 71% found the information that they received from this source did not give an indication as to how they were progressing.

Judging from the above observations made by the students, the data offered them by the simulation did not fulfil the role it was designed for and needed a major overhaul.

5.4.5 Students' overall impression of the simulation

5.4.5.1 Relevance

The majority of the students (68%) felt that the simulation was a relevant part of pre-teaching practice preparation. A further 28% felt

that it might have some relevance, whilst only 4% felt that it had no relevance at all.

5.4.5.2 Length and medium

Most of the students (72%) found the simulation to be of a suitable length and the majority found using a computerised simulation both enjoyable and novel.

5.4.5.3 Overall appeal

The majority of the students (72%) were positive in their critical comment on the simulation, finding it largely thought-provoking and entertaining. In the literature that was consulted on simulations this reaction seems to be a universal one.

> "For the user, they (simulations) have high face validity. If there is one consistent finding in the research, it is that students and teachers rate them highly as interesting and worthwhile experiences." (Shirts, 1976).

Five students found the simulation frustrating and two found their low scores upsetting.

A list of student comment on the simulation as a whole follows :

"I enjoyed working at my own pace."

"Interesting, I've never used a computer before."

"Quick and easy to use."

"Refreshing approach."

"It's fun to work on a computer - different and enjoyable."

"I liked interacting with the program through the keyboard and screen."

"Caused eye-strain!"

"Too restrictive language and choice."

"I'm slow at typing."

"Enjoyed being out of normal lecture environment."

"I liked using the terminal."

"I liked the novelty."

During the course of the questionnaire the students were asked to select from a list of 7 positive and 7 negative adjectives that one which best fitted their feelings about the experience of executing the simulation. A description of their choices follows:

Adjective	Chosen by
Thought-provoking	11 students
Entertaining	11 students
Stimulating	5 students
Frustrating	5 students
Artificial	4 students
Challenging	3 students
Reassuring	3 students
Upsetting	2 students
Absorbing	2 students
Refreshing	1 student
Intimidating	1 student
Shallow	1 student
Superficial	1 student

It can be seen that 72% of the students felt positive towards the simulation whilst 28% chose negative adjectives to describe their experience.

5.5 Implications for further improving the simulation

The findings from the questionnaire gave rise to the following implications for further improving the simulation :

a) At the beginning of the simulation the student should be told which of the four principals he has been allocated and be given an indication of that principal's personality and educational opinions. (cf. 5.4.3).

b) In each situation the choice of actions offered to the student should be reviewed and, within the bounds of efficiency and convenience, be extended. (cf. 5.4.2).

c) Only the student's own scores should be displayed at the time of his final assessment. (cf. 5.4.3).

d) Feedback should be given more regularly and should be a clear indication of the student's progress. (cf. 5.4.3).

e) Pupil data should be more detailed. (cf. 5.4.4.1).

f) Advice given by the principal should be appropriate to the nature of the student's last action. (cf. 5.4.4.2).

g) The snippets of gossip a student can obtain by going to the staffroom need to be reviewed and, where necessary, be made more indicative of the student's progress. (cf. 5.4.4.3).

CHAPTER 6 TENURE S.A. VERSION 2 AND STUDENT RESPONSE TO IT

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CHAPTER 6 TENURE S.A. VERSION 2 AND STUDENT RESPONSE TO IT

6.1 Introduction

In section 5.5 of the previous chapter, seven areas of the simulation were targeted for further improvement. These areas were further modified and each is examined below where details are given on the scope and limitations of the additional modifications and the student response. A full program listing of Tenure S.A. Version 2 can be found in Appendix A.

Twenty two Higher Diploma of Education students of the 1988 class worked through Tenure S.A. Version 2. The students then completed the same questionnaire referred to in Chapter 5 of this dissertation. Like the first group of students, they executed this task during three weeks in April before going out to the schools on teaching practice. The composition of this second group of respondents was very similar to that of the first group of students of the 1986 class.

When comparisons are made between the reaction of the first group of students to Tenure S.A. Version 1 and the reaction of the second group of students to Tenure S.A. Version 2, percentages are used. It is felt that even though the numbers in each group are small the use of percentages highlights the differences between them.

6.2 Revelation of the principal's personality and educational ideology

Instead of concealing the personality and educational ideology of the principal and merely hinting at them during the course of the simulation, a full profile is given to the student before his interview at the school. The type of principal allocated still depends on a chance factor which is generated randomly by the program. Figure 6-1 gives an example of the information given.

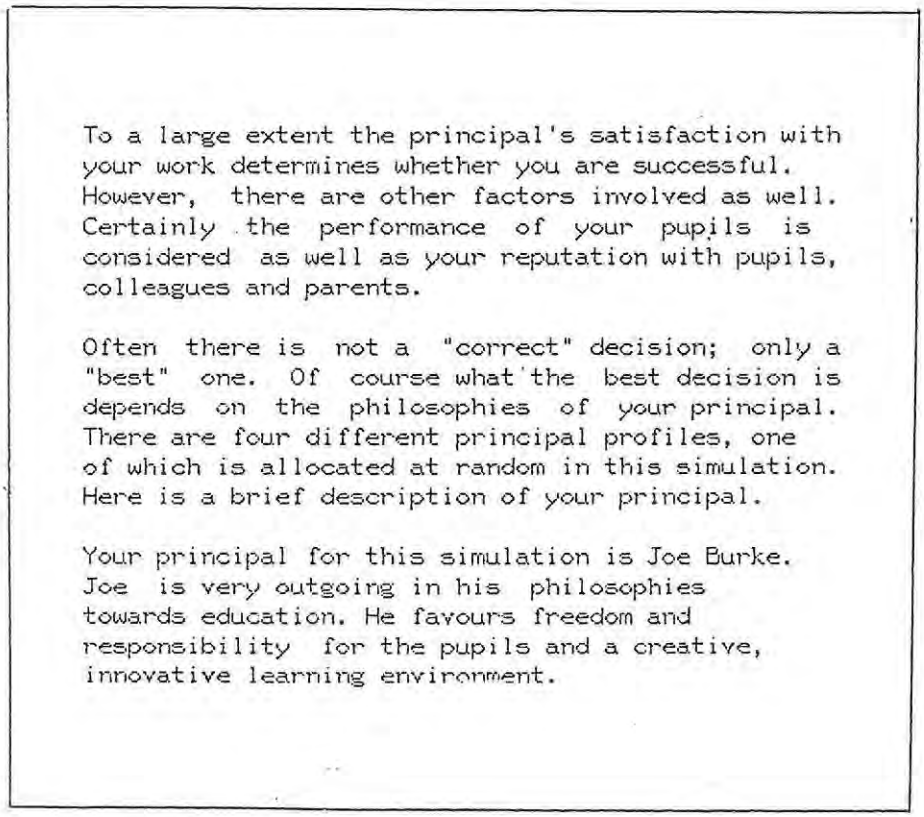

Figure 6-1

Unlike the comments made by the first group of students (cf. 5.4.3) the responses of the second group of students did not contain any criticism about the type of principal who had been allocated. It appeared that having been told what to expect from the principal the students were prepared to work to succeed with an 'awkward' personality, and accepted the situation quite readily. As the main aim of the simulation is to teach the student to develop skills for working with all the members of the school community, this modification appears to be a definite improvement.

6.3 Modification to the choice of actions offered in each situation

Each situation with its alternative courses of action was reviewed and wherever possible either extra options were added, or existing options were modified in the hope of offering a better choice to the student. It was not thought advisable to offer a large number of options since too many different alternatives might have been confusing. Lengthy chunks of text on the screen can become tedious to read and the attention of the participant can be lost. Another factor that has to be taken into account is that the terminal's screen is composed of a limited number of lines and that it is not desirable to exceed one screen display per situation. Again it must be emphasised that it is necessary to work within the limits set by complexity and convenience.

Of the 22 students of the second group, only 23% found that the choice of alternatives was too restrictive and chose to offer their own options. This was an improvement on the 44% of the first group of 50 students who complained about the lack of choice.

It cannot be denied that the restriction of user choice and the lack of natural dialogue is a problem area. Within the limits of traditional Computer Aided Instruction (CAI) this problem might be partially addressed by allowing the student to type in his own course of action (which would not be scored) provided he has first selected one of the pre-programmed options offered to him. In this way it would still be possible to score the student's choice of alternative action whilst at the same time giving him the satisfaction of recording the way that he would have handled the situation. As it stands, the simulation does give the student the opportunity to make comments whenever he wishes, but he is not asked specifically if he would like to offer an additional course of action to a situation. A collection of such suggestions from the students could be used for the continued modification of the program.

6.4 Modification to the display of students' scores

Extensive modifications were made to the display of students' scores. These are detailed below :

The display of the achievements of past users and peer group users (cf 4.1.2.4) is now omitted. In addition to this, no averages are displayed or referred to except in the case of the subject average of the student's simulated class. This average is compared to the overall average the class receives for its other subjects. It was decided to maintain this comparison since it is an important indicator of the success of the student's teaching methods. Figure 6-2 displays a typical example of this information :

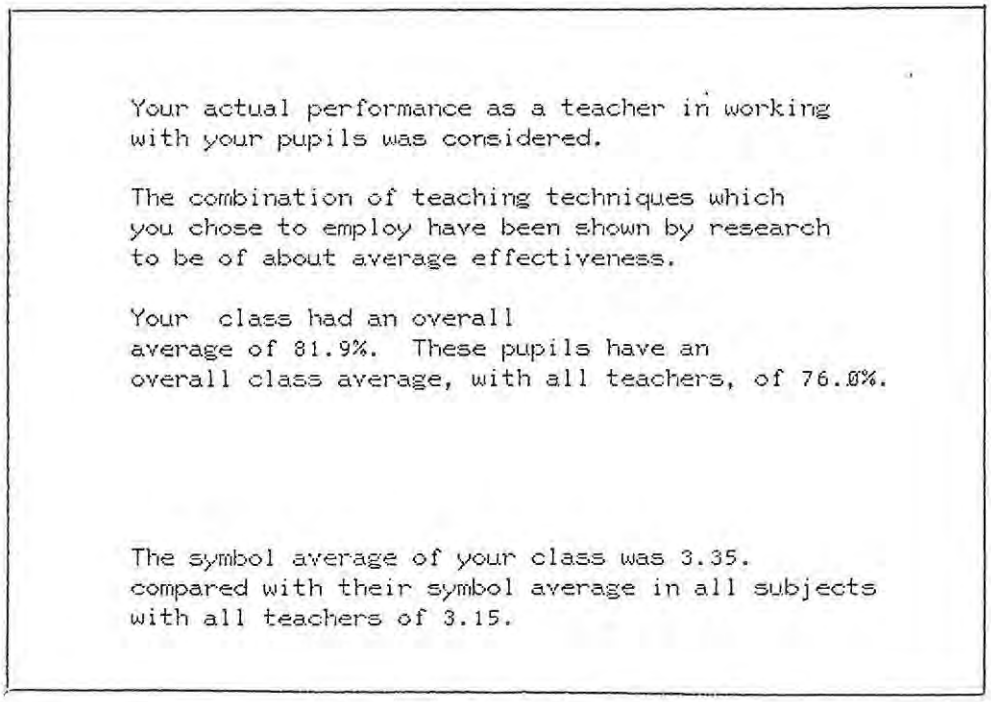

Figure 6-2

At the end of the simulation when the student was rated in the four areas : relationship with principal, relationship with staff, relationship with pupils and relationship with parents, he was no longer given a numerical score but relevant feedback based on the scores that he had accumulated. Figure 6-3 gives an example of the display of a student's assessment.

The second group of students were much happier with the assessments they were given. Only 18% of these students felt that the assessment was unfair, whereas of the first group of students more than half, 54%, had complained about being rated unfairly. It is felt that the improved attitude of the students towards their assessment can be largely attributed to the removal of the competitive nature of the simulation. For many students the anxiety which appears to be generated in them by computer simulations of a 'serious' nature (eg. TENURE for H.D.E. students) is exacerbated by overlaying a competitive ethos on the exercise.

.../Figure 6-3

The year is now over. As is the usual custom, the principal calls you into his office for an end of the year conference. During the conference, he makes the following points:

1. Your pupils seem to like you.

2. The parents generally like you.

3. Other staff members seem to like you.

The principal says that he personally feels that you are clearly a talented individual.

The principal says he has looked in on your class several times to judge the discipline you maintain. He says he thinks your classroom discipline is satisfactory, but might be better if you went over a few rules at the beginning of the year.

Your Principal has taken his opinion of you and those of others into account and has decided to give you a permanent post.

Figure 6-3

6.5 Feedback on the student's progress

Changes to the simulation were made to ensure that a student was given more frequent feedback on his progress. It was not possible for this feedback to be tailored to comment on individual decisions on the part

of the students since the feedback depends perforce upon the score that is being accumulated by the student. The feedback consists largely of memos from the principal commenting upon recent decisions taken by the student and of warnings of imminent dismissal if the student's score is consistently low. Figure 6-4 gives an example of the type of feedback that a student-teacher might receive from the principal.

You found this memo in your pigeon-hole this morning.

Albany H. S.

From the Office of the Principal

MEMO TO: Mr. Marsh

Just a note to inform you that I am unhappy about your last decision.

Please consider more carefully all future actions.

I am sure you will take care of this.

J. B.

Figure 6-4

The greater frequency of feedback appears to have been satisfactory to the second group of students as there were no criticisms made about

lack of information on progress or the nature of the information received.

6.6 Modification to pupil data

In this area there was a considerable increase made to the amount and nature of data on individual pupils that could be accessed by the student. Pupil profiles were constructed for all pupils who featured individually in any of the situations of the simulation or who were doing either very well or very poorly in the student teacher's subject. It was decided not to include a pupil profile for every pupil at this stage because of the lack of available time for programmimg.

These profiles include details on the pupil's age, parents' names and occupations, any special details about the parents' marital status, other children in the family, the pupil's current participation in school activities and extra-mural interests, whether the pupil had failed a previous standard, the pupil's medical history and any special circumstance that the student teacher should know.

The pupil profiles are based on the information kept on record by most schools. Every attempt was made to create internally consistent profiles without allowing them to reduce to crude stereotypes.

An example of a student profile is given in Figure 6-5 on the next page.

.../Figure 6-5

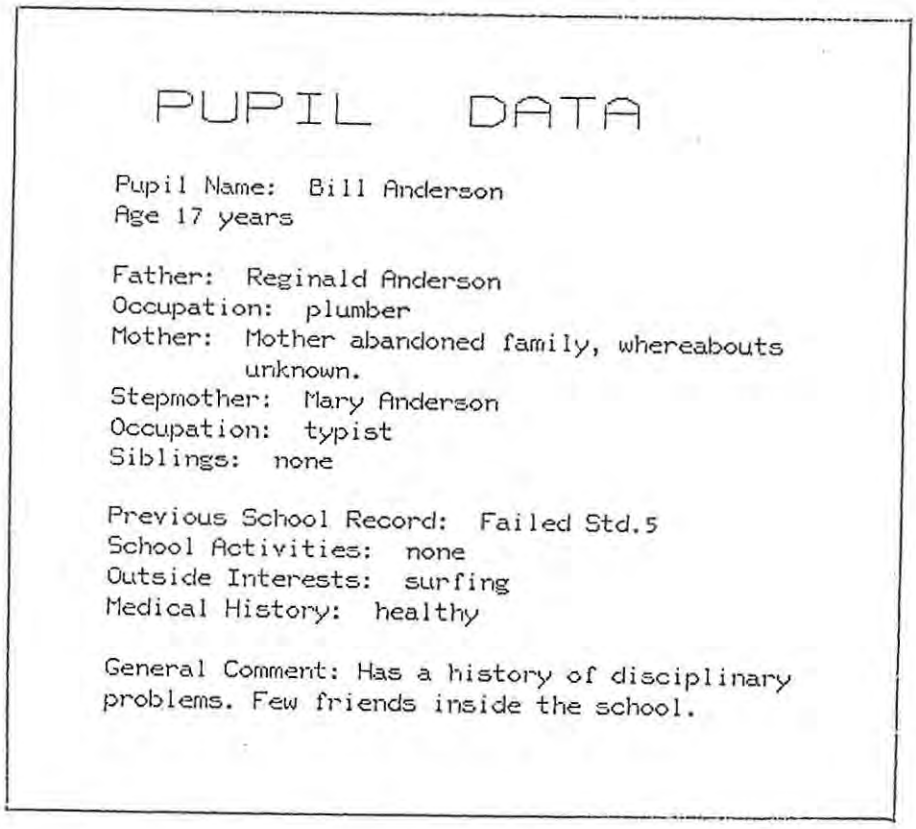

Figure 6-5

Of the second group of students, only 7 of the 22 actually accessed these individual pupil profiles. Of these all but one found the data to be realistic and useful. This was a decided improvement on the opinions of the first group of students of whom 48% had asked for more detailed pupil data.

The low number of students who availed themselves of the pupil data is a cause for concern and future modifications to the simulation should

include an attempt to encourage the student teacher to access such data wherever it is relevant.

6.7 Modification to advice given by the principal

It was not possible to individualise the advice given to a student when he sought help from the principal. As mentioned in section 6.5 above, feedback during the simulation is based directly on the student's current set of scores and so it must be of a general nature to serve any user of the simulation. The content of this feedback was 'personalised' as much as possible given the constraints of this aspect of the design of the program. In the real school situation a principal would not be able to give constant advice to a new teacher so it could be claimed that the students' expectations here are out of keeping with reality.

There was a definite improvement in the students' opinion of the principal's advice. 34% of the first group had found the advice useful whereas of the second group 50% found it useful.

It is possible that the expectation of the student as to the amount of help he should be able to obtain from his principal is out of keeping with the capabilities of the program and that at the outset the student should be told that the principal's advice is limited to information about the student's progress through the simulation.

6.8 Modification to staffroom gossip

The items of gossip that a student could obtain by 'visiting the staffroom' during the simulation were closely examined and where necessary modified to give a clear indication of the student's current standing in the three categories : his relationship with his colleagues, his relationship with his pupils and his relationship with his pupils' parents. When a student elects to 'visit the staffroom' he is given feedback relevant to one of the three categories mentioned above. The category is selected randomly.

The unit containing hints about the principal's personality and educational philosophy was omitted since the revelation of this information at the beginning of the simulation had made it redundant. Figure 6-6 shows the unit which refers to the student teacher's relationship with the parents of his pupils.

```
 8   randu    chance,6
 9   at       22Ø9
1Ø   writec   chance‡‡‡Sorry.  No interesting gossip today.‡
11            The teachers were talking about the fact that
12            a number of parents of your pupils have a
13            great deal of influence with the school
14            board.‡
15            The conversation was cut short.  The
16            principal came to see who was in the staffroom.‡
17            Another teacher told you that your pupils
18            seem to‡
19            Another teacher told you that she overheard
2Ø            some parents talking about you.  They said
21            that they thought‡
22   branch   chance,1skip,1skip,1skip,1skip,1skip,x,6end
23   at       where+1
24   writec   score(5)‡dislike you.‡feel rather neutral about you.
              ‡like you.
25   branch   1skip
26   6end
27   at       where+1
28   writec   score(7)‡you were not doing very well.‡you were doin
              g alright.‡you were doing very well.
29   1skip
```

Figure 6-6

There was only a slight improvement in the students' opinion of the usefulness of the items of staffroom gossip. Of the first group 24% had found the gossip a useful indicator of their current standing and in the second group 36% found it useful.

It is possible that the students expected staffroom gossip to be of a more general and exciting nature and were disappointed to find that it merely contained references to their relationships within the school community. Either they should be told that visiting the staffroom would only throw light on how they were doing in these relationships, or else the gossip should be radically altered to refer to individuals and events that the student might encounter in his path through the simulation.

6.9 General student impressions of Tenure S.A. Version 2

The second group of students were very favourably impressed by the simulation and many of their comments reflected their enjoyment of it. A selection of their comments follows :

"The simulation was accessible and enjoyable."

"I liked choosing from the alternatives - it was challenging."

"I really enjoyed the simulation - especially the privacy of it."
"I found it amusing."

"It was a novelty, an education in itself."

"It facilitates a quick response."

"Efficient and easy to use."

"Raises a lot of likely issues."

"Good practice for trainee teachers."

"I enjoyed imagining myself in the teaching situation."

Only 9% of the second group of students chose negative adjectives when asked to describe their overall feelings about the program. The

remainder found the experience thought-provoking, entertaining, challenging and stimulating.

Adjective	Chosen by
Thought-provoking	12 students
Entertaining	5 students
Stimulating	1 student
Challenging	1 student
Boring	1 student
Frustrating	1 student
Artificial	1 student

When asked about the realism and relevance of the simulation 95% of the students said that the situations they had encountered during the program were similar to those they had experienced whilst at school as trainee teachers or pupils. 68% felt that the simulation could be a very relevant part of teacher-training, 32% thought it could have some relevance and none of them thought that it had no relevance at all.

The results appear to show that most of the modifications discussed above led to meaningful improvements in the educational value of the simulation and increased the usefulness of the program as a tool in teacher training.

CHAPTER 7 CONCLUSION

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CHAPTER 7 CONCLUSION

7.1 The role of Tenure S.A. Version 2 in the professional training of H.D.E. students

A simulation that can realistically replicate some of the situations in which a new teacher might find himself in his interaction with members of the school community can be used as an instrument for encouraging him to acquire those skills necessary for successfully developing working relationships with such people.

A simulation of this type cannot be merely a jumble of facts and variables but has to be a model, albeit limited by definition and technology, which focuses the student's attention on those aspects which lead to the development of such skill mastery. It must approach reality as closely as possible so that the student is temporarily induced to believe that the experience is sufficiently real to warrant his interest in the outcome.

The creation of a realistic environment or 'microworld' was integral to the modifications made to the context of the original TENURE simulation. Feedback from the two groups of H.D.E. students who tried out the modified simulation indicated that they found the experience real, meaningful and thought-provoking.

During the conventional training of H.D.E. students all the criteria to be used in the assessment of practice-teaching are discussed: their theoretical justifications are made explicit in the education courses, their application is explored, demonstrated and tried out in General Method classes and their use in specific subjects is the nucleus of subject-specific method classes. This simulation can play its part in this preparation of student-teachers if it can be integrated into the usual preparation that occurs in university classes. Bork (1981) maintains that unless a simulation is integrated with the conventional course content, only the most highly motivated students will use it.

Tenure S.A. Version 2 can be useful in adding a new dimension to the conventional preparation of student-teachers in that it allows the students to explore the formation of relationships with others within the school community whereas most conventional methods of preparation for teaching practice concentrate only on the preparation and delivery of the lesson together with the creation of a suitable environment for learning to take place.

It is envisaged that users of the simulation shall not only execute it several times so as to improve their skill mastery, but by discussing its situations and alternative courses of action with fellow student-users shall be able to link their arguments with those put forward in theory classes and shall thus be able to apply such theory to realistic and recognisable situations.

7.2 Suggested areas for further research on the usefulness of Tenure S.A. Version 2

Further questions on the usefulness of this simulation may be posed :

Is there a relationship between the assessment of students' performance by the simulation and by teaching practice supervisors?

After teaching practice, did student response to the simulation change as a result of school-related experience?

In the case where the simulation was used before teaching practice, did it have any influence upon student performance during teaching practice?

Is there a significant difference between student-perceived competencies and opinions concerning the value and effectiveness of this computer simulation and other more conventional instructional activities?

7.3 Limitations of this study

The limitations of this study are to a large extent linked to the limitations inherent in computerised simulations.

The design of this computer simulation is dominated by the difficulty of simulating human behaviour as discussed before in this dissertation (cf 3.2.2.1) and the difficulty of creating a realistic environment. Much of the richness and colour of the real-life situation cannot be simulated by even the most advanced technology. Most of the variables cannot be known, and even if they were, could not be included.

A simulation is loaded with judgements about what to include and what to leave out. These judgements, required of the designer by the constraints of the medium, shape the fine line between fact and fiction. If they are erroneous they falsify the image created by the simulation. In any case they reflect, no matter how subtly, the designer's own set of values.

The time taken to develop a simulation of this type runs to many hundreds of man-hours and the production costs can be considerable. However, advances in special purpose simulation languages and software engineering may help to minimize this difficulty.

7.4 Other areas of preparation for teaching that could benefit from computerised simulation

Simulations could be used to cover those tasks and responsibilities required of teachers that are not covered by the university training programmes. A few suggestions of topics that could be simulated fairly easily on the average microcomputer are given here :

7.4.1 Simulation of administrative forms and tasks

Students could be teachers in a mythical school and be asked to fill in simulated forms relating to school attendance, classroom inventory

reports, purchase/requisition forms, field trip request forms, parent permission slips, etc.

Actual administrative tasks could be simulated, for example :

constructing classroom plans to show relationship of physical space to instructional activities

using floor plans, making lists of furniture and cupboard contents (supplied by simulation) and filling in an inventory report

using the inventory reports to determine which materials and supplies are needed and filling in the purchase/requisition form

and so forth.

7.4.2 Simulation of planning tasks and responsibilites

Given data about pupils in a hypothetical class, students could be asked to plan a subject specific lesson for the class which included homework and enrichment activities. Or, given a section of the subject syllabus, the student could be asked to plan a week's instructional activity for the class. Both these tasks would have to be limited to a pre-programmed format and because of their unstructured nature a printout of the activity would have to be assessed by the method lecturer, but the actual activity could be computer-guided.

7.4.3 Classroom management simulation

The students could be asked to respond to a simulated range of non-academic pupil behaviour and a corresponding range of teacher control/reinforcement behaviour so as to become aware of management alternatives available to teachers.

7.4.4 Simulation of pupil testing and assessment

Students could be required to construct subject specific tests from a battery of possible questions and to allocate marks for each question and a time limit for the test.

Students could be given a pre-programmed test, marking memorandum and one pupil's answer sheet and be required to assess the pupil according to the data provided.

In both these examples the advantage of the computerised simulation of the activities would lie largely in the immediate, real feedback that the student-teachers would receive and their subsequent chance of immediately revising their activity and carrying out the task more skillfully.

7.5 "Intelligent" computer simulations

At the 1986 conference on Intelligent Simulation Environments, Shaw said:

> "We are moving into an era of complex information systems of knowledge-based computing in which techniques of human-computer interaction, simulation and expert systems will be integrated using low-cost vlsi (very large-scale integrated circuitry), novel machine architectures and advanced software engineering." (Shaw & Gaines, 1986).

One of the drawbacks of traditional computer simulations is that the student is not free to ask questions or make statements about the course of action he has selected. The computer maintains control of the action and the student cannot exercise his initiative. In additon, there is the drawback that the student cannot use natural dialogue but must choose his response from a list of pre-programmed responses. The program is rigidly controlled by its designer and has no real initiative or 'knowledge' of its own.

In response to these very real problems research workers in the field of Artificial Intelligence are developing 'intelligent tutoring systems' which have their own problem-solving expertise, diagnostic capabilities and means of providing explanation. Clancey (1981) describes an intelligent tutoring system as being

> "a computer program that uses artificial intelligence techniques for representing knowledge and carrying on interaction with a student".

Intelligent tutoring systems are still in their infancy and very few have been used extensively with students but they will have a great influence on educational simulations of the future.

7.6 Concluding summary

It was established that there was a need for preparing H.D.E. student teachers for the role they have to play in their first year of teaching that was not adequately filled by conventional university teacher-training methods. Computerised simulation of teaching activities and role-playing was investigated and results indicated that such simulations had been relatively successful in education and training. A published American simulation, TENURE, in which the user plays the role of a first-year teacher, was extensively modified to suit the needs of South African students as determined by students' responses to a questionnaire. This modified simulation, Tenure S.A. Version 2, is considered to be a useful tool for equipping the student-teacher with the skills he requires for relating to his role in the school community during his probationary year of teaching.

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APPENDIX A

Listing of Tenure S.A. Version 2

---------- part= 1, block=5 ----------
space left = 34

```
 1  common  rtenure4,info,540
 2  at      1510
 3  dataon
 4  finish  alldone
 5  write   Calling The Principal--One Minute Please!
 6  imain   route
 7  charset 0tenure2,blkbrd
 8  erase   abort
 9  define  seats=v10
10          rules=v11
11          segment,scale=n13,15
12          sponsor=v14
13          team=v15
14          bias=v16
15          grade=v18
16          crush=v19
17          chance=v20
18          kiss=v21
19          note=v22
20          segment,gradave=n23,3
21          segment,laws=n24,7
22          segment,weight=n25,12
23          segment,methods=n26,10
24          segment,pscore=n31,15
25          segment,sub=n32,6
26          transfr=v35
27          strict=v37
28          mean=v38
29          sd=v39
30          segment,marks=n40,10
31          open=v47
32          tmfeed=v48
33          lpick=v49
34          yearno=v50
35          visloun=v54
36          novak=v55
37          samp=v56
38          cpoints=v57
39          prinwar=v58
40          perfave=v59
41          mon=v61
42          interv=v62
43          ptype=v63
44          path=v64
45          effects=v65
46          segment,score=n66,15,s
47          fscore=v68
48          nowarn=v69
49          nopraise=v70
50          nopwarn=v71
51          classav=v72
52          sex=v73
53  ***vars 74-80 are free
```

```
          philo(x)=n(80+x)
          exper=v92
          subject=v96
          name=n98
          pupil=n99
***student vars 100-150 free
***
***common variables follow
          stud(x)=nc(2x-1)$$$ common vars 1-40
          segment,iq=nc41,8
          segment,ndist=nc44,8
          segment,apt=nc48,8
          segment,gpa=nc51,10
          nograd=nc55
          ascore(x)=nc(55+x)$$array(56-64)
          finish(x)=nc(64+x)$$array(65-71)
          bscore(x)=nc(71+x)$$array(71-77)
          conden=nc78
          oclasav=nc79
          nclasav=nc80
          opoints=nc81
          npoints=nc82
          nuprin(x)=nc(82+x)$$array(83-86)
          segment,dip=nc87,15$$array(87-92)
          operf=nc93
          nuperf=nc94
          segment,seq=nc95,5$$array(95-100)
          bteach(x)=nc(101+2x)
          bnam(x)=nc(141+2x)
          bcors(x)=nc(182+x)
          bdata(x)=nc(202+x)
          segment,bsex=nc223,3
          eascore(x)=nc(236+x)
          enuprin(x)=nc(245+x)
          segment,edip=nc250,15
          efinish(x)=nc(256+x)
          reclear=nc265
          datecl=nc266
          inone=nc267
          experc(x)=nc(500+x)
          array,tech(7,11)=nc510
          lineone=nc614
          linetwo=nc620
***defined functions follow
          iqf(x)=((iq(x)-100)/10)
          aptf(x)=((apt(x)-50)/10)
```

---------- part= 1, block=c ----------

space left = 92

gen

```
unit     gen
size     2
at         0512
write    Information for H.D.E.
                students.
size     0
```

```
106  at       1210
107  write    This is a simulation of a novice teacher's first
108           year of teaching. It has been designed specifically
109           for giving you, as an H.D.E. student, a "preview" of
110           situations that you might encounter on teaching
111           practice or in your first year of teaching, and a
112           choice of alternative ways of handling them.
113
114
115           The simulation concentrates on four main areas of
116           contact that all teachers encounter, namely those
117           relationships that you will establish  with
118
119               1. the Principal
120               2. your colleagues
121               3. the pupils
122               4. the parents.
123
124  at       3222
125  write    Press NEXT to continue.
                                                                    gen1
126  unit     gen1
127  at        0510
128  write    You  will accumulate a score in each of these areas
129           as you react to the situations described in the
130           simulation. At the end of the simulation feedback
131           relevant to  your overall score will be given
132           you.
133           As in many areas of testing, the allocation of a
134           score cannot be completely free of subjectivity,
135           but the author of this simulation has attempted
136           to be as objective as possible.
137
138
139
140           After you have completed the simulation you will
141           be asked to respond immediately to a questionnaire
142           which will be displayed on the terminal's screen in
143           much the same way as the simulation. Please be so
144           good as to respond to the questions given you as
145           the information gathered from the questionnaire will
146           be used for improving the simulation for later use.
147
148           Thank you very much for your co-operation.
149
150               Cecille Marsh
151               For the Department of Education
152               Rhodes University
153
154
155  at         3222
156  write    Press NEXT to continue.
```


---------- part= 1, block=0 ----------

space left = 0

title

```
157  unit     title
158  *from     samp;sample;
159  branch   samp=0,lend,x
160  branch   2end
161  lend
162  calc     samp<67
163  2end
164  randu    chance,4
165  calc     ptype<chance
166  calc     inone<usersin
167  next     bkgn
168  size     0
169  do       blkboard
170  size     2
171  at       1712
172  write     A Simulation of the
173            First Year of Teaching
174  size     0
175  at       2915
176  write    To write comments, press SHIFT-TERM and
177            type 'comment'. Please comment freely.
178
179            To begin the simulation, press \2NEXT3
                                                                  bkgn
180  unit     bkgn
181  next     headinfo
182  do       school
183  at       908
184  write    Welcome to Albany High.
185
186            This is a simulation of the first year of teaching.
187            During  this simulation you will  be called upon to
188            make  decisions similar to those made by first year
189            teachers.
190  at       3222
191  write    Press \2NEXT3\ to continue.
192
                                                                  headi
193  unit     headinfo
194  next     apply
195  at       305
196  write    To a large extent the principal's satisfaction with
197            your work determines whether you are successful.
198            However,  there are other factors involved as well.
199            Certainly  the  performance  of  your  pupils  is
200            considered  as well as your reputation with pupils,
201            colleagues and parents.
202
203            Often  there is  not a  "correct" decision;  only a
204            "best"  one.  Of  course what the  best decision is
205            depends  on  the  philosophies  of  your principal.
206            There are four different principal profiles, one
207            of which is allocated at random in this simulation.
208            Here is a brief description of your principal.
209
210            Your principal for this simulation is
211  branch   ptype,x,x,x,2p,3p,4p
```

```
212  write   Joe Burke.
213          Joe  is very outgoing in his  philosophies
214          towards education. He favours freedom and
215          responsibility  for the pupils and a creative,
216          innovative learning environment.
217  branch  5p
218  2p
219  write   John Bellows.
220          Mr. Bellows has very conservative and rigid
221          philosopies towards education. He favours a
222          strict learning environment with the teacher
223          in firm control. Traditional teaching methods
224          impress him most. He has little patience for
225          individualised teaching approaches.
226  branch  5p
227  3p
228  write   Jim Bester.
229          Old Jim is 63 years old and is waiting to
230          retire. He really does not care what you do
231          as long as you do not bother him.
232
233  branch  5p
234  4p
235  write   John Black.
236          He is very indecisive and is easiliy influenced
237          by others. Your performance under him depends
238          largely on luck!
239  5p
240  at      3222
241  write   Press \2NEXT3\ to continue.
```


---------- part= 1, block=e ----------
space left = 171

apply

```
242  unit    apply
243  area    first
244  zero    v1,140
245  randu   path,4
246  calc    yearno<1
247  randu   chance,4
248  calcs   chance,ptype<,,1,2,3,4
249  do      pencil
250  at      508
251  write   Welcome  to  Albany.  word has it that they have
252          several teaching openings.  To apply, answer the
253          following:
254
255          What is your last name?
256  arrow   where+2
257  inhibit blanks
258  long    20
259  storea  name,20
260  ok
261  endarrow
262  do      caps
263  at      1208
```

```
264  write   What is your sex?  (Indicate by number)
265             1. male
266             2. female
267  arrow   1512
268  store   sex
269  match   v9,1,2
270  branch  v9,x,10pr,10pr
271  no
272  at      1612
273  write   Please indicate by number; 1 or 2!
274  10pr
275  endarrow
276  at      1708
277  write   What subject do you wish to teach?
278          (Indicate by number)
279            1. English              10. Xhosa
280            2. History              11. Art
281            3. Geography            12. Music
282            4. Accountancy          13. French
283            5. Science              14. Commerce
284            6. Biology
285            7. Mathematics
286            8. Physical Education
287            9. Afrikaans
288  arrow   3012
289  store   subject
290  match   v9,1,2,3,4,5,6,7,8,9,10,11,12,13,14
291  endarrow
292  jump    experi
```

104

---------- part= 1, block=f ----------
space left = 179

exper

```
293  unit    experi
294  at      205
295  write   The following information is being collected for research
296          purposes.  Please answer the following as accurately as
297          possible.
298  at      605
299  write   Which of the following statements best describes your
300          actual experience with teaching at the secondary level?
301  at      910
302  write   1. I have never taught at the secondary level
303             and have not taken any education courses.
304          2. I have never taught at the secondary level
305             but I have taken at least one education course.
306          3. I have taught part time, but have not been
307             a full time teacher.
308          4. I have taught full time at the secondary level
309             for one year or less.
310          5. I have taught full time at the secondary level
311             for between one and three years.
312          6. I have taught full time at the secondary level
313             for more than three years.
314  arrow   2231
315  long    2
```

```
316  match   exper,xxx,1,2,3,4,5,6
317  endarrow
318  at      2606
319  write   Thank you for your assistance.  while you were answering
320          this, the principal of Albany High School arrived.
321          He wants to interview you now.
322  at      3122
323  write   Press  \2NEXT3 \to go on.
```

---------- part= 1, block=g ----------

space left = 99

```
                                                                    inter
324  unit    intervi
325  at      305
326  write   You have been invited in for an interview.  During
327          the interview, the principal breaks from the normal
328          questioning and very directly asks: "What is your
329          approach to discipline?"
330
331          How do you answer?
332
333  at      1010
334  write   1. Tell him you do not know your position, since
335             you have not yet taught.
336          2. Tell him you would prefer handling your own
337             problems.
338          3. Say: "That's the job of the senior staff."
339          4. Comment that a little physical coercion in
340             the beginning usually stops any further trouble.
341          5. Suggest that you do not plan on having any
342             discipline problems.
343  arrow   2234
344  store   interv
345  match   v9,1,2,3,4,5
346  endarrow
347  jump    moreint
                                                                    nojob
348  unit    nojob
349  back    apply
350  size    2
351  at      408
352  write   SORRY.
353  size    0
354  at      608
355  write   The interview did not go very well.  You did
356          not get the appointment.
357
358          Press BACK to re-apply
359          Press NEXT to quit.
360  end     lesson
                                                                    morei
361  unit    moreint
362  at      305
363  write   The interview is still going on.  You have decided by this
364          time that you like the school very much and want the job.
365          The principal now asks you a question about something with
```

```
366             which you are totally unfamiliar.  what would your response
367             be?
368   at        910
369   write     1. Admit that you are not familiar with the subject.
370             2. Try to fake it just enough so that you appear to
371                be vaguely familiar with the subject.
372             3. Try to switch the subject to something else.
373   arrow     1432
374   store     v1
375   match     v9,1,2,3
376   endarrow
377   calcs     v1,v2<=5,50,25,6,10
378   randu     v3,v2
379   jump      v3=6,nojob,x
380   jump      ptype=3$and$interv=3,nojob,x
381   jump      ptype=2$and$interv=5,nojob,x
382   jump      ptype=1$and$interv=4,nojob,x
383   jump      greet
```



```
384   ***
                                                                        greet
385   unit      greet
386   do        pencil
387   imain     route
388   next      welcome
389   size      2
390   at        1108
391   writec    sex***Hello, Mr. <a,name,20>.*Hello, Ms. <a,name,20>.
392   size      0
393   at        1408
394   write     Your application to Albany High School has been
395             accepted.  A job is being offered to you in the high
396             school as a teacher of
397   at        where+1
398   writec    subject***English.*history.*geography.*accountancy.*science.*biology.*maths.*phys. ed.*Afrikaans.
399             Xhosa.* art.*music.*French.*commerce.
400   at        1908
401   write     Do you wish to accept this position?
402   at        2016
403   write     1. yes
404             2. no
405   at        2308
406   write     NOTE: This is the only position available in your field.
407   arrow     2029
408   store     v1
409   match     v9,1,2
410   endarrow
411   jump      v1=1,welcome,reject
                                                                        rejec
412   unit      reject
413   next      apply
414   back      greet
415   at        1010
416   write     Since you do not wish to accept this position,
```

```
417             you will have to re-apply and take your chances
418             that another position is available.
419
420             Press NEXT to re-apply.
421             Press BACK to accept postion.
                                                                                welco
422     unit    welcome
423     at      1101
424     next    tell
425     at      1008
426     write   Welcome to the staff,
427     at      where
428     writec  sex*#*Mr. {a,name,20}.*Ms. {a,name,20}.
429     at      1208
430     write   We are happy to have you with us at Albany H.S.
431             If this is the first time you have been at Albany,
432             it would be to your advantage to consult the help
433             section available now, or at any time during the
434             simulation, by pressing \2HELP\3\.
435
436             Press NEXT to continue.
437
                                                                                tell
438     unit    tell
439     size    2
440     at      1208
441     write   How to get to useful info.
442     size    0
443     at      1508
444     write   You may see the records of your pupils at any
445             time by pressing \2DATA3\.
446
447             The opinion of your principal may be solicited
448             at any time by pressing \2LAB3\.
449
450             You may go to the staffroom at any time and
451             listen to the latest news by pressing
452             \2SHIFT+DATA3\.
453
454             If you are ready to continue with the simulation,
455             press \2NEXT3\.
                                                                                seats
456     unit    seats
457     imain   route
458     at      508
459     write   You have begun to prepare for the opening of school.
460             You now have your class lists.  What do you wish
461             to do with respect to assigning seats?
462     at      914
463     write   1. Assign seats alphabetically, beginning
464                with "A."
465
466             2. Assign seats alphabetically, beginning
467                with "Z."
468
469             3. Allow students to pick their own seats
470                with the stipulation that they keep the
```

```
471             same one. (So you can learn names.)
 ---------------------------------------------------------------- part= 2, block=0 ----------------------
                                                                                        space left = 100
472  arrow    2032
473  store    seats
474  match    v9,1,2,3
475  endarrow
476  calcs    seats,transfr<,,3765455,3765555,7345755
477  do       tab
478  jump     rules
                                                                                                    rules
479  unit     rules
480  at       507
481  write    Some teachers spend part of the first lesson discussing
482           "class rules."  What do you wish to do in this respect?
483  at       812
484  write    1. Let rules develop as necessary.
485
486           2. Hand out written rules.
487
488           3. Have an oral discussion of the rules for the
489              year.
490
491           4. Do BOTH 2 and 3 above.
492  arrow    1923
493  store    rules
494  match    v9,1,2,3,4
495  endarrow
496  calcs    rules,transfr<,,8238545,5765555,5765555,5765555,,
497  do       tab
498  jump     (rules=1),grade,select
                                                                                                    selec
499  unit     select
500  back     select
501  at       307
502  write    Here is a list of general class rules often used by
503           teachers.  Examine the list and then decide whether
504           you will:
505  at       617
506  write    1. Adopt that rule AND emphasize it.
507           2. Adopt that rule but not emphasize it.
508           3. NOT adopt that rule.
509  draw     1048;1016
510  at       1408
511  write    (a) Pupils must be in their seats when the bell rings.
512           (b) All assignments must be handed in on time.
513           (c) Pupils should raise their hands before speaking.
514           (d) Cheating on exams will result in an automatic "0."
515           (e) Pupils must bring all necessary equipment to class.
516           (f) Gum chewing is not allowed in class.
517           (g) Talking or passing notes while you are talking is
518              not permitted.
519  at       2816
520  write    (Indicate your choice with a number.)
521  calc     v2<1401
```

```
522  doto     2ques,v1<1,7
523  arrow    v2
524  store    laws(v1)
525  match    v9,1,2,3
526  endarrow
527  calc     v2<v2+100
528  calc     strict<strict+laws(v1)
529  2ques
530  1ques
531  calc     strict<strict/7
532  calcs    v2,v3<,,3,0,-3,,
533  calcs    v2,v4<,,1,0,-1,,
534  calc     transfr<[(5+v3)X1000000]+[(5-v3)X100000]+55050+[(5+v4)X100]+(5-v4)
535  do       tab
536  jump     grade
```

---------- part= 2, block=c ----------
space left = 124

grade

```
537  unit     grade
538  at       1106
539  write    In calculating the end of term marks of your
540           pupils, what weight do you wish to give each of the
541           following.  Indicate in percent of final mark.
542           (The total weight must equal 100%)
543  at       1611
544  write    (a) Test scores.
545
546           (b) Projects
547
548           (c) Homework
549
550           (d) Class participation.
551  at       2916
552  write    (Do not type in the percent (%) sign.)
553  5again
554  calc     v2<1602
555  doto     1pol,v1<1,4
556  arrow    v2
557  store    weight(v1)
558  ansv     50,50
559  calc     v2<v2+200
560  endarrow
561  1pol
562  2pol
563  calc     weight(5)<0
564  3pol
565  calc     v1<weight(1)+weight(2)+weight(3)+weight(4)+weight(5)
566  branch   (v1=100),4pol,x
567  at       2604
568  write    Sorry, that adds up to (s,v1)%.  It must equal 100%.
569           Press NEXT and re-enter your numbers.
570  pause
571  at       1604
572  erase    5,10
573  at       2604
```

```
574  erase    54,2
575  branch   5again
576  4pol
577  calc     v4←int((weight(1)+weight(2))/20)
578  calcs    v4,transfr←,8135622,7245733,5555555,3765455,2875344,1765244
579  do       tab
                                                                                scale
580  unit     scale
581  back     scale
582  at       408
583  write    You must now decide what your mark scale will be.
584           Type in the ranges of percent for each symbol below.
585           Do NOT type in the percent (%) sign.
586  at       1217
587  write    Symbol          Percent Range
588  draw     1217;1245;skip;1127;2327
589  at       1419
590  write    4
591
592           3
593
594           2
595
596           1
597
598           0
599  at       1433
600  write         to 100%
601
602                to    %
603
604                to    %
605
606                to    %
607
608            0
```


---------- part= 2, block=3 ----------
space left = 29

```
609  at       2906
610  write    Press BACK if you wish to change your mind.
611  5corr
612  calc     v1←1432
613  doto     1scale,v2←1,4
614  arrow    v1
615  long     2
616  force    long
617  specs    nookno
618  exact
619  judge    ignore
620  store    scale(v2)
621  ansv     50,50
622  endarrow
623  at       v1+209
624  show     scale(v2)-1
625  calc     v1←v1+200
```

```
626  1scale
627  doto     2ck,v3<=1,3
628  branch   (scale(v3)<scale(v3+1)),2error,x
629  2ck
630  branch   3ok
631  2error
632  at       2605
633  write    Sorry.  There are some obvious mistakes in your
634           scale.
635           Press   next and try again.
636  pause
637  at       1434
638  erase    2,8
639  at       1641
640  erase    2,8
641  branch   5corr
642  3ok
643  calcs    scale(4)>70,transfr<=2455243,5555555
644  do       scale(4)>70,tab,x
645  end      help
646  ****
                                                                    tech
647  unit     tech
648  back     tech
649  doto     1a,v1<=1,11
650  calc     methods(v1)<=0
651  1a
652  calc     v3<=100
653  at       206
654  write    Here are some typical education activities.  Decide what
655           percentage of time you are going to devote to each.
656           Estimate the total time in each activity over a full
657           year's time. (Note: Total must equal 100%.)
658  draw     739;757;1157;1139;739
659  at       841
660  write    Percent of your
661           time remaining:
662  at       1045
663  show     v3
664  at       813
665  write    (a) Lesson by you.
666           (b) Open discussion.
667           (c) Small group work.
668           (d) Individualized work.
669           (e) Laboratory work.
670           (f) Pupil reports.
671           (g) Library work.
672           (h) Demonstrations by you.
673           (i) Question/Answer drills.
674           (j) Excursions.
675           (k) Videos and other audio-visual presentations.
676  4again
677  calc     v2<=804
678  doto     1meth,v1<=1,11
679  arrow    v2
680  store    methods(v1)
681  ansv     50,50
```

```
682  endarrow
683  calc     v2<-v2+100
684  calc     v3<-v3-methods(v1)
685  at       1045
686  erase    3,1
687  at       1045
688  show     v3
689  branch   v3=0$or$v3<0,lenuf,x
690  lmeth
691  lenuf
692  branch   (v3=0),lok,x
693  at       2605
694  write    Sorry.  You must account for exactly 100% of your time.
695           Press next and re-enter your figures.  Watch the box
696           in the right hand corner for help.
697  pause    keys=funct
698  2ok
699  at       2605
700  erase    58,3
701  at       1045
702  erase    3,1
703  at       806
704  erase    7,12
705  calc     v3<-100
706  at       1045
707  show     v3
708  branch   4again
709  lok
710  at       2605
711  write    If you wish to change your mind, press \2BACK3\ now.
712           Press \2NEXT3\ to go on.
713  pause    keys=funct
714  branch   key=back,2ok,x
715  do       effcal
716  do       storeda
717  jump     sponsor
```


---------- part= 2, block=e ----------
space left = 30

spons

```
718  unit     sponsor
719  do       memo
720  size     0,0
721  at       1619
722  write    We need staff supervisors for
723           the following extracurricular
724           activities:
725             Drama Club
726             Environmental Studies Group
727             Entertainment Committee
728
729           Please consider helping me out
730           by offering to serve as the
731           teacher-in-charge of one of
732           these organizations.
733  pause    keys=funct
```

```
734   at       3122
735   write    press NEXT to continue
736   erase
737   at       408
738   write    Well, what will you do?
739   at       915
740   write    1. Offer to supervise the Drama Club.
741            2. Offer to supervise  Environmental Studies.
742            3. Offer to supervise the Entertainment Committee.
743            4. Do not offer to supervise anything.
744   arrow    1515
745   store    sponsor
746   match    v9,1,2,3,4
747   endarrow
748   calcs    sponsor,transfr<,,7777888,7777888,777788d,2222323
749   do       tap
750   jump     team
751   ****
```

team

```
752   unit     team
753   at       408
754   write    You have been approached by Mr. Clark, another
755            teacher in your department, about the possibility
756            of team teaching in the 8th period on Mondays.  If
757            you agree, your classes will be combined and you
758            will work together as a team. All you know about Mr.
759            Clark is that he has been teaching at Albany High
760            for eleven years.  Do you wish to team teach with
761            Mr. Clark?
762   at       1316
763   write    1. Yes
764            2. No
765
766            (Indicate your answer by number.)
767   arrow    1332
768   store    team
769   match    v9,1,2,3
770   endarrow
771   calcs    team,transfr<,,7345685,3665525
772   do       tap
773   jump     bias
774   *****
```

bias

```
775   unit     bias
776   at       305
777   write    It is the first day of school and you are waiting in the
778            staffroom  for classes to begin.  You overhear a
779            conversation among the teachers there.  They are talking
780            about one of the pupils in your class, Bill Anderson.
781            A teacher who is respected in the school says that he
782            is one of the worst discipline problems.What is your
783            reaction?
784   at       1009
785   write    1.  Ask more questions about the pupil.
786            2.  Immediately leave and try to forget what you heard.
787            3.  Thank her for the information, but tell her you do
788                not want to discuss your pupils before you meet
```

```
789                them.
790             4. When you have a chance, look up Bill Anderson's
791                pupil profile.
792   arrow     1723
793   store     bias
794   match     v9,1,2,3,4
795   endarrow
796   calcs     bias,transfr<,,3665465,7555645,8445726,5775564
797   do        tab
798   jump      tell1
```

---------- part= 2, block=f ----------
space left = 38

```
                                                                    tell1
799   unit      tell1
800   size      2
801   at        1208
802   write     How to get to useful info.
803   size      0
804   at        1508
805   write     You may see the records of your pupils at any
806             time by pressing \2DATA3\.
807
808             The opinion of your principal may be solicited
809             at any time by pressing \2LAB3\.
810
811             You may go to the staffroom at any time and
812             listen to the latest news by pressing
813             \2SHIFT+DATA3\.
814
815             If you wish to make a comment at any time, press
816             the SHIFT + TERM key and when asked "what term?"
817             type in 'comment'.You will then be given an arrow
818             prompt at which you may type your comment.
819
820
821             If you are ready to continue with the simulation,
822             press \2NEXT3\.
                                                                    kiss
823   unit      kiss
824   jump      path<2,gossip,x
825   at        808
826   write     As  you are going  to your classroom  after lunch, you
827             see one of your male pupils kissing his girl friend
828             in the corridor.
829               what is your reaction?
830   at        1313
831   write     1. You ignore the incident.
832             2. You reprimand  the pupil after class in private.
833             3. You report the incident to the Vice-Principal.
834             4. You reprimand the boy during your lesson.
835             5. You inform the girl's father.
836   arrow     2132
837   store     kiss
838   match     v9,1,2,3,4,5
839   endarrow
```

```
840   calcs    kiss,transfr<,,6255845,7555465,4065245,3765164,1635143
841   do       tab
842   jump     gossip
                                                                                note
843   unit     note
844   jump     path<3,talk,x
845   at       808
846   write    You are conducting your class and you observe one
847            boy passing a note to another boy.  What will
848            be your action?
849   at       1115
850   write    1. You intercept the note and read it
851               aloud to the class, hoping it doesn't
852               contain a caustic comment about you.
853            2. You intercept it, correct the spelling
854               and grammar errors, and return it with
855               no further comment.
856            3. You intercept it, tear it up and drop
857               it in the wastebasket.
858            4. You intercept it and do nothing at all--
859               returning it, unread, at the end of the
860               period.
861            5. You ignore it for now and decide to
862               confront the two later.
863            6. You decide to ignore it completely.
864   arrow    2631
865   store    note
866   match    v9,1,2,3,4,5,6
867   endarrow
868   calcs    note,transfr<,,4065354,5555555,5555555,6555655,5455455,4355355
869   do       tab
870   jump     talk
```


---------- part= 2, block=9 ----------
space left = 85

```
                                                                                talk
871   unit     talk
872   jump     path>2,passnote,x
873   at       707
874   write    You are giving what you consider to be a very important
875            lesson  in  class one  day.  Bill Anderson  is making
876            sarcastic  comments which  the rest of  the class finds
877            very amusing and entertaining.  He simply speaks out in
878            class  interrupting your lesson whenever he feels like
879            it.  What will you do?
880   at       1314
881   write    1. Ignore him and his comments and hope
882               that some of the lesson gets across.
883            2. Single him out and reprimand him.  If
884               he continues, then send him to the
885               principal.
886            3. Try to top his sarcasm and put him in
887               his place.
888            4. Keep him after school for detention.
889            5. Try to find out why he seems to need
890               so much attention after taking some
```

```
891                sort of immediate disciplinary action.
892   arrow    2530
893   store    v1
894   match    v9,1,2,3,4,5
895   endarrow
896   calcs    v1,transfr€,,4385344,5625555,3555454,4555555,6555655
897   do       tap
898   jump     cheat
                                                                          cheat
899   unit     cheat
900   calc     grade€1
901   jump     laws(4)=3,test,x
902   at       807
903   write    You  are giving your first  test now.  You observe Mary
904            Wilson  cheating.
905              Mary does not realize you have spotted her, nor
906            do  other  pupils  seem  to  realize  what  is
907            happening.  What will you do?
908   at       1315
909   write    1. Ignore that you even saw it.
910            2. Mention it to Mary quietly on the side,
911               signing her script at the point she had reached
912               so that you could differentiate later between
913               her aided and unaided work.
914            3. Mention it to Mary on the side and give
915               her a zero for the test.
916            4. Take her paper on the spot and make an
917               open example of her.
918            5. Call the principal, tell him what you
919               saw, and let him handle it.
920   arrow    3031
921   store    grade
922   match    v9,1,2,3,4,5
923   endarrow
924   calcs    grade,transfr€,,4155545,8785577,5555364,3655253,4615143
925   do       tap
926   jump     test
 ---------------------------------------------------------------- part= 3, block=a ----------------------
                                                                  space left = 73
                                                                          passn
927   unit     passnote
928   at       304
929   write    You have started your lesson when Bill Anderson
930            walks in ten minutes late. When you ask him why
931            he is late, he says, "I had to go to the toilet."
932            You know that school rules dictate that late pupils
933            should go to the office for an excuse note, but that
934            if you insist that Bill go to the office, there will
935            be yet another interruption when he returns. What
936            will you do?
937   at       1209
938   write    1. Ask Bill to go to the office and get a note.
939            2. Admonish bill for being late, remind him of the
940               rules, but let it drop this time.
941            3. Tell Bill you'll discuss it after class and ask
```

911

```
942                him to be seated.
943             4. Just let the whole thing go this time and resume
944                the class.
945   arrow     1830
946   store     v3
947   match     v9,1,2,3,4
948   endarrow
949   calcs     v3,transfr€,,4855545,7355555,5555555,3133435
950   do        tab
951   jump      v3=1,crisis,cheat
                                                                          crisi
952   unit      crisis
953   at        304
954   write     You ask Bill, "Do you have a note?"
955
956             "No," he says, "I didn't know it would take me so long."
957
958             "Well," you say, "you know you're supposed to have a note
959             when you are late to class.  Please go to the office and
960             get one!"
961
962             Bill stalks to the door and mutters, loud enough for every
963             one to hear, "Shit!"  He slams the door and is gone.  The
964             whole class is watching to see what you will do next.
965             What will it be?
966   at        1509
967   write     1. Resume your lesson as if nothing had happened.
968             2. Call Bill back into the room, tell him you will
969                not tolerate that kind of language, and ask him to
970                apologize to the class.
971             3. Go out into the corridor, catch Bill, and have a long
972                talk with him.
973             4. Call the principal on the intercom and tell him the
974                whole story.  Ask him to take some kind of action
975                with Bill.
976   arrow     2431
977   store     v1
978   match     v9,1,2,3,4
979   endarrow
980   calcs     v1,transfr€,,4222412,4755412,6355645,5715555
981   do        tab
982   jump      cheat
 ---------------------------------------------------------------- part= 3, block=0 ----------------------
                                                                          space left = 2
                                                                          test
983   unit      test
984   term      test
985   lab       scale
986   doto      lscor,v1€1,20
987   calc      marks(v1)€mean+sdX[(ndist(v1)-100)/10]
988   calcs     marks(v1)>100,marks(v1)€100,marks(v1)
989   lscor
990   calcc     grade>2,marks(20)€0,,
991   at        205
992   write     Here are the results of your first test:
```

```
 993  at       913
 994  write    Pupil's Name        Mark    Symool
 995  draw     913;946;skip;360,365;96,365
 996  calc     v8<1113
 997  branch   seats=1,1both,x
 998  calcc    grade>2,v2<2,v2<0,,
 999  branch   2both
1000  1both
1001  calcc    grade>2,v2<3,v2<1,,
1002  2both
1003  calc     v3<v2X20
1004  goto     1test,v1<1,20
1005  at       v8
1006  showa    stud(seq(v1+v3)),20
1007  calc     v8<v8+100
1008  1test
1009  calc     v2<1134
1010  goto     3test,v1<1,20
1011  at       v2
1012  show     marks(v1)
1013  calc     v2<v2+100
1014  3test
1015  at       205
1016  erase    50,1
1017  at       205
1018  write    The following marks are based on the mark scale you
1019           selected.  If you are unhappy with these symbols, you can
1020           change your mark scale by pressing LAB now.  Otherwise
1021           your scale will remain fixed as is.
1022  calc     v1<1143
1023  do       assgrad
```


tell2

```
1024  unit     tell2
1025  size     2
1026  at       1208
1027  write    How to get to useful info.
1028  size     0
1029  at       1508
1030  write    You may see the records of your pupils at any
1031           time by pressing \2DATA3\.
1032
1033           The opinion of your principal may be solicited
1034           at any time by pressing \2LAB3\.
1035
1036           You may go to the staffroom at any time and
1037           listen to the latest news by pressing
1038           \2SHIFT+DATA3\.
1039
1040           If you wish to type in a comment, then press the
1041           SHIFT + TERM key and when asked "what term?", then
1042           type 'comment'. You will be given an arrow prompt at
1043           which to type in your comment.
1044           If you are ready to continue with the simulation,
1045           press \2NEXT3\.
```

mary

```
1046  unit     mary
1047  *calc     cpoints<cpoints+1
```

```
1048  jump     grade>2,x,judy
1049  at       305
1050  write    Right after school Mary wilson's mother calls.  She has
1051           been told a slightly different version of the story by
1052           Mary.  She berates you on the phone, saying, "Isn't this
1053           cruel, unreasonable punishment for a girl who dearly loves
1054           your subject?"  She threatens to go to the principal with
1055           this.  She also accuses you of calling her daughter a liar.
1056           What will your reaction be?
1057  at       1010
1058  write    1. Caught off guard you become upset and second
1059              the motion--in anger-- that she take it to the
1060              principal.
1061           2. You become defensive.  Apologize.
1062           3. You keep calm and explain your side of the story
1063              after she has finished talking.
1064           4. You give in to her since you really like Mary
1065              anyway.
```

---------- part= 3, block=c ----------

space left = 28

```
1066           5. Be polite and go to the principal with the
1067              facts as soon as you get off the phone.
1068  arrow    2030
1069  store    v1
1070  ok
1071  endarrow
1072  calcs    v1,transfr€,,4515551,4555551,8765575,4365527,7935784
1073  do       tab
1074  jump     judy
1075  *****
```

judy

```
1076  unit     judy
1077  data     filepr
1078  jump     path<3,late,x
1079  at       305
1080  write    After handing back the test, Judy Bell comes up to you
1081           with her test.  She tells you she was very tired the
1082           day she took the test because her parents had been
1083           fighting all night.  She is very upset over her
1084           mark and asks you if she can do the  test again.
1085           What will your reaction be?
1086  at       910
1087  write    1. Give her a similar test.
1088           2. Tell her you won't place much weight on the
1089              test when calculating her final mark.
1090           3. Tell her you are sorry but if you did this for
1091              her other pupils would hear about it and also
1092              come to you with other excuses for doing badly.
1093           4. Check with the principal as to what to do
1094              in this situation.
1095  arrow    1730
1096  store    v1
1097  match    v9,1,2,3,4
1098  endarrow
1099  calcs    v1,transfr€,,9575858,6665656,2665354,5525255
```

```
1100  do      tab
1101  jump    late
                                                                        late
1102  unit    late
1103  zero    v5
1104  jump    path>2,term,x
1105  at      305
1106  write   The teacher who has most of your 6th period class
1107          invariably releases them from 5th period long after
1108          the bell.  The kids can't make it comfortably to your
1109          class on time and consequently you have them drifting
1110          in up to 5 minutes late.  The other teacher is generally
1111          respected.  Keep in mind that you are new to the staff.
1112          What will you do?
1113  at      1010
1114  write   1. Forget it and plan your classes so they begin
1115             later.
1116          2. Talk to the teacher.
1117          3. Put pressure on the kids.  Penalize them for
1118             being late so they'll bring pressure on the
1119             teacher.
1120          4. Complain to the principal.
1121  lagain
1122  arrow   1730
1123  store   v1
1124  match   v9,1,2,3,4
1125  endarrow
1126  branch  v1=4,x,lend
1127  calc    v5<4
1128  at      1903
1129  write   The principal advises you to
1130  at      where+1
1131  writec  ptype***talk to the teacher.*put pressure on the kids.*
1132          begin your classes later.
1133  at      1610
1134  erase   50,2
1135  at      2003
1136  write   Now that you have this advice, choose again.
1137  branch  lagain
1138  lend
1139  calc    v1<v1+v5
1140  calcs   v1,transfr<,,4385754,8464626,2644121,5515555,2122754,9122726,1949121,1111111
1141  do      tab
1142  jump    term
```

---------- part= 3, block=3 ----------
space left = 6

```
                                                                        term
1143  unit    term
1144  jump    laws(2)=3,homework,x
1145  at      305
1146  write   You have assigned a term project.  All information needed
1147          was explained including the due date.  Adequate time was
1148          allowed.  All but one pupil, Sally Ellis, handed in the
1149          project on time.  Sally's project was two days late.
1150          What will you do?
```

```
at      810
write   1. Accept the project and mark it the same as
           the others.
        2. Accept the project but lower the mark.
        3. Accept the project this time only.

        4. Refuse the project and give Sally
           a "0".
arrow   1530
store   v1
match   v9,1,2,3,4
endarrow
calcs   v1,transfr←,,6365855,4665354,5565857,3765253
do      tab
jump    homework
```

homew

```
unit    homework
jump    weight(3)<20,greenwo,x
at      305
write   Right after school you get a phone call from Mrs. Clark,
        the mother of Beth.  Mrs. Clark complains that you are
        giving too much homework.  She says Beth does not have
        enough time to work on her other subjects. She
        also claims that other parents object to the extent of
        the assignments as well.  How are you going to handle
        this situation?
at      1010
write   1. Ignore her suggestions to reduce homework
           because you think the work is justifiable.
        2. Reduce the amount of homework you are giving.
        3. Assign the same amount of homework but tell
           the pupils to stop working after one hour.
        4. Discuss with teachers of other subjects
           the extent of their assignments in order that
           the pupils have sufficient time to deal with all
           subjects adequately.
        5. Ask the pupils the length of time they spend
           on homework in your subject and adjust the
           amount assigned if the majority reports more
           than one hour daily.
arrow   2430
store   v1
match   v9,1,2,3,4,5
endarrow
calcs   v1,transfr←,,4655351,6465849,5255656,8575848,7465656
do      tab
jump    greenwo
```

green

```
unit    greenwo
randu   chance,3
jump    team=1$and$chance=1,x,visit
at      305
write   You have chosen to team teach with Mr. Clark.  You
        have carefully observed the older teacher and feel that
        he is being unsuccessful in getting anything across to
        the pupils.  They aren't motivated by him and this
        makes your job twice as difficult.  Also they aren't
```

```
1206            learning the material as they should from him and
1207            consequently your material is not understood as well.
1208            what can you do to improve this situation?
1209    at      1110
1210    write   1. Say nothing and hope things will just oet
```



```
1211               better.
1212            2. Tell the principal about the problem.
1213            3. Talk to Mr. Clark and suggest he tries out
1214               your methods for teaching the material.
1215            4. Discuss the matter with other teachers.
1216            5. Revise with the pupils what Mr. Clark
1217               has attempted to teach.
1218            6. Explain to Mr. Clark how you feel and
1219               attempt to work out your problems by comino
1220               to a closer agreement.
1221            7. Tell Mr. Clark you do not want to team
1222               teach any more and insist you separate the
1223               two classes and teach traditionally beginning
1224               with the second term.
1225    arrow   2630
1226    store   v1
1227    match   v9,1,2,3,4,5,6,7
1228    endarrow
1229    calcs   v1,transfr<,,4265353,6725535,6465625,4465515,7665726,8565775,3865535
1230    do      tab
1231    jump    visit
```

visit

```
1232    unit    visit
1233    term    visit
1234    calc    open<methods(2)+methods(3)+methods(4)+methods(6)+methods(7)+methods(10)
1235    jump    open<50,pancake,x
1236    at      305
1237    write   You have tried to make your classes interesting and
1238            innovative by using such techniques as individualized
1239            study, small group work, and team teaching.  The
1240            principal makes it a policy to observe the lessons
1241            of each new teacher at least three times.  He has
1242            just made his first visit and has told you that he
1243            feels your lessons
1244    at      where+1
1245    writec  ptype***are outstanding!*are too radical.
1246    branch  ptype=1,lend,x
1247    at      1005
1248    write   What will you do?
1249    at      1110
1250    write   1. Resign in favour of a more progressive
1251               environment.
1252            2. Discuss the matter with other teachers
1253               in the department.
1254            3. Write several thoroughly-planned units
1255               and present them to the principal, trying
1256               to convince him of the value of your methods.
1257            4. Due to the success you have been having with
```

```
1258              your methods, continue with what you are
1259              doing.
1260           5. Ask the pupils to appear more disciplined
1261              and orderly when the principal visits.
1262           6. Abandon your present teaching methods in
1263              favour of more traditional ones.
1264   arrow   2530
1265   store   v1
1266   match   v9,1,2,3,4,5,6
1267   endarrow
1268   calcs   v1,transfr←,,0,5465565,5465555,5265555,5365354,5865244
1269   jump    v1=1,quit,x
1270   do      tab
1271   jump    pancake
1272   lend
1273   calc    transfr←8555666
1274   do      tab

                                                                        panca
1275   unit    pancake
1276   jump    path<3,x,msgrades
1277   at      305
1278   write   The principal has just announced to the staff that the
1279           cricket teams   need help with the  breakfast they have
1280           scheduled for Sunday morning.  Each member of the staff
1281           is being asked to draw kitchen detail.  You had made
```


123

```
1282           arrangements to be in another city over the weekend, and
1283           have just found yourself assigned to the 6:30 to 8:30 AM
1284           duty slot for Sunday morning.  You have desperately
1285           tried to get a substitute, but you can't find one.
1286           What will you do?
1287   at      1210
1288   write   1. Leave anyway without saying anything to anyone.
1289           2. Tell the principal you have other plans and
1290              can't make it.
1291           3. Cancel your plans and stay to help
1292              cheerfully(?).
1293           4. Tell the principal that you don't think that
1294              your job should make demands on what most
1295              people consider leisure time.
1296           5. Tell the principal that you attend your
1297              church service at that time on Sundays.
1298
1299   arrow   2530
1300   store   v1
1301   match   v9,1,2,3,4,5
1302   endarrow
1303   calcs   v1,transfr←,,1111111,4225111,8888888,1111313,1111111
1304   do      tab
1305   jump    msgrades

                                                                        msgra
1306   unit    msgrades
1307   zero    v1,8
1308   zero    v130,15
```

```
1309  at        103
1310  write     Here is your markbook.  It is time to assign end-of-term
1311            marks.  Symbols are weighted as you requested.
1312  at        903
1313  write     Name
1314  rotate    90
1315  size      1
1316  at        923
1317  write     Tests
1318
1319
1320            Projects
1321
1322
1323            Homework
1324
1325
1326            Class Part.
1327
1328
1329
1330
1331
1332            TOTAL PTS.
1333
1334
1335            Percent
1336
1337            SYMBOL
1338  rotate    0
1339  size      0
1340  do        dismsgra
1341  do        gradebk
1342  do        calave
1343  at        3122
1344  next      inform
1345  *****                                                          infor

1346  unit      inform
1347  back      msgrades
1348  zero      v1,8
1349  goto      lloop,v1<=1,20
1350  calcc     gradave(v1),,v2<=v2+1,v3<=v3+1,v4<=v4+1,v5<=v5+1,v6<=v6+1
1351  lloop
1352  at        614
1353  write     The class average for the first term
1354            was:  (t,cpoints/200,2.2)
1355
1356            Your distribution of symbols was as follows:
1357  at        1624
1358  write     Symbol    Number     %
1359  at        1826
1360  write     4         (t,v6,2.0)      (t,5Xv6,2.1)
1361
1362  write     3         (t,v5,2.0)      (t,5Xv5,2.1)
1363
1364  write     2         (t,v4,2.0)      (t,v4X5,2.1)
```

```
1365
1366  write   1       {t,v3,2.0}     {t,v3X5,2.1}
1367
1368  write   0       {t,v2,2.0}     {t,v2X5,2.1}
1369  output  Class Average={v,classav}
                                                                                trans
1370  unit    transfer
1371  at      1010
1372  write   A slight pause may occur here.  Please be patient.
1373  at      2010
1374  write   (Easter vacation is going by!)
1375  calc    inone<inone-1
1376  inhibit erase
1377  jumpout rtenure4,pass
```

---------- part= 3, block=9 ----------
space left = 32

```
1378  ****This routine calculates the effectiveness score.
                                                                                effca
1379  unit    effcal
1380  calc    effects<0
1381  doto    lloop,v1<1,12
1382  calcs   v1,v2<,,1.09,7.63,9.80,8.76,8.42,7.50,5.68,5.6,3.69,2.17,1.32,4.0
1383  calc    effects<effects+(methods(v1)Xv2)
1384  lloop
1385  calc    mean<45+effects/20
1386  calcc   mean>94,mean<94,mean<mean
1387  calcc   mean<80,sd<(100-mean)/2.2,sd<22
                                                                                dismg
1388  unit    dismsgra
1389  zero    cpoints
1390  calcs   int((score(5)+15)/5),v142<.90,.925,.95,.9725,1,1.025,1.05,1.075
1391  calcs   int((score(5)+15)/5),v143<.80,.85,.90,.95,1,1.05,1.1,1.15
1392  calc    v7<4
1393  calc    v5<1003
1394  doto    lloop,v1<1,20
1395  calc    marks(v1)<0
1396  calc    v8<v5
1397  at      v8
1398  showa   stud(v1),20
1399  calc    v8<v8+17
1400  doto    2loop,v6<1,v7
1401  calc    v144<iqf(v1)
1402  calc    v145<aptf(v1)
1403  calcs   v6,v2<,,[(v144+v145)/2],[((3Xv144)+(2Xv145))/5],[((2Xv144)+(3Xv145))/5],[(v144+(2Xv145))/3],v145
1404  calcs   v6,v140<,,meanXweight(v6)/10,meanXweight(v6)/10,8.5Xweight(v6),8Xweight(v6),7.5Xweight(v6)
1405  calcs   v6,v141<,,sdXweight(v6)/10,sdXweight(v6)/10,weight(v6),weight(v6),2Xweight(v6)
1406  randu   chance,weight(v6)
1407  calc    v3<(v2Xv141)+v140+chance-(weight(v6)/2)
1408  calcs   v6,v3<,,v3Xv142,v3Xv142,v3Xv142,v3Xv143
1409  calcs   (v3>weight(v6)X10),v3<weight(v6)X10,v3<v3
1410  calcc   (v3<0),v3<0,v3<v3
1411  branch  v1=19,x,4fail
1412  calcc   (v6=1$and$grade>2),v3<v3-70,v3<v3
1413  4fail
1414  at      v8
```

```
1415  showt    v3,5.0
1416  calc     marks(v1)←marks(v1)+v3
1417  calc     v8←v8+6
1418  calc     v(130+v6)←v(130+v6)+v3
1419  2loop
1420  calc     v8←v5+47
1421  at       v8
1422  showt    marks(v1),5.0
1423  at       v8+6
1424  showt    marks(v1)/10,3.0
1425  calc     cpoints←cpoints+marks(v1)
1426  calc     marks(v1)←marks(v1)/10
1427  calc     v5←v5+100
1428  1loop
1429  calc     opoints←opoints+cpoints/200
1430  calc     npoints←npoints+1
1431  at       3104
1432  write    Possible:
1433  calc     v1←3121
1434  doto     lposs,v2←1,5
1435  at       v1
1436  showt    weight(v2)X10,4.0
1437  calc     v1←v1+6
1438  lposs
1439  at       16,33
1440  write    AVERAGES:
1441  calc     v1←3020
1442  doto     lave,v2←1,5
1443  at       v1
1444  showt    v(130+v2)/20,5.0
1445  calc     v1←v1+6
1446  lave
1447  at       3050
1448  showt    cpoints/20,5.0
1449  at       3056
1450  showt    cpoints/200,3.0
1451  calc     v1←1062
1452  do       assgrad $$grade routine
1453  ***This routine plots grades according to scale.  v1 must
1454  ***be preassigned as the first location.
                                                                    assgr
1455  unit     assgrad
1456  doto     6test,v2←1,20
1457  doto     linner,v3←1,4
1458  calcc    marks(v2)>scale(v3)-1,v4←v3,v4←0
1459  branch   marks(v2)>scale(v3)-1,7test,x
1460  linner
1461  7test
1462  at       v1
1463  writec   v4,0,0,4,3,2,1,0
1464  calcs    v4,v137←,0,4,3,2,1
1465  calc     gradave(v2)←v137
1466  calc     v1←v1+100
1467  6test
```

calav

```
unit     calave
calc     classav←0
doto     1loop,v1←1,20
calc     classav←gradave(v1)+classav
calc     gpa(v1)←[(gpa(v1)Xnograd)+gradave(v1)X100]/(nograd+1)
1loop
calc     nograd←nograd+1
calc     classav←classav/20
calc     oclasav←((oclasavXnclasav)+classavX100)/(nclasav+1)
calc     nclasav←nclasav+1
***This unit displays grades
***following unit caps first letter of name.
```

caps

```
unit     caps
define   als(x,y)=(x$cls$y$mask$(o4000 0000 0000 0000 0000$ars$(59-y)))$union$(x$mask$1$cls$59)$ars$(y-1)$
*
* x is object to be $als$'ed, y is number of bits to $als$.
* 0<y<60.
branch   name=0,3ins,x
branch   ((name$mask$o70000000000000000000)=o70000000000000000000),1done,x
calc     n70←name
calc     n70←(name$mask$o0000 0000 0000 0000 0077)
calc     n70←als(n70,54)
calc     name←o70000000000000000000$union$(name$ars$6)
calc     n100←n70$union$(n100$ars$6)
branch   1done
3ins
calc     name←'Blank'
1done
*****
```

gossi

```
unit     gossip
next     note
at       305
write    It is now your free period.  You have some work that you
         could do in your room (marking papers, preparing for
         tomorrow's classes, etc.).  However, Mr. Gleason,
         another teacher in the building, has stopped by your
         room and has invited you to join him in the
         staffroom for a cup of coffee. Will you

at       910
write    1. Tell Mr. Gleason you will join him some
            other time and stay in your room and work?
         2. Let the work go for now and go to the
            staffroom?
arrow    1332
store    v8
match    v9,1,2
endarrow
calcs    v8,transfr←,,7777737,5555555
do       tab
goto     v8=2,lounge,x
jump     note
```

---------- part= 4, block=b ----------
space left = 122

schoo

```
1520  unit    school
1521  draw    532;564;504,404;248,404;532;248,429;125,429;125,427;248,427;248,405
1522  draw    ;169,405;169,407;136,407;136,427;skip;170,427;170,407;skip;136,407;111,402
1523  draw    ;58,402;51,404;51,432;58,434;111,434;149,432;skip;113,402;113,434
1524  draw    113,440;152,438;101,446;113,440;54,440;48,438;48,439;53,441;101,446
1525  draw    113,441;53,441;skip;56,434;56,402;skip;51,432;31,434;31,402;52,404
1526  draw    31,430;0,430;skip;0,428;31,428;skip;31,402;0,402;skip;256,446;262,441
1527  draw    ;275,450;288,441;301,450;314,441;327,450;340,442;353,450;366,441
1528  draw    ;379,450;392,441;405,450;418,441;424,446;skip;557;448,458;280,458
1529  draw    ;280,447;skip;280,457;448,457;skip;504,431;248,431;skip;248,425;242,425
1530  draw    ;242,415;248,415;skip;232,415;232,425;226,425;226,415;232,415;skip;216,415;216,425
1531  draw    ;210,425;210,415;216,415;skip;200,415;200,425;194,425;194,415;200,415
1532  draw    184,415;184,425;178,425;178,415;184,415;skip;170,424;136,424;skip;138,427;138,407
1533  draw    150,407;150,424;skip;161,424;161,407;skip;169,414;169,421;167,421
1534  draw    ;167,414;169,414;skip;164,414;164,421;162,421;162,414;164,414;skip;148,414;148,421
1535  draw    ;146,421;146,414;148,414;skip;143,414;143,421;141,421;141,414;143,414
1536  draw    15,414;15,428;skip;15,414;1,414;skip;149,438;149,429;skip;113,434;113,440
1537  draw    57,440;57,434;skip;256,446;268,446;skip;274,450;295,447;skip;301,450;322,447
1538  draw    327,450;347,447;353,450;374,447;skip;380,450;399,447;skip;405,450;424,447
1539  draw    366,433;366,441;skip;339,441;339,433;skip;314,433;314,442;skip;288,442;288,433
1540  draw    262,433;262,441;skip;44,377;44,481;42,481;42,377;skip;42,481;38,479
1541  draw    ;35,472;31,472;31,461;37,454;41,468;42,468;skip;392,442;392,433
1542  draw    418,433;418,442
1543  size    0.6
1544  at      635
1545  write   A L B A N Y   H I G H   S C H O O L
1546  size    0
```

---------- part= 4, block=c ----------
space left = 20

```
1547  ***Following unit displays student records.
```

files

```
1548  unit    files
1549  at      203
1550  write   Here is your class list.
1551  at      406
1552  write   Name                          IQ      APT
1553  draw    406;462;skip;329;2429;skip;2437;337;skip;345;2445;skip;488,124;488,124
1554  draw    ;40,124;skip;353;2453
1555  at      2605
1556  write   APT=Aptitude score expressed in T-scores.  (T-scores have
1557          a mean of 50 and a standard deviation of 10.  Thus a
1558          score of 63 is 1.3 sd units above the mean.)
1559
1560          If you want to access individual pupil profiles
1561          press SHIFT + LAB. To return press NEXT.
1562  calc    v1<510
1563  doto    1rec,v3<1,20
1564  at      v1
1565  showa   stud(v3),20
1566  at      v1+21
1567  showt   iq(v3),3.0
```

```
1568  at      v1+29
1569  showt   apt(v3),2.0
1570  calc    v1<v1+100
1571  lrec
1572  end     help
1573  ***The following is the main calculation unit.
                                                                        tab
1574  unit    tab
1575  doto    lend,v1<7,1,-1
1576  calc    sub(v1)<frac(transfr/10)X10
1577  calc    transfr<int(transfr/10)
1578  branch  v1=4$and$sub(4)=5,x,lscor
1579  randu   chance,7
1580  calc    chance<chance+1
1581  calc    sub(v1)<chance
1582  lscor
1583  calc    score(v1)<score(v1)+sub(v1)-5
1584  lend
1585  jump    score(ptype)<-25,fired,x
1586  calc    lpick<sub(ptype)
1587  do      score(7)<-18$and$nopwarn<2,pwarn,x
1588  do      score(ptype)<-20$and$prinwar<2,danger,x
1589  do      sub(ptype)<2$and$nowarn<5,warn,x
1590  do      sub(ptype)>8$and$noprais<5,praise,x
1591  do      score(ptype)>65,toohigh,x
1592  ****
1593  ****Following is the main unit.
                                                                        route
1594  unit    route
1595  help    aid
1596  data    files
1597  lab     feedback
1598  lab1    ipupil
1599  data1   lounge
1600  calcc   tmfeed>10,tmfeed<tmfeed-.25,,
1601  ***Following unit only for author use.
                                                                        seesc
1602  unit    seescore
1603  name    n148
1604  branch  n148='marsh c',x,luna
1605  term    gaede
1606  data    disnum
1607  help    setwarn
1608  at      203
1609  write   Users in lesson: I (<s,inone>)   II (<s,usersin>)   Total: <s,usersin+inone>
1610  at      403
1611  write   Press HELP to set condense warning.
1612  endarrow
1613  at      1005
1614  write   Principal type=<s,ptype>
1615          Principal score=<s,score(ptype)+30>
1616          Student score=<s,score(5)+30>
1617          Peer score=<s,score(6)+30>
1618          Parent score=<s,score(7)+30>
1619  at      1705
1620  write   Here are the present AVERAGE scores:
1621  calc    v8<2010
```

```
1622  doto     1loop,v7<1,4
1623  at       v8
1624  showt    ascore(v7)/nuprin(v7),2.3
1625  at       v8+10
1626  write    Number of times: (t,nuprin(v7),4.0)
1627  calc     v8<v8+100
1628  1loop
1629  calc     v8<v8+100
1630  doto     2loop,v7<5,8
1631  at       v8
1632  showt    ascore(v7)/ascore(9),2.3
1633  calc     v8<v8+100
1634  2loop
1635  at       3005
1636  write    Number of times lesson used= (s,ascore(9))
1637  luna
1638  end      help
```

---------- part= 4, block=3 ----------

space left = 31

filep

```
1639  unit     filepr
1640  calc     v65<cpoints
1641  calc     cpoints<1
1642  do       files
1643  calc     cpoints<v65
```

grade

```
1644  unit     gradebk
1645  draw     320;320;3120;skip;3126;326;skip;332;3132;skip;3138;338;skip;344;3144
1646  draw     3150;350;skip;356;3156;skip;3160;360;skip;364;3164;504,11;8,11
1647  draw     ;302;364;skip;964;902;skip;2964;2902;skip;8,30;504,30;skip;504,50;8,50
1648  draw     8,370;504,370;skip;3002;3002;3064
1649  ****Following routine draws memo pad.
```

memo

```
1650  unit     memo
1651  erase    abort
1652  at       202
1653  write    You found this memo in your pigeon-hole this morning.
1654  draw     415;451;3051;3015;415
1655  size     2
1656  at       616
1657  write    Albany H. S.
1658  size     1.3
1659  at       816
1660  write    From the Office of the
1661           Principal
1662  draw     1016;1050
1663  size     1.2
1664  at       1217
1665  write    \MEMO TO:
1666  draw     1227;1249
1667  at       1228
1668  size     0
1669  writec   sex=1*Mr. (a,name)*Ms. (a,name)
1670  ****This is the quit unit.
```

quit

```
1671  unit    quit
1672  size    2
1673  at      408
1674  write   You Quit!!???
1675  size    0
1676  at      1010
1677  write   Since you quit, the simulation is over.
1678          Quitting is no way to accomplish anything in
1679          teacning.
1680  end     lesson
1681  ***
                                                                    feedb
1682  unit    feedback
1683  jump    tmfeed>10,nofeed,x
1684  calc    tmfeed<tmfeed+5
1685  calc    v1<(score(ptype)+30)/10
1686  randu   chance,6
1687  calcs   ptype=4,v1<chance,v1
1688  calcc   ptype,,,,score(2)<score(2)+2,score(3)<score(3)-2,,
1689  at      408
1690  write   You have asked for a meeting witn your principal.
1691          He has agreed to meet with you briefly.  During the
1692          meeting he says that, in general, he feels you are
1693          doing
1694  at      where+1
1695  writec  v1*very poorly*very poorly*poorly*
1696          less well than average*about average*
1697           better than average*
1698          exceptionally well*exceptionally well
1699  at      where+1
1700  write   so far.
1701  at      908
1702  write   He adds, however, that this is just his opinion, and
1703          any final evaluation of your work will take into
1704          consideration many other factors, such as your
1705          reputation with parents, pupils, other teachers,
1706          and so forth.
1707  branch  rules=0,3skip,x
1708  at      1508
1709  write   Concerning your last decision, he says he feels you
1710          made a
1711  at      where+1
1712  writec  lpick*very bad*very poor*very poor*very poor*
1713          poor *acceptable*reasonable*competent^v
1714          good*very good*outstanding
1715  at      where+1
1716  write   choice.
1717  branch  2end
1718  3skip
1719  at      1708
1720  write   The principal states that he  can't make any
1721          comment until you make a decision.
1722  2end
1723  end     help
```

```
                                                                                aid
1724  unit    aid
1725  help    moreaid
1726  at      206
1727  write   The purpose of this simulation is to obtain a
1728          permanent post. A permanent post is granted after
1729          twelve months of satisfactory teaching. In order
1730          to get a permanent post, you must generally satisfy
1731          the principal.  One of the problems, however, is that
1732          you are not exactly sure of what the principal wants.
1733          You will get feedback from time to time in order to
1734          try and figure out the principal's expectations.
1735          In addition, by pressing LAB, you may ask the
1736          Principal's opinion on your progress.
1737
1738          The principal is only one of the individuals who you must
1739          please.  In making your decisions, you must keep
1740          in mind sound educational principles, you must try
1741          to please parents, pupils, and other staff members
1742          as well.  Otherwise you may find you have a post,
1743          but no one on the staff likes you.
1744  at      2615
1745  write   Press HELP for more information.
1746          Press\2NEXT\\3\ to return to Albany High School.
1747  end     help
1748  ***
                                                                               morea
1749  unit    moreaid
1750  at      207
1751  write         Here are some commands you want to remember:
1752
1753          \2HELP3\          Brings you here at any time.
1754
1755          \2DATA\\3   \       Displays pupils' records.
1756
1757          \2LAB3\           Requests the principal's opinion on
1758                          your progress.
1759
1760
1761          \2SHIFT3\+\2DATA3\ Takes you to the staffroom at any time
1762                          where you may hear snippets of information.
1763  at      3122
1764  write   press Next to continue
1765  end     help
```


---------- part= 4, block=f ----------
space left = 16

```
                                                                               dange
1766  unit    danger
1767  erase   abort
1768  at      1010
1769  write   A teacher just told you that you are dangerously
1770          close to being fired in the middle of the year!
1771          Be careful in making your next decisions!
1772  calc    prinwar←prinwar+1
```

```
pause    keys=next
                                                                                                                  pencl
unit     pencil
at       208
size     0
write    \hij45555555555555555555555555555555555555555556785
at       225
mode     erase
write    Albany High School
mode     write
                                                                                                                  blkbo
unit     blkboard
at       805
write    \nopstuvstvpssvpptupvspsptuptsvpsvptvtpsupsptspsspvtusqr
at       905
write    \wx?\w>?\zx?\wx?\w<?\zx?\wx?\>x?\w>?\z>?\w<?\zx?\0>?\0x?\wx?\wx
         \[]pstspvptputpststvspvtputvtspvtpstvssputpvtpstspvtuv()
at       958
write    \wx?\wx?\0>?\zx?\wx\?\<>?\zx?\w>?\z>?\0>?\wx?\0x?\w>?\z<?\wx\?\wx
at       1107
write    \pstsvtptuvsputpsuvtptvsptpvutspustvptvsutvpuspsvtsv
at       88,99
write    \abb
at       2629
write    \cfffff1
at       328,99
write    \abb
at       48,362
write    AaBbCcDdEeFfGgHhIiJjKkLMmNnOoPpQqRrSsTtUuVvWwXxYyZz
draw     495,96;2607;skip;2505;32,106;48,90;2607;48,90;495,90;495,96;skip;39,105;481,105
atnm     41,112
circle   7,180,270
atnm     48,104
circle   7,172,270
atnm     479,112
circle   7,180,286
atnm     490,105
circle   9,170,295
                                                                                                                  prais
unit     praise
do       memo
calc     noprais<noprais+1
at       1519
branch   noprais,x,x,x,2p,3p
write    Congratulations!!

         I am very pleased with your
         last decision.  Keep up
         the good work!

                         J.B.
branch   4p
2p
write    It is really a pleasure
         to have someone on my staff
         who does as well as you.
```

```
1827            You last decision clearly
1828            shows you have great potential
1829            as a teacher.
1830                                J.B.
1831    branch  4p
1832    3p
1833    write   A third great decision!
1834            My wife and I would like
1835            to invite you over for
1836            dinner next Friday night.
1837                                J. B.
1838    4p
1839    pause   keys=next
1840    end     help
1841    *****
                                                                                firere
1842    unit    firerec
1843    doto    2tab,v6<19,16,-1
1844    transfr bteach(v6);bteach(v6+1);2
1845    transfr bnam(v6);bnam(v6+1);2
1846    transfr bcors(v6);bcors(v6+1);1
1847    transfr bdata(v6);bdata(v6+1);1
1848    calc    bsex(v6+1)<bsex(v6)
1849    2tab
1850    name    bnam(16)
1851    group   bcors(16)
1852    date    bdata(16)
1853    3tab
1854    calc    bteach(16)<name
1855    calc    bsex(16)<sex
                                                                                pwarn
1856    unit    pwarn
1857    calc    nopwarn<nopwarn+1
1858    mode    rewrite
1859    at      3003
1860    write   WARNING: There are a number of parents very upset with you.
1861            They will try to get you fired by complaining to the School
1862            Committee.
```

---------- part= 4, block=9 ----------

space left = 75

```
                                                                                ipupi
1863    unit    ipupil
1864    at      502
1865    write   Type in the surname of the pupil whose profile
1866            you want to look at. Please type the surname in
1867            small letters only. No capital letters please.
1868    arrow   1002
1869    innibit blanks
1870    storea   pupil,10
1871    ok
1872    endarrow
1873    jump    pupil='anderson',anders,x
1874    jump    pupil='bell',bell,x
1875    jump    pupil='clark',clark,x
1876    jump    pupil='ellis',ellis,x
```

```
1877  jump     pupil='harris',harris,x
1878  jump     pupil='larson',larson,x
1879  jump     pupil='novak',novak,x
1880  jump     pupil='smuts',smuts,x
1881  jump     pupil='talbot',talbot,x
1882  jump     pupil='wilson',wilson,x
1883  lend
1884  at       1502
1885  write    There is no pupil profile for this pupil. Profiles
1886           have been supplied for only those pupils who play
1887           an individual role in this simulation.
1888           Press NEXT to continue.
1889  next     pupilb
                                                                    pupil
1890  unit     pupilb
1891  at       2502
1892  write          Press NEXT to continue with the simulation.
1893  end      help
                                                                    warn
1894  unit     warn
1895  do       memo
1896  at       1519
1897  branch   nowarn,x,x,2note,3note,4note
1898  write    Just a note to inform you that
1899           I am unhappy about your last
1900           decision.
1901
1902           Please consider more carefully
1903           all future actions.
1904
1905           I am sure you will take care
1906           of this.
1907
1908                    J. B.
1909  branch   5end
1910  2note
1911  write    You have made still another
1912           poor decision.  This is your
1913           second catastrophe!
1914
1915           I am assuming you will learn
1916           from these mistakes.  Please
1917           see that you do!
1918                              J.B.
1919  branch   5end
1920  3note
1921  write    Still another bad decision!!!
1922           Please!  Remember, you are
1923           on probation.
1924
1925                    J.B.
1926  branch   5end
1927  4note
1928  write    I don't know what to say.
1929           You have managed to do it
1930           again.  I am sorry to inform
1931           you that I am thinking of
```

```
1932            releasing you from your
1933            duties at the end of term.
1934
1935            Let's give it one more chance.
1936
1937                  J.B.
1938    6end
1939    calc    nowarn<nowarn+1
1940    pause   keys=next
1941    end     help
```

---------- part= 5, block=a ----------
space left = 72

```
                                                                    loung
1942    unit    lounge
1943    erase   abort
1944    size    2
1945    at      609
1946    write   You are in the staffroom!
1947    size    0
1948    at      1009
1949    write   Most principals feel that teachers spend too
1950            much time in the staffroom.  However, you often
1951            pick up interesting bits of information there
1952            that you cannot get in any other way.
1953
1954            You can come to the staffroom whenever you want
1955            by pressing Shift-DATA.  Be careful that you
1956            do not come too often, however.  Remember,
1957            most principals do not like it.
1958
1959            Press NEXT for a summary of the gossip today.
1960    pause   keys=next
1961    calc    visloun<visloun+1
1962    calc    transfr<3333464
1963    do      tab
1964    randu   chance,10
1965    branch  chance>6,1gen,x
1966    do      ptype,x,x,lib,cons,third,four
1967    branch  1skip
1968    1gen
1969    randu   chance,6
1970    at      2209
1971    writec  chance***Sorry.  No interesting gossip today.*
1972            The teachers were talking about the fact that
1973            a number of parents of your pupils have a
1974            great deal of influence with the school
1975            board.*
1976            The conversation was cut short.  The
1977            principal came to see who was in the staffroom.*
1978            Another teacher told you that your pupils
1979            seem to*
1980            Another teacher told you that she overheard
1981            some parents talking about you.  They said
1982            that they thought*
1983    branch  chance,1skip,1skip,1skip,1skip,1skip,x,6end
```

```
1984  at      where+1
1985  writec  score(5)*dislike you.*feel rather neutral about you.*like you.
1986  branch  1skip
1987  6end
1988  at      where+1
1989  writec  score(7)*you were not doing very well.*you were doing alright.*you were doing very well.
1990  1skip
1991  branch  7end
1992  7end
1993  end     help
1994  *unit    sample
1995  *term    sample
1996  *branch  samp=67,x,1end
1997  *jumpout sample
1998  *1end
1999  end     help
```

nofee

```
2000  unit    nofeed
2001  size    3
2002  at      408
2003  write   Sorry:
2004  size    0
2005  at      1008
2006  write   You have bothered your principal too many times.
2007          Since you have taken up so much of his time, he
2008          is avoiding you.  You will find it difficult to
2009          catch him from now on.  You had better make your
2010          own decisions!
2011  end     help
```


---------- part= 5, block=0 ----------

space left = 5

lib

```
2012  unit    lib
2013  randu   chance,6
2014  at      2209
2015  writec  chance***The other teachers were talking about the
2016          principal.  Some of the more conservative
2017          teachers were upset because they claim the
2018          principal is always on their back about
2019          trying new approaches.  They feel he is
2020          too idealistic.*
2021          The discussion was about the fact that the
2022          principal is planning an intensive inservice
2023          workshop on using simulations in the classroom.*
2024          The teachers were discussing the fact that
2025          the principal wants to implement a modular approach
2026          to syllabi next year.  Some of the older
2027          teachers were opposed to the idea while most of
2028          the younger teachers were excited about it.*
2029          The principal came into the staffroom while you
2030          were there and said he felt that the prefect
2031          body should be given more responsibility in
2032          running the school.*
2033          The older teachers were gossiping about the
2034          fact that the principal and his wife socialize
```

```
2035            with some of the younger teachers on the staff.
2036            They felt this led to favouritism.
2037            There was not much helpful conversation, but
2038            you learned the principal was a strong supporter
2039            of the Progs.
                                                                                cons
2040    unit    cons
2041    randu   chance,8
2042    at      2209
2043    writec  chance***Some of the teachers were talking about the
2044            principal.  The younger teachers on the
2045            staff were upset because they feel the
2046            principal is too old-fashioned in his ideas
2047            about education.*
2048            The teachers were talking about the fact
2049            that the principal seems to believe that
2050            there is a general lack of discipline
2051            in the school.*
2052            The conversation was about the principal
2053            and the fact that he seems to think that
2054            most young teachers are too easy on
2055            pupils.*
2056            One of the teachers said the principal
2057            told her that teachers should place a
2058            greater emphasis on content and less
2059            on "fooling around with discussions."*
2060            One of the teachers told you that the
2061            principal admires Miss Prim, another
2062            teacher on the staff who is known
2063            for her unreasonably long homework
2064            assignments.*
2065            One of the teachers told you that the
2066            principal is a teetotaler.*
2067            The principal came into the staffroom while
2068            you were there and said he thinks the
2069            prefect body  has too much power in the
2070            school.*
2071            One of the teachers told you, in confidence,
2072            that last year the principal was on a
2073            rampage about teachers staying in the staffroom
2074            too long.  He suggests you be careful that
2075            you do not come too often!*
```

---------- part= 5, block=c ----------

space left = 60

```
                                                                                averag
2076    unit    averages
2077    calcs   reclear=100,reclear←1,reclear←reclear+1
2078    calc    finish(v6)←finish(v6)+1
2079    calc    efinish(v6)←efinish(v6)+1
2080    calc    ascore(9)←ascore(9)+1
2081    calc    eascore(9)←eascore(9)+1
2082    calc    nuprin(ptype)←nuprin(ptype)+1
2083    calc    enuprin(ptype)←enuprin(ptype)+1
2084    calc    dip[(ptypeX6)-6+v6]←dip[(ptypeX6)-6+v6]+1
2085    calc    edip[(ptypeX6)-6+v6]←edip[(ptypeX6)-6+v6]+1
```

```
calc     ascore(ptype)←ascore(ptype)+score(ptype)+30
calc     eascore(ptype)←eascore(ptype)+score(ptype)+30
doto     1a,v1←5,7
calc     ascore(v1)←ascore(v1)+score(v1)+30
calc     eascore(v1)←eascore(v1)+score(v1)+30
1a
calc     ascore(8)←ascore(8)+fscore
calc     eascore(8)←eascore(8)+fscore
branch   reclear=100,x,1end
doto     1loop,v1←1,5
calc     bscore(v1)←1
1loop
date     datecl
1end
score    fscore
```

fired

```
unit     fired
term     fire
calc     v6←1
calc     fscore←(score(ptype)+30)/10
do       averages
do       firerec
base
size     4
at       808
write    YOU'RE FIRED!
draw     1114;1154
size     0
at       1610
write    You have been fired in midyear!  That is really
         unusual.  The reasons for your dismissal include:
at       1910
write    Your principal
at       where+1
writec   ptype***wanted constant innovation.*was very authoritarian .*
         didn't want to be bothered.*can never make up his mind.
at       int(where/100)X100+210
write    You simply rubbed him the wrong way.
branch   ptype=4,x,1skip
at       int(where/100)X100+210
write    With this principal, you just had bad luck.
1skip
at       int(where/100)X100+210
writec   novak=10*You did not have enough support to survive
         the Novak incident.**
at       int(where/100)X100+210
writec   visloun******Also, you went to the staffroom ⟨s,visloun⟩ times.
         That is too much!
end      lesson
```

toohi

```
unit     toohigh
erase    abort
at       808
write    You have scored so many points with the principal
         that other teachers have become jealous.  They
         sent a deputation to the principal and accused
         him of favouritism.
```

```
2141
2142            As a result of the trouble you have caused him,
2143            he no longer has such a high opinion of you.
2144  doto      1a,v1<1,7
2145  calc      score(v1)<0
2146  1a
2147  pause     key=next
```

---------- part= 5, block=d ----------
space left = 7

```
                                                                                                  third
2148  unit      third
2149  randu     chance,4
2150  at        2209
2151  writec    chance***The teachers were talking about the principal.
2152            A number of teachers complained that when they
2153            sent pupils to the office for disciplinary
2154            reasons, the principal became upset.  Further-
2155            more, he apparently did not discipline the
2156            pupils effectively.*
2157            The talk was about the principal.  One of the
2158            teachers, who is supposed to know the
2159            principal well, said that he is greatly
2160            influenced by what parents think.*
2161            The conversation was about the principal today.
2162            Everyone in the staffroom agreed that the
2163            principal is just putting in his time waiting
2164            to retire in two years.*
2165            One teacher reported that the principal
2166            told her, "What you do in your classroom is
2167            your own business, as long as you don't
2168            bother me with it."
2169  ***this is the 'finish' unit***
                                                                                                  alldo
2170  unit      alldone
2171  outputl   extra,v63,11
2172  ***this is for author use only***
                                                                                                  disnu
2173  unit      disnum
2174  back      seescore
2175  next      disnum
2176  mode      rewrite
2177  1rest
2178  at        3101
2179  erase     63,2
2180  at        3105
2181  write     Student or Common variable? (1=student, 2=common)
2182  arrow     where+1
2183  store     v144
2184  match     v9,1,2
2185  endarrow
2186  at        3205
2187  write     What variable do you want to start with?
2188  arrow     where+2
2189  store     n130
2190  ok
```

```
2191  endarrow
2192  2rest
2193  calc    n132<=203
2194  erase   abort
2195  branch  v144=1,1stu,x
2196  goto    5a,n133<=0,29
2197  at      n132
2198  write   Variable <s,n130+n133>:
2199  at      n132+20
2200  show    nc(n130+n133)
2201  at      n132+40
2202  showa   nc(n130+n133)
2203  calc    n132<=n132+100
2204  5a
2205  branch  5s
2206  1stu
2207  goto    5s,n133<=0,29
2208  at      n132
2209  write   Variable <s,n130+n133>
2210  at      n132+20
2211  show    n(n130+n133)
2212  at      n132+40
2213  showa   n(n130+n133)
2214  calc    n132<=n132+100
2215  5s
2216  calc    n130<=n130+30
2217  pause
2218  branch  key=data,1rest,2rest
                                                                    setwa
2219  unit    setwarn
2220  at      1004
2221  write   Here is the present message:
2222  at      1204
2223  showa   lineone,60
2224  at      1304
2225  showa   linetwo,60
2226  at      1504
2227  write   Do you wish to overwrite this message? 1=yes
2228  arrow   where+2
2229  store   v2
2230  match   v9,1,2
2231  endarrow
2232  branch  v2=2,2set,x
2233  at      1704
2234  write   Insert line one:
2235  arrow   1904
2236  storea  lineone,60
2237  ok
2238  endarrow
2239  mode    rewrite
2240  at      1704
2241  write   Insert line two:
2242  mode    write
2243  arrow   2004
2244  storea  linetwo,60
2245  ok
2246  endarrow
```

```
2247  2set
2248  at        3010
2249  write     Set condense warning: (1)=yes  (2)=no
2250  arrow     where+1
2251  store     conden
2252  ok
2253  end       help
```

conwa

```
2254  unit      conwarn
2255  mode      rewrite
2256  at        104
2257  showa     lineone,60
2258  at        204
2259  showa     linetwo,60
2260  end       help
```

---------- part= 5, block=e ----------

space left = 208

four

```
2261  unit      four
2262  randu     chance,4
2263  at        2209
2264  writec    chance***The talk in the staffroom today was about the
2265            principal.  A number of the older teachers
2266            were upset.  They complained that the
2267            principal can never make up his mind.*
2268            One teacher told you that last year the
2269            principal supported merit pay, but this
2270            year he is against it.*
2271            Mrs. Watson told you that last year the
2272            principal took two months to make up his
2273            mind on approval for a field trip she
2274            had planned for her class.*
2275            Mr. Ramer said that the pupils know if
2276            the principal says "no" to a request one
2277            day, he may say "yes" the next.  So they
2278            keep trying until finally he is in the
2279            mood to say yes.
```

store

```
2280  unit      storeda
2281  calc      experc(exper)<experc(exper)+1
2282  calc      experc(7)<experc(7)+1
2283  doto      la,v1<1,11
2284  calc      tech(exper,v1)<tech(exper,v1)+methods(v1)
2285  calc      tech(7,v1)<tech(7,v1)+methods(v1)
2286  la
```

---------- part= 5, block=f ----------

space left = 58

datah

```
2287  unit      datahead
2288  size      3,2
2289  at        85,470
2290  write      PUPIL  DATA
2291  size      0,0
```

anders

```
2292  unit     anders
2293  next     pupilb
2294  do       datahead
2295  at       512
2296  write    Pupil Name:  Bill Anderson
2297           Age 17 years
2298
2299           Father:  Reginald Anderson
2300           Occupation:  plumber
2301           Mother:  Mother abandoned family, whereabouts
2302                    unknown.
2303           Stepmother:  Mary Anderson
2304           Occupation:  typist
2305           Siblings:  none
2306
2307           Previous School Record:  Failed Std.5
2308           School Activities:  none
2309           Outside Interests:  surfing
2310           Medical History:  healthy
2311
2312           General Comment: Has a history of disciplinary
2313           problems. Few friends inside the school.
2314
2315  at       3222
2316  write    Press NEXT to return
```

bell

```
2317  unit     bell
2318  next     pupilb
2319  do       datahead
2320  at       512
2321  write    Pupil's Name:  Judy Bell
2322           Age; 16 years
2323
2324           Father:  Harold George Bell
2325           Occupation:  salesman
2326           Mother:  Elizabeth Bell
2327           Occupation:  clerk
2328           Siblings:  younger brother and sister
2329           Comment:  It is common knowledge that parents
2330           are having marital difficulties.
2331
2332           Previous school record:  Passed all standards.
2333           School activities:  netball
2334           Outside interests: church choir
2335           Medical history:  appendectomy at 11 years
2336
2337           General comment: Quiet and withdrawn. Not many
2338           friends.
2339  at       3222
2340  write    Press NEXT to return
```

clark

```
2341  unit     clark
2342  next     pupilb
2343  do       datahead
2344  at       512
2345  write    Pupil name:  Beth Clark
```

```
2346            Age:  16
2347
2348            Father:  Richard Clark
2349            Occupation:  accountant
2350            Mother: Elizabeth Mary Clark
2351            Occupation:  Housewife
2352            Siblings:  older sister
2353
2354            Previous school record:  passed all standards
2355            School activities:  none
2356            outside interests:  ballet
2357            Medical history:  Tonsillectomy at 4 years. History
2358            of hayfever allergy.
2359
2360            General comment:  Mother is very active in parent
2361            support activities. Beth is  very introspective.
2362    at      3222
2363    write   Press NEXT to return
```

---------- part= 5, block=9 ----------

space left = 65

ellis

```
2364    unit    ellis
2365    next    pupilb
2366    do      datahead
2367    at      512
2368    write   Pupil Name:  Sally Ellis
2369            Age 16 years
2370
2371            Father:  Max Ellis
2372            Occupation:  attorney
2373            Mother:  Elizabeth Ellis
2374            Occupation:  housewife
2375            Siblings:  younger brother
2376
2377            Previous School Record:  Passed all standards
2378            School Activities: Captain 2nd. hockey team,
2379            1st. tennis team. Debating. Drama.
2380            Outside Interesta:  Club tennis and reading
2381            Medical History:  healthy
2382
2383            General Comment: Good all-rounder, popular with
2384            peers.
2385
2386    at      3222
2387    write   Press NEXT to return.
```

harri

```
2388    unit    harris
2389    next    pupilb
2390    do      datahead
2391    at      512
2392    write   Pupil Name:  Mike Harris
2393            Age 17 years
2394
2395            Father:  Joe Harris
2396            Occupation:  manufacturer and member of
```

```
2397            Town  Council.
2398            Mother:  Ingrid Harris
2399            Occupation:  housewife
2400            Siblings:  only child
2401
2402            Previous School Record:  Has changed schools
2403            frequently.
2404            School Activities: rugby and cricket
2405            Outside Interests:  surfing
2406            Medical History:  healthy
2407
2408            General Comment:    Has moved from school to
2409            school since parents will not accept that he is
2410            a slow learner and not academic material.
2411
2412    at      3222
2413    write   Press NEXT to return.
                                                                                larson
2414    unit    larson
2415    next     pupilb
2416    do      datahead
2417    at      512
2418    write   Pupil Name:  Tim Larson
2419            Age 17 years
2420
2421            Father:  Deceased
2422            Mother:  Janice Larson
2423            Occupation:  librarian
2424            Step-father:  John Larson
2425            Occupation:  electrician
2426            Siblings:  younger  half brother and half sister
2427
2428            Previous School Record:  Passed all standards
2429            School Activities:  none
2430            Outside Interests:  stamp-collecting
2431            Medical History: Often absent from school for minor
2432            ailments.
2433            General Comment: Step-father is alledged to have
2434            a 'drinking problem'.
2435
2436    at      3222
2437    write   Press NEXT to return.
```


---------- part= 6, block=a ----------
space left = 10

```
                                                                                novak
2438    unit    novak
2439    next    pupilb
2440    do      datahead
2441    at      512
2442    write   Pupil Name:  Susan Novak
2443            Age 17 years
2444
2445            Father:  Samuel Novak
2446            Occupation: Lutheran minister
2447            Mother:  Ruth Novak
```

```
2448            Occupation:  Helps husband with church business.
2449            Siblings:  younger sister
2450
2451            Previous School Record:  Passed all standards.
2452            School Activities:  None
2453            Outside Interests: reading novels and writing
2454            poetry
2455            Medical History:  healthy
2456
2457            General Comment:  Introspective and fanciful.
2458
2459    at      3222
2460    write   Press NEXT to return.
                                                                                smuts
2461    unit    smuts
2462    do      datahead
2463    next    pupilb
2464    at      512
2465    write   Pupil Name:  Jannie Smuts
2466            Age 17 years
2467
2468            Father:  Koos Smuts
2469            Occupation:  clerk
2470            Mother:  Anee Smuts
2471            Occupation:  hairdresser
2472            Siblings:  older sister, younger brother and sister
2473
2474            Previous School Record:  Failed Std.5.
2475            School Activities:  rugby, swimming, athletics
2476            Outside Interests:  surfing
2477            Medical History:  healthy
2478
2479            General Comment:  Likeable and helpful.
2480
2481    at      3222
2482    write   Press NEXT to return.
                                                                                talbo
2483    unit    talbot
2484    next    pupilb
2485    do      datahead
2486    at      512
2487    write   Pupil Name:  Debbie Talbot
2488            Age 16 years
2489
2490            Father:  Hugh Talbot
2491            Occupation: accountant
2492            Mother:  Jennifer Talbot
2493            Occupation:  teacher
2494            Siblings:  Younger two brothers
2495
2496            Previous School Record:  passd all standards
2497            School Activities:  1st. team hockey, tennis,
2498            athletics
2499            Outside Interests:  speech and drama
2500            Medical History:  healthy
2501
2502
```

```
2503            General Comments:  Well-adjusted, popular with
2504            peers.
2505    at      3222
2506    write   Press NEXT to return.
                                                                        wilso
2507    unit    wilson
2508    next    pupilb
2509    do      datahead
2510    at      512
2511    write   Pupil Name:  Mary Wilson
2512            Age 17 years
2513            Father:  Andrew Wilson
2514            Occupation:  company executive
2515            Mother:  Melissa Wilson
2516            Occupation:  estate agent
2517            Siblings:  Younger brother
2518
2519            Previous School Record:  Failed Std.7
2520            School Activities:  swimming
2521            Outside Interests: modelling
2522            Medical History:  often absent from school with
2523            minor ailments
2524
2525            General Comment:  Parents divorced when she was 5,
2526            mother not remarried.
2527
2528    at        3222
2529    write     Press NEXT to return.
```


---------- part= 6, block=6 ----------
space left = 306

```
                                                                        seeit
2530    unit    seeit
2531    term    seeit
2532    at      802
2533    write   (a) Lesson
2534
2535    end     help
2536    end     lesson
```

unit	block	unit location	references to unit				
aid	incidentc	1724	1595				
alldone	incidenti	2170	4				
anders	pupildata	2292	1873				
apply	incidents2	242	194	349	413		
assgrad	tenodds	1455	1023	1452			
averages	incidenth	2076	2105				
bell	pupildata	2317	1874				
bias	incidents6	775	773				
bkgn	incidents1	180	167				
blkboard	incidentd	1782	169				
calave	tenodds2	1468	1342				
caps	tenodds2	1480	262				
cheat	incidents9	899	898	951	982		
clark	pupildata	2341	1875				
cons	incidentg	2040	1966				
conwarn	incidenti	2254					
crisis	addition	952	951				
danger	incidentd	1766	1588				
datanead	pupildata	2287	2294	2319	2343	2366	2390	2416
			2462	2485	2509		
dismsgra	tenodds	1388	1340				
disnum	incidenti	2173	1606	2175			
effcal	tenodds	1379	715				
ellis	pdata2	2364	1876				
experi	survey	293	292				
feedback	incidentb	1682	1597				
filepr	incidentb	1639	1077				
files	incidenta	1548	1596	1642			
fired	incidenth	2101	1585				
firerec	incidentd	1842	2106				
four	incidentj	2261	1966				
gen	general	100					
gen1	general	126					
gossip	tenodds2	1497	824	842			
grade	incidents4	537	498	536			
gradebk	incidentb	1644	1341				
greenwo	incident12	1197	1167	1196			
greet	incident2a	385	383	414			
harris	pdata2	2388	1877				
headinfo	incidents1	193	181				
homework	incident12	1166	1144	1165			
inform	incident14	1346	1344				
intervi	newstuff	324					
ipupil	incidente	1863	1598				
judy	incident11	1076	1048	1074			
kiss	incidents8	823					
larson	pdata2	2414	1878				
late	incident11	1102	1078	1101			
lib	incidentg	2012	1966				
lounge	incidentf	1942	1518	1599			
mary	incident10	1046					
memo	incidentb	1650	719	1810	1895		
moreaid	incidentc	1749	1725				
moreint	newstuff	361	347				
msgrades	incident14	1306	1276	1305	1347		
nofeed	incidentf	2000	1683				

unit	block	unit location	references to unit				
nojob	newstuff	348	379	380	381	382	
note	incidents8	843	1498	1519			
novak	datadis	2438	1879				
pancake	incident13	1275	1235	1271			
passnote	addition	927	872				
pencil	incidentd	1774	249	386			
praise	incidentd	1809	1590				
pupilb	incidente	1890	1889	2293	2318	2342	2365 2389
			2439	2463	2484	2508	
pwarn	incidentd	1856	1587				
quit	incidentb	1671	1269				
reject	incident2a	412	411				
route	incidenta	1594	6	387	457		
rules	incidents3	479	478				
scale	incidents4	580	581	985			
school	tenodds3	1520	182				
seats	incident2a	456					
seeit	pdata3	2530					
seescore	incidenta	1602	2174				
select	incidents3	499	498	500			
setwarn	incidenti	2219	1607				
smuts	datadis	2461	1880				
sponsor	incidents6	718	717				
storeda	incidentj	2280	716				
tab	incidenta	1574	477	497	535	579	644 749
			797	841	869	897	925 950
			1073	1100	1141	1154	1195 1230
			1274	1304	1517	1963	
talbot	datadis	2483	1881				
talk	incidents9	871	844	870			
team	incidents6	752	750				
tech	incidents5	647	648				
tell	incident2a	438	424				
tell1	incidents8	799	798				
tell2	incident10	1024					
term	incident12	1143	1104	1142			
test	incident10	983	901	926			
third	incidenti	2148	1966				
title	incidents1	157					
toohigh	incidenth	2134	1591				
transfer	incident14	1370					
visit	incident13	1232	1199	1231			
warn	incidente	1894	1589				
welcome	incident2a	422	388	411			
wilson	datadis	2507	1882				

149

------ s y m b o l l e g e n d ------
upper case

'	shifted key	&	superscript
!	subscript		backspace
^	access	\	font
?	carriage return	X	times
+	divide	←	assign

------ s y m b o l l e g e n d ------
upper-lower case

!	subscript	&	superscript
?	carriage return	\	font
.	understrike for access		
*	universal delimiter	X	times
+	divide	←	assign
¦	vertical line	→	arrow
@	matrix multiply	X	vector product

09.14.27.UCLP, SA, TE53, 3.369KLNS.

** END OF LISTING **

part= 1, block=0
space left = 30

```
*****file under g   gaede, owen
*
*  several lines changed by jim hecht are preceded by
*  four asterisks (****) and original line of code
*
common  rtenure4,info,640
finish  somedone
define  seats=v10
        rules=v11
        segment,scale=n13,15
        sponsor=v14
        team=v15
        bias=v16
        grade=v18
        crush=v19
        chance=v20
        kiss=v21
        note=v22
        segment,gradave=n23,3
        segment,laws=n24,7
        segment,weight=n25,12
        segment,methods=n26,10
        segment,pscore=n31,15
        segment,sub=n32,6
        transfr=v35
        strict=v37
        mean=v38
        sd=v39
        segment,marks=n40,10
        open=v47
        tmfeed=v48
        lpick=v49
        yearno=v50
        visloun=v54
        novak=v55
        samp=v56
        cpoints=v57
        prinwar=v58
        perfave=v59
        mon=v61
        ptype=v63
        path=v64
        effects=v65
        segment,score=n66,15,s
        fscore=v68
        nowarn=v69
        nopraise=v70
        nopwarn=v71
        classav=v72
        sex=v73
        philo(x)=n(80+x)
        exper=v92
        subject=v96
```

```
          name=n98
          pupil=n99
***student vars 100-150 free
***
***common variables follow
          stud(x)=nc(2x-1)$$$ common vars 1-40
          segment,iq=nc41,8
          segment,ndist=nc44,8
          segment,apt=nc48,8
          segment,gpa=nc51,10
          nograd=nc55
          ascore(x)=nc(55+x)$$array(56-64)
          finish(x)=nc(64+x)$$array(65-71)
          bscore(x)=nc(71+x)$$array(71-77)
          conden=nc78
          oclasav=nc79
          nclasav=nc80
          opoints=nc81
          npoints=nc82
          nuprin(x)=nc(82+x)$$array(83-86)
          segment,dip=nc87,15$$array(87-92)
          operf=nc93
          nuperf=nc94
          segment,seq=nc95,5$$array(95-100)
          bteach(x)=nc(101+2x)
          bnam(x)=nc(141+2x)
          bcors(x)=nc(182+x)
          bdata(x)=nc(202+x)
          segment,bsex=nc223,3
          eascore(x)=nc(236+x)
          enuprin(x)=nc(245+x)
          segment,edip=nc250,15
          efinish(x)=nc(256+x)
          reclear=nc265
          datecl=nc266
          inone=nc267
          experc(x)=nc(500+x)
          array,tech(7,11)=nc510
          lineone=nc614
          linetwo=nc620
***defined functions follow
          iqf(x)=((iq(x)-100)/10)
          aptf(x)=((apt(x)-50)/10)
branch    samp=0,lend,x
dataon
lend
imain     route
```

---------- part= 1, block=c ----------
space left = 41

pass

```
unit      pass
from      v1;rtenure3;
jump      v1=0,x,tells
dataon
lend
```

```
106   erase    abort
107   imain    route
108   jump     sex=1,football,x
109   at       305
110   write    You are having parent-teacher meetings at mid-term
111            After the final meeting one of your pupil's father
112            waits for the others to leave and then invites you
113            to a local bar for a drink to further discuss John.
114            Mr. Elliott says he wants to get to know you better.
115            What will you do?
116   at       1210
117   write    1. You thank him but say you have more work
118               to do.
119            2. You gladly accept the invitation.
120            3. You accept the invitation but suggest you go
121               to a coffee shop instead of a bar.
122            4. You tell Mr. Elliott that if he wants to talk
123               further about John you will schedule another
124               appointment at school the following week.
125   arrow    2330
126   store    v1
127   ansv     2.5,1.5
128   endarrow
129   calcs    v1, transfr<,,5777565,3133331,5455543,57775777
130   do       tab
131   jump     football
146   c
```



```
147   unit     football
148   imain    route
149   at       305
150   write    You are planning to give a low symbol to Jan Smuts,
151            a boy in your class.  The rugby coach approaches you
152            and says that this symbol on his  report will make
153            him ineligible for the three remaining rugby games.
154            As Jan is the star flyhalf, this will almost surely
155            cost the school the inter-school cup.  Further, the
156            coach points out to you that Jan will do better after
157            the rugby season is over and will have time to pull up
158            his marks.  what will you do?
159   at       1210
160   write    1. You refuse his request.
161            2. You agree with the coach and comply with his
162               request.
163            3. Explain to the coach that you understand
164               his point of view but Jan's mark is so low
165               that you can't comply.
166            4. You are shocked by the coach's request and
167               relate the incident to the principal.
168            5. You discuss the matter with other teachers.
169   arrow    2530
170   store    v1
171   ansv     3,2
172   endarrow
173   calcs    v1,transfr<,,5755532,5255495,5555545,5526524,5555624
174   do       tab
175   jump     tell3
```

---------- part= 1, block=d ----------
space left = 0

```
                                                                                                                tell3
unit     tell3
size     2
at       1208
write    How to get useful info.
size     0
at       1508
write    You may see the records of your pupils
         at any time by pressing DATA.

         The opinion of your principal may be requested
         at any time by pressing LAB.

         You may go to the staffroom and listen to
         the latest news by pressing SHIFT+DATA

         If you are ready to continue with the simulation,
         press NEXT.
                                                                                                                play
unit     play
jump     sponsor=1,x,envir
at       305
write    The drama club which you chose to supervise is about to
         present "Poppie", the play about a black woman's
         torment under South Africa's system of apartheid.

         An irate parent, a member of a conservative political
         party calls you and objects to the play, saying that it's an
         insult to his ideals and to that of many other people.
         He demands that you don't present it, but choose
         something else instead.  What will your reaction be?
at       1310
write    1. Hang up on him.
         2. Try to explain your motives.
         3. Get into a political argument with him.
         4. Tell him you believe in Academic Freedom and
            freedom of speech.
         5. Agree with him and try to get the play
            changed.
         6. Tell him that you're sorry he's offended,
            but too much time and effort have already
            been spent to change it now.
arrow    2430
store    v1
ansv     3.5,2.5
endarrow
calcs    v1,transfr<,,3215551,5555552,4215751,6555862,4454246,7777777
do       tab
jump     envir
                                                                                                                envir
unit     envir
jump     sponsor=2,x,dance
at       305
```

```
226  write    You are the teacher-in-charge of the Environmental
227           Studies Group and plan to take a group of Std.8
228           pupils to a river mouth where they will camp for
229           the weekend and make a study of the ecological
230           structure of the area. An irate parent phones
231           you up and berates you for planning an expedition
232           which involves boys and girls sleeping in the same
233           area and sharing the same facilities. She says she
234           believes that there will be more "hanky-panky" than
235           learning. What will you do?
236  at       1410
237  write    1. Hang up on her.
238           2. Take the matter to the principal.
239           3. Try to explain that you will ensure that the
240              sexes are segregated when necessary and assure
241              her that a member of staff of the opposite sex
242              to you will also be present.
243           4. Cancel the expedition.
244           5. Go for a Saturday only.
245  arrow    2430
246  store    v1
247  ansv     3,2
248  endarrow
249  calcs    v1,transfr€,,3315641,5735354,6675674,3434412,5655467
250  do       tab
251  jump     dance
```

---------- part= 1, block=e ----------
space left = 236

154

dance

```
252  unit     dance
253  jump     sponsor=3,x,crush
254  at       305
255  write    You are the supervisor of the Entertainment
256           Committee and have organised a disco at the school.
257           The evening is going very well and everyone
258           is having a good time when you notice that one of
259           the boy prefects has entered the hall in a very
260           intoxicated state. What will you do?
261  at       1410
262  write    1. Get the boy out of the hall and to his home
263              with the minimum of fuss and hope not too many
264              pupils noticed.
265           2. Call the principal.
266           3. Call the boy's parents.
267  arrow    2230
268  store    v1
269  ansv     2,1
270  endarrow
271  calcs    v1,transfr€,,6265947,5915355,5555369
272  do       tab
273  jump     smoke
```

---------- part= 1, block=f ----------
space left = 0

```
                                                                                smoke
274   unit     smoke
275   randu    chance,5
276   jump     chance>3,x,crush
277   at       409
278   write    You just slipped into the cloakroom between classes and
279            caught one of the pupils smoking.  It is against
280            school rules to smoke in the cloakroom, or in the
281            school building, for that matter.  You do not have the
282            pupil in any of your classes.  When you came in, the
283            pupil quickly threw the cigarette in the toilet and
284            flushed it down.  What will you do?
285   at       1214
286   write    1. Escort the pupil to the office and tell
287               the principal what you saw.
288            2. Tell the pupil that smoking is against
289               school rules; that this time you'll
290               forget it, but next time, look out!
291            3. Pretend you saw nothing and let the whole
292               thing drop.
293   arrow    2134
294   store    v1
295   ansv     2.5,1.5
296   endarrow
297   calcs    v1,transfr<,,3915276,6265855,5165735
298   do       tab
299   jump     crush
300   c
301   c
                                                                                crush
302   unit     crush
303   jump     sex=2,figure,x
304   at       305
305   write    Over a period of weeks you have noticed that Susan Novak
306            has a crush on you and insists on lingering after class
307            every day and running into you as you leave school. The
308            situation grows more serious to the point of embarrass-
309            ment.  Sue constantly offers to help you collect papers,
310            hand out assignments, and run general errands.  You begin
311            to sense that other pupils in your class are becoming
312            aware of this.  How will you handle this situation?
313   at       1110
314   write    1. Ignore her offers of help for a few days.
315            2. Talk to her after class and gently ask her
316               to stop it.
317            3. Avoid her in the corridors and after school.
318            4. Tell her she is just a child and that you
319               are an adult.
320            5. Forget the other pupils.  Since she seems
321               to need attention, give it to her.
322   arrow    1930
323   store    crush
324   ansv     3,2
325   endarrow
326   calcs    crush,transfr<,,5565665,7775876,4675666,3355245,5265333
327   do       tab
328   jump     harmon
```

figur

```
329  unit     figure
330  at       309
331  write    You are in the middle of a lesson which you consider
332           to be going well when one of your male pupils makes
333           a very personal remark about your figure. It is
334           obvious from the giggles and sniggers of your pupils
335           that most of the class have heard the remark. What
336           will you do?
337  at       1114
338  write    1. Laugh yourself and go one with the lesson,
339              hoping that the class will settle down.
340           2. Give the pupil a quick quiz based on the lesson
341              you have given so far.
342           3. The pupil obviously enjoyed embarassing you.
343              Punish him hoping that if you act angry the
344              pupils will calm down and get on with the lesson
345
346
```



```
347  write    4. Leave the room. It's near the end of the period
348              anyway and maybe the pupils will have forgotten
349              about the incident by tomorrow.
350  arrow    2934
351  store    v1
352  ansv     2.5,1.5
353  endarrow
354  calcs    v1,transfr€,,7355977,4665366,2555122,3222433
355  do       tab
356  jump     harmon
```

harmc

```
357  unit     harmon
358  jump     gradave(9)>1,prim,x
359  at       305
360  write    Mr. Harris,  the father of Mike, to whom you gave a
361  at       where+1
362  writec   gradave(9)*"0"*"0"*"1"*"1"
363  at       405
364  write    symbol for the term, comes to discuss with you his
365           son's progress and marks in your subject.  He is very
366           concerned about the low symbol.  He cannot believe that
367           Mike could really deserve to be given such a low mark.
368           He suggests that perhaps you are overly critical and are
369           grading more on varsity standards than on high school
370           standards.  He suggests you change the symbol to at least
371           a "3" so Mike's chances of getting into varsity will not
372           be ruined.  At the end of the meeting, Mr. Harris makes
373           it a point to mention that he is an influential member
374           of the community and that he has several close friends
375           on the School Committee.  You know that this is true.  What
376           will you do?
377  at       1710
378  write    1. Stick to your guns.  The symbol stands!
379           2. Offer  to help the boy by giving him extra
```

```
                lessons outside of class but retain the symbol.
            3. Report the incident to the principal but
                do not change the symbol.
            4. Change the symbol to a "3".
arrow       2330
store       v1
ansv        2.5,1.5
endarrow
calcs       v1,transfr<,,5855561,9875786,6725551,4355335
do          tab
jump        prim
```

---------- part= 2, block=a ----------

space left = 3

prim

```
unit        prim
jump        path/2=int(path/2),x,sport
at          305
write       Your third period class is made up largely of
            pupils from Miss Prim's second period class. She
            is a teacher who believes in work for work's sake.
            Your pupils always come into your room complaining
            about Miss Prim.  One day you are asked if you can't
            "do something."  What will  you do?
at          1110
write       1. Tell the class that they should not complain
                because there will always be Miss Prims in the
                world.
            2. Don't make any promises to the class, but
                suggest that perhaps you can influence Miss Prim.
            3. Confront Miss Prim with what the pupils are
                saying and your own feelings about the homework
                assignments.
            4. Do nothing.  Tell the class the problem is
                between them and Miss Prim.
            5. Tell the principal what you have heard.
arrow       2430
store       v1
ansv        3.5,2.5
endarrow
calcs       v1,transfr<,,5555244,5555525,5555827,5555254,6625616
do          tab
jump        assembly
```

sport

```
unit        sport
at          309
write       You have a double-period lesson with a Std.10
            class at the end of the school day each Friday.
            Several of your pupils are members of the 1st.
            rugby team and they have to leave early when-
            ever they have "away" games. You feel that these
            pupils are missing valuable lesson time in your
            subject. Some colleagues agree.Will you

at          1314
write       1. Form a delegation of like-minded colleagues
```

```
431              and complain to the School Committee.
432           2. Accept that rugby is as important as your
433              subject in the lives of your pupils.
434           3. Bring up the matter at the next P.T.A. meeting.
435           4. Suggest at the next staff meeting that Friday
436              timetable be swapped with other days of the
437              week in turn so that missed time will be more
438              evenly distributed.
439  arrow    2934
440  store    v1
441  ansv     2.5,1.5
442  endarrow
443  calcs    v1,transfr€,,1111347,5555755,2111348,7225688
444  do       tab
445  jump     assembly
                                                                        assem
446  unit     assembly
447  next     moreass
448  at       305
449  write    The principal has requested that teachers attend
450           assemblies and sit among the pupils to prevent any
451           disturbances, but some of the teachers go to the staffroom.
452  at       1105
453  write    An assembly with a visiting  orchestra is
454           scheduled for today.
455  at       1308
456  write    Will you:
457
458           1. Go to the assembly as the principal requests.
459           2. Join the  teachers in the staffroom.
460  arrow    1730
461  store    v8
462  ansv     1.5,.5
463  endarrow
464  calcs    v8,transfr€,,7977647,4111544
465  do       v8=2,x,tab
466  goto     v8=2,lounge,x
467  jump     moreass
```


---------- part= 2, block=0 ----------
space left = 68

```
                                                                        morea
468  unit     moreass
469  jump     v8=1,x,relation
470  at       305
471  write     You are now at the assembly.  Four or five senior
472           boys are sitting in the gallery and are
473           deliberately making noise.  For example, they are
474           throwing books onto the floor.  You do not know these
475           pupils.  What will you do?
476  at       810
477  write    1. Pretend you don't notice the pupils and
478              hope some other staff member will take
479              care of it.
480           2. Ignore the pupils for the moment and then
481              confront them after the assembly is over.
```

```
            3. Move over to the pupils.  Tell them to stop
               the noise, but carry the matter no further.
            4. Move over to the pupils, tell them to stop
               the noise and to report to the principal's
               office at the end of the assembly.
            5. Send the pupils directly to the principal's
               office although the assembly is not over.
arrow       2210
store       v1
ansv        3.5,2.5
endarrow
calcs       v1,transfr<,,2222525,3353455,7555775,6725555,5815345
do          tab
lc
jump        relation
c
c
                                                                                                    relat
unit        relation
jump        crush>3$and$path=1,x,pop
at          305
write       Susan Novak's parents have just stormed into your class-
            room after school and have furiously accused you of
            "having relations" with their daughter implying every-
            thing in these two words.  For some reason Susan has
            told them that the two of you went to a motel last
            Friday night and made love.  The Novaks say they are
            going to "run you right out of the teaching profession".
at          1010
write       1. Try to calm them down and deny any such
               action.
            2. Get angry with them and argue violently.
               They can't malign you in this way!
            3. Refuse to discuss it until you have had
               a chance to talk with Susan.
            4. Hand the entire matter over to the principal
               to handle.
arrow       2030
store       v1
ansv        2.5,1.5
endarrow
calc        v2<score(ptype)+score(5)+score(6)+score(7)
calcc       v1,,,transfr<5353666,score(7)<score(7)-30,transfr<3122841,transfr<7928558
do          v1,x,x,tab,x,tab,tab
jump        v2,ruin,pop,pop
------------------------------------------------------------------------ part= 2, block=c ------------------------
                                                                                    space left = 100
                                                                                                    pop
unit        pop
at          305
write       During one of your register periods, the discussion
            turned to causes of the unrest among South Africa's
            black population. The discussion was open and frank
            and many pupils wanted more information. Some of
            them talked to their parents about this matter. A
```

```
533            few of the parents were incensed when they learned
534            that such a discussion had been held openly in class
535            and phoned you at home. They want you to stop talking
536            about such contraversial issues in class. How will
537            you respond?
538   at       1510
539   write    1. Promise the parents you will stop discussing
540               such issues in class.
541            2. Tell the parents their request is an infringement
542               on academic freedom and you will continue to teach
543               as you see fit.
544            3. Do not give the parents a firm answer at this time.
545               Hope the whole thing will blow over.
546            4. Explain to the parents that most of the pupils
547               had wanted the discussion and that they were
548               entitled to voice their opinions and to hear
549               the views of others.
550            5. Bring the matter to the attention of the principal
551               and seek his advice.
552   arrow    3130
553   store    v5
554   ansv     3,2
555   endarrow
556   calcs    v5,transfr€,,3685208,5325861,5555453,5425872,7725455
557   do       tab
558   randu    chance,3
559   jump     v5,beer,beer,beer,morepop,morepop
560   c
561   c                                                                    morep
562   unit     morepop
563   jump     chance=1$and$v5=3$or$v5=1$or$v5=5,beer,x
564   at       305
565   write    The parents who were incensed over your class discussion
566            of South African politics have not been satisfied
567            with your response to them.  They have called the principal.
568            The principal calls you into the office and warns that if
569            you do not stop talking about such controversial topics
570            in class you will not be retained next year.  Now what do
571            you do?
   ---------- part= 2, block=3 ----------
                                                          space left = 44
572   at       1010
573   write    1. Give in and promise not to discuss such
574               topics anymore.
575            2. Tell the principal such a request is a clear
576               violation of academic freedom and you refuse
577               to make any such promise.
578            3. Be noncommittal at this point and immediately
579               contact the S.A.T.A. and register a
580               formal complaint against the principal.
581            4. Take the matter to the School Committee.
582            5. Resign on the spot.
583   arrow    2030
584   store    v5
```

```
585   ansv     3,2
586   endarrow
587   calcs    v5,transfr€,,9999336,3115755,1111754,4333656
588   jump     v5=5,quit,x
589   do       tab
590   jump     v5=4,boardm,beer
591   c
592   c
                                                                        beer
593   unit     beer
594   jump     path>2,lars,x
595   at       305
596   write    You have planned an "open house" at your flat for
597            members of the staff following a hockey game at
598            school.  You are serving refreshments, including beer.
599            The next day the principal calls you into his office and
600            says that he has heard you served beer the night before.
601            He says some of the older teachers who were there complained
602            to him.  They felt that a staff gathering was no place
603            to be drinking.  What do you say?
604   at       1110
605   write    1. Make an apology to the principal for your
606               "mistake" and assure him that it will not
607               happen again.
608            2. Try to explain to him that in your opinion
609               it is your personal decision what you serve
610               at your home and you see nothing wrong with
611               beer at a staff social gathering.
612            3. Thank him for informing you of the complaints
613               and say nothing more about it.  Try to find
614               out who the old biddies were who complained
615               and never invite them again.
616   arrow    2230
617   store    v1
618   ansv     2,1
619   endarrow
620   calcs    v1,transfr€,,6755345,7325875,7555565
621   do       tab
622   jump     lars
623   c
624   c
                                                                        lars
625   unit     lars
626   jump     path/2=int(path/2)$or$sex=2,good,x
627   at       306
628   write    You are having a few drinks with a couple of friends at
629            a local tavern.  A man approaches your table, and after
630            introducing himself as Mr. Larson, the father of Tim,
631            attempts to start a quarrel.  He claims you unjustly
632            gave his son a "0" and that he doesn't think you are
633            worth a damn.  He continues his verbal insults and
634            you leave the pub.  What will you do next?
```


---------- part= 2, block=e ----------
space left = 182

```
635   at       1411
```

```
write   1. Shake off the whole matter without further
           action, attributing the man's behavior to
           his intoxicated state.
        2. Report the matter the next day to the principal.
at      1811
write   3. Ask that the boy be transferred to another class
           as quickly as possible.
        4. Arrange for a meeting with the boy and see if
           he desires to remain in your class, and, if so,
           offer assistance toward his getting a better
           mark.
        5. Ask for a meeting to include the principal,
           the father, Tim, and yourself to discuss the
           matter.
arrow   2930
store   v1
ansv    3.5,2.5
endarrow
calcs   v1,transfr€,,5555777,6625353,5555444,6555757,7525242
do      tab
jump    good
c
c
                                                                                good
unit    good
at      305
write   You are just about to finish your first year at Albany.
        Teaching assignments for next year are just now being
        worked out.  It seems that for next year, as it was for
        this year, the Head of Department  and a couple of other
        teachers have most of the "good" classes, with the
        remaining teachers taking the rest.   What will you do?
```


---------- part= 2, block=f ----------
space left = 264

```
at      910
write   1. Do nothing.
        2. Say that you feel the good and poor classes
           should be divided more equally among all teachers.
        3. Try to get the support of other teachers in your
           department for a motion proposing a fairer
           distribution of classes.
        4. Complain to the principal.
arrow   1930
store   v1
ansv    2.5,1.5
endarrow
calcs   v1,transfr€,,5555555,64455455,5335535,5415515
do      tab
jump    report
```

---------- part= 2, block=g ----------
space left = 97

```
***this is the 'finish' unit***
                                                                                somed
```

```
683  unit     somedone
684  outputl  extra,v63,11
685  ***this unit gives the overall rating***
                                                                                repor
686  unit     report
687  term     report
688  next     conrept
689  imain
690  do       finalsc
691  outputl  extra,v63,11
692  at       408
693  write    The year is now over.  As is the usual custom, the
694           principal calls you into his office for an end of the
695           year conference.  During the conference, he makes the
696           following points:
697  at       908
698  write    1. Your pupils
699  at       where+1
700  writec   int((score(5)+30)/10)*dislike you intensely.*dislike you intensely.*
701           dislike you.*tend to feel neutral towards you.*
702            seem to like you.* like you.*
703           like and respect you.*think you're a \GREAT\ teacher.
704  at       1108
705  write    2. The parents
706  at       where+1
707  writec   (score(7)+30)/10*have complained about you.*
708           have complained about you.*
709           don't like some of your decisions.*
710           feel rather neutral towards you.*
711           generally like you.*
712           think you're a pretty good teacher.*
713           think you're a very good teacher.*
714           want you to be promoted.
715  at       1308
716  write    3. Other staff members
717  at       where+1
718  writec   int((score(6)+30)/10)*dislike you intensely.*
719           dislike you intensely.*tend to dislike you.*
720           feel neutral towards you.* seem to like you.*
721            like you.*like and respect you very much.*
722           look to you for leadership.
723  at       1608
724  write    The principal says that he personally feels that
725  at       1708
726  writec   (score(ptype)+30)/10*you've failed badly!*you've failed badly! *
727           you have done a VERY poor job.*
728           you have done a rather poor job.*
729           you have done about an average job.*
730           you have done  better than average.*
731           you are clearly a talented individual.*
732           you are the best teacher he has had for some time.
733  at       3127
734  write    Press 2NEXT3\.
```


---------- part= 3, block=a ----------
space left = 74

conre

```
735  unit     conrept
736  next     stmorpt
737  calc     v8<-5
738  at       408
739  write    Your actual performance as a teacher in working
740           with your pupils was considered.
741
742           The combination of teaching techniques which
743           you chose to employ have been shown by research
744           to be
745  at       where+1
746  writec   (effects/100)***EXTREMELY ineffective.*
747           extremely ineffective.*very ineffective.*
748           rather ineffective.*of about average effectiveness.*
749           of about average effectiveness.*effective.*
750           very effective.*extremely effective.
751  at       1108
752  write    Your  class had an overall
753           average of {t,cpoints/200,2.1}%.  These pupils have an
754           overall class average, with all teachers, of {t,opoints/npoints,2.1}%.
755  at       1908
756  write    The symbol average of your class was {t,classav,1.2}.
757           compared with their symbol average in all subjects
758           with all teachers of {t,oclasav/100,1.2}.
759  at       3127
760  write    Press \2NEXT3\.
761  c
762  c
```

stmor

```
763  unit     stmorpt
764  next     reveal
765  at       508
766  write    The principal says he has looked in on your class
767           several times to judge the discipline you maintain.
768           He says he thinks your classroom discipline is
769  branch   ptype=1,x,2prin
770  at       808
771  writec   strict**satisfactory, but might be better if you went over
772           a few rules at the beginning of the year.*
773           much too strict.*a bit strict.* fine.
774  branch   3x
775  2prin
776  at       808
777  writec   strict**far too lax.  He tells you it would be much
778           better if you went over some rules at the beginning
779           of the year.*
780           satisfactory.*a little lax.*far too lax.
781  3x
782  at       1308
783  write    Your Principal has taken his opinion of you and
784           those of others into account and has decided to
785  at       1508
786  writec   fscore*fire you.*fire you.*fire you.*
787           put you on further probation.*give you a temporary post.*
788           give you a permanent post.*give you a permanent post.*give you a permanent senior post.
789  draw     1606;1106;1160;1660;1606
```

```
790   score    fscoreX10
791   do       calrec
792   at       3020
793   write    press NEXT
```

---------- part= 3, block=b ----------
space left = 316

revea

```
794   unit     reveal
795   next     standing
```

---------- part= 3, block=c ----------
space left = 22

board

```
796   unit     boardm
797   at       510
798   write    School Committee Meeting
799   at       1410
800   write    You have decided to take the problem to the School
801            Committee.
802
803            Based on the Committee's previous impression of your
804            work and the facts of this case, they have decided
805   at       1910
806   writec   score(7)*they will not back you up in this case.
807            As a result of this decision, you have lost points
808            with the School Committee and your Principal.*
809            the Committee is split 3 to 3.  As a result,
810            the matter has been referred back to the Principal.*
811            they will support you on this case.  While this
812            decision earns you points with the Committee, you have
813            lost points with your principal.  No principal likes
814            teachers going over his head.
815
816            Are you happy with their decision?
817               1. No
818               2. Yes
819   arrow    2629
820   store    v1
821   match    v9,1,2
822   endarrow
823   calcs    score(7),transfr<2222552,5525555,4222679
824   do       tab
825   jump     beer
826   c
827   c
```

final

```
828   unit     finalsc
829   calcs    perfave/10,v7<-10,-8,-8,-8,-8,-4,0,0,+4,+8,+12,+16
830   calc     score(7)<score(7)+v7
831   calc     score(5)<score(5)+v7/2
832   calc     score(6)<score(6)+v7/2
833   branch   ptype,x,x,x,2prin,3prin,4prin
834   calc     v1<score(1)+30
835   calcs    int(classav),v2<,0,.7Xv1,.9Xv1,v1,v1,,
```

```
836  calcs    int(effects/100),v3<,,v2/2,.7Xv2,.8Xv2,.9Xv2,v2,v2,v2,1.1Xv2,1.2Xv2,1.4Xv2,,
837  calc     v4<[(3Xv3)+(2X(score(5)+30))]/5
838  branch   5show
839  2prin
840  calc     v1<score(2)+30
841  calcs    int(classav),v2<,0,.9Xv1,v1,v1,.8Xv1,,
842  calcs    int(effects/100),v3<,,.6Xv2,.8Xv2,.9Xv2,v2,v2,1.1Xv2,1.1Xv2,v2,.9Xv2,.6Xv2,,
843  calc     v4<[(4Xv3)+(score(6)+30)]/5
844  branch   5show
845  3prin
846  calc     v1<score(3)+35
847  calcs    int(classav),v2<,0,.9Xv1,v1,v1,v1
848  calcs    int(effects/100),v3<,,.6Xv2,.8Xv2,.9Xv2,v2
849  calc     v4<[(4Xv3)+(4X(score(6)+30))+(2X(score(7)+30))]/10
850  randu    chance,20  $$step added to increase % of prin3
851  calcc    chance=3,v4<v4+20,,
852  branch   5show
853  4prin
854  calc     v1<score(4)+30
855  calcs    int(classav),v2<,0,.9Xv1,v1,v1,v1
856  calcs    int(effects/100),v3<,,.6Xv2,.8Xv2,.9Xv2,v2
857  calc     v4<v3
858  5show
859  calc     fscore<v4/10
860  c
861  c                                                                    board
862  unit     board
863  calc     fscore<1
864  at       308
865  write    Parents have been so upset at some of your decisions
866           that the principal has decided to not offer you any
867           type of post for next year.
868
869
870           Sorry.  You may wish to try the simulation again.
871           Next time, pay more attention to your public
872           image.  Parents do have influence with committee members!
873           Remember that when you are in a real classroom!
 ---------------------------------------------------------------- part= 3, block=3 ----------------------
                                                                      space left = 293
                                                                     stand
874  unit     standing
875  at       2608
876  write    Thank you for using TENURE.
877           Press NEXT now.
878  end      lesson
879  c
880  c                                                                    skip
881  unit     skip
882  jumpout  rtenure3,apply
883  c
884  c                                                                    probe
```

```
885   unit     probe
886   jumpout  0secedt
```

---------- part= 3, block=e ----------
space left = 55

```
                                                                        comme
887   unit     comment
888   term     note
889   calc     n1←'rtenotes'
890   jumpout  notes
891   end      help
892   c
                                                                        space
893   unit     spacer
894   jump     standing
895   c
                                                                        beenf
896   unit     beenfir
897   size     2
898   at       408
899   write    SORRY!
900   size     0
901   at       808
902   write    You've been fired!  You can't return for a second
903            year.
904   end      lesson
905   c
906   c
907   at       1616
908   write    Press:
909
910
911                 BACK to leave.
912   c
913   c
                                                                        ruin
914   unit     ruin
915   next     fired
916   calc     novak←10
917   do       memo
918   at       1519
919   write    I'm very sorry this incident
920            has occured.  I had hoped
921            that we could work it out,
922            but you do not have enough
923            support in the community.
924
925            An incident like this could
926            ruin my reputation as well as
927            yours unless I take decisive
928            action.  I'm sorry, but you
929            are released from service.
930   c
931   c
                                                                        calre
932   unit     calrec
```

```
933  calcs    fscore,v6<=1,1,1,2,3,4,5,6
934  do       averages
935  do       v6,x,firerec,firerec,x,x,x,x,deptrec
936  calc     v6<=1
937  do       score(ptype)+30>bscore(1),records,x
938  calcc    score(ptype)+30>bscore(1),bscore(1)<=score(ptype)+30,,
939  calc     v6<=2
940  do       fscore*10>bscore(2),records,x
941  calcc    fscore*10>bscore(2),bscore(2)<=fscore*10,,
942  calc     v6<=3
943  do       score(5)+30>bscore(3),records,x
944  calcc    score(5)+30>bscore(3),bscore(3)<=score(5)+30,,
945  calc     v6<=4
946  do       score(6)+30>bscore(4),records,x
947  calcc    score(6)+30>bscore(4),bscore(4)<=score(6)+30,,
948  calc     v6<=5
949  do       score(7)+30>bscore(5),records,x
950  calcc    score(7)+30>bscore(5),bscore(5)<=score(7)+30,,
951  branch   (fscore*10)>vc225$and$yearno<2,x,3end
952  calc     vc225<=fscore*10
953  calc     nc226<=name
954  calc     nc227<=sex
955  name     nc228
956  date     nc230
957  group    nc231
958  3end
959  c
960  c
961  unit     records                                                    recor
962  name     bnam(v6)
963  group    bcors(v6)
964  date     bdata(v6)
965  calc     bteach(v6)<=name
966  calc     bsex(v6)<=sex
967  c
968  c
969  unit     deptrec                                                    deptr
970  name     n148
971  branch   bnam(6)=n148,2tab,x
972  doto     2tab,v6<=14,6,-1
973  transfr  bteach(v6);bteach(v6+1);2
974  transfr  bnam(v6);bnam(v6+1);2
975  transfr  bcors(v6);bcors(v6+1);1
976  transfr  bdata(v6);bdata(v6+1);1
977  calc     bsex(v6+1)<=bsex(v6)
978  2tab
979  name     bnam(6)
980  group    bcors(6)
981  date     bdata(6)
982  calc     bteach(6)<=name
983  calc     bsex(6)<=sex
```

```
                                                                                tells
 984  unit     tells
 985  name     n148
 986  jump     n148='gaede',setvar,x
 987  help     tellski
 988  at       816
 989  write    NOTE:
 990
 991           This lesson is a continuation of
 992           lesson tenure.  You can only use
 993           this lesson by entering tenure
 994           first.
 995
 996           Press HELP to go to tenure.
 997
 998           Press NEXT to quit.
 999  end      lesson
1000  c
1001  c
                                                                                tells
1002  unit     tellski
1003  jumpout  rtenure3
                                                                                setva
1004  unit     setvar
1005  at       1010
1006  write    what principal do you want?
1007  arrow    where+1
1008  store    ptype
1009  ok
1010  endarrow
1011  at       3010
1012  write    What financial situation  do you want?
1013  arrow    where+1
1014  store    mon
1015  ok
1016  endarrow
1017  next     football
1018  c
1019  c
1020  end      lesson
```


---------- part= 3, block=9 ----------
space left = 226

```
1021  c
1022  c
                                                                                peopl
1023  unit     people
1024  term     people
1025  zero     v1,3
1026  2a
1027  at       203
1028  write    NAME                    COURSE          DATE          TIME
1029  draw     203;263
1030  calc     v1<=405
1031  doto     1a,v2<=1,25
1032  calc     v3<=v3+5
```

```
1033  branch   v3>310,3a,x
1034  at       v1-4
1035  showt    v3/5,2.0
1036  at       v1
1037  write    {a,nc(295+v3+4),20}
1038  at       v1+22
1039  write    {a,nc(295+v3+3)}
1040  at       v1+34
1041  write    {a,nc(295+v3+1)}    {a,nc(295+v3+2)}
1042  calc     v1<v1+100
1043  1a
1044  3a
1045  pause    keys=funct
1046  erase    abort
1047  branch   v3<300,2a,x
1048  at       808
1049  write    Do you wish to clear the names from the list?
1050                 (1=yes;2=no)
1051  arrow    1030
1052  store    v1
1053  ansv     1.5,.5
1054  endarrow
1055  branch   v1=2,3skip,x
1056  zero     nc300,310
1057  at       1230
1058  write    DONE!
1059  3skip
1060  end      help
```

170

unit	block	unit location	references to unit					
assembly	incident17	446	418	445				
averages	not found		934					
beenfir	odds3	896						
beer	incident20	593	559	559	559	563	590	825
board	odds	862						
boardm	odds	796	590					
calrec	odds3	932	741					
comment	odds3	887						
conrept	report2	735	688					
crush	addit	302	253	276	299			
dance	addon	252	224	251				
deptrec	odds3	969	935					
envir	incident14b	223	194	222				
figure	addit	329	303					
finalsc	odds	828	690					
fired	not found		915					
firerec	not found		935	935				
football	incident14	147	108	131	1017			
good	incident21	659	626	656				
harmon	harmon	357	328	356				
lars	incident20	625	594	622				
lounge	not found		466					
memo	not found		917					
moreass	incident18	468	447	467				
morepop	incident19	562	559	559				
pass	incident14	101						
people	odds6	1023						
play	incident14b	193						
pop	incident19	526	500	525	525			
prim	incident17	391	358	390				
probe	odds2	885						
quit	not found		588					
records	odds3	961	937	940	943	946	949	
relation	incident18	499	469	496				
report	report	686	681					
reveal	report3	794	764					
route	not found		100	107	148			
ruin	odds3	914	525					
setvar	odds5	1004	986					
skip	odds2	881						
smoke	addit	274	273					
somedone	report	683	7					
spacer	odds3	893						
sport	incident17	419	392					
standing	odds2	874	795	894				
stmorpt	report2	763	736					
tab	not found		130	174	221	250	272	298
			355	389	417	444	465	494
			524	524	557	589	621	655
			824					
tells	odds5	984	103					
tellski	odds5	1002	987					
tell3	incident14b	176	175					

------ s y m b o l l e g e n d ------
upper case

------ s y m b o l l e g e n d ----------
upper-lower case

APPENDIX B

Student questionniare

```
------------------------------------------------------------------ part= 1, block=b ------------------------
                                                                                        space left = 316

define   subject=n2
dataon

------------------------------------------------------------------ part= 1, block=c ------------------------
                                                                                        space left = 6
                                                                                                    intro
unit     intro
size     2
at       0601
write     Questionnaire on the simulation
          that you have just completed.
size     0
at       1709
write    The purpose of this questionnaire is to find out
         how you feel about the simulation - what you
         found relevant, what you found frustrating
         or irritating, what you thought about the data
         supplied,  - in short it has been designed to
         gather information that will be used for improving
         the simulation for later use. I would be grateful
         if you could answer as spontaneously as possible
         and give your opinions freely.
at       3020
write    press NEXT to continue
                                                                                                    acade
unit     academ
at       0409
write    Please indicate by typing a number the highest level
         of your academic education.


             1.  Matric or equivalent
             2.  1st year university
             3.  2nd year university
             4.  3rd year university
             5.  Bachelors degree
             6.  Honours degree
             7.  Masters degree
arrow    2020
store     v1
ansv     4,3
endarrow
jump     subj
                                                                                                    subj
unit     subj
at       1209
write    Which subject do you want most to teach? Please type
         it in next to the arrow.
arrow    2020
inhibit  blanks
long     20
storea   subject,20
```

```
 47  ok
 48  endarrow
 49  jump     experi
                                                                        exper
 50  unit     experi
 51  at       0609
 52  write    What school-teaching experience do you have? Please
 53           type a number.
 54
 55               1.  None
 56               2.  Tutoring/coaching extramurally
 57               3.  Teaching/coaching within the school
 58                   on an informal basis
 59               4.  Teaching formally for less than a year
 60               5.  Formal teaching for 1 year
 61               6.  Formal teaching for 2 years
 62               7.  Formal teaching between 2 and 5 years
 63               8.  Formal teaching for 5 years or more
 64
 65
 66  arrow    2020
 67  store    v1
 68  ansv     3.5,4.5
 69  endarrow
 70  jump     school
                                                                        schoo
 71  unit     school
 72  at       0609
 73  write    What type of school did you attend for most of
 74           your secondary schooling?  Please type a number.
 75
 76
 77               1.  Single sex school
 78               2.  Co-educational school
 79
 80  arrow    2020
 81  store    v1
 82  ansv     1.5,.5
 83  jump     discip
                                                                        disci
 84  unit     discip
 85  at       1009
 86  write    How would you rate the discipline level of the
 87           school you attended for most of your secondary
 88           schooling?  Please type a number.
 89
 90
 91
 92               1.  Lax
 93               2.  Inconsistent
 94               3.  Moderate
 95               4.  Rigid
 96               5.  Oppressive
 97  arrow    2520
 98  store    v1
 99  ansv     3,2
100  endarrow
```

```
jump    areas
 ------------------------------------------------------------------ part= 1, block=d ----------------------
                                                                                  space left = 15
                                                                                                areas
unit    areas
at      0609
write   The simulation presented situations that a first
        year teacher might encounter in developing his/her
        relationship with the Principal, pupils, collleagues
        and parents.  Do you think that these four areas
        contain most of the problems that a new teacher
        might face? Please type a number.


            1.  Yes
            2.  No
arrow   2020
store   v1
ansv    1.5,.5
endarrow
jump    crit1
                                                                                                crit1
unit    crit1
jump    v1=1,newiss,x
at      0609
write   Could you please specify what areas other than the
        four mentioned in the previous question (Principal,
        pupils,colleagues,parents) should be addressed by
        a simulation of this type.  You have approximately
        three  lines in which to type your answer into the
        box below. Please DO NOT type NEXT until you have
        finished.
draw    1812;1512;1564
draw    1812;1864
arrow   1613
inhibit blanks
ok
endarrow
jump    newiss
                                                                                                newis
unit    newiss
at      0509
write   Can you think of any additional issues which could
        be raised within these four main areas?


            1.  Yes
            2.  No
arrow   1920
store   v1
ansv    1.5,.5
jump    crit2
                                                                                                crit2
unit    crit2
jump    v1=2,press,x
```

```
150  at       0509
151  write    Which of the four areas would you like to suggest
152           additional issues for?
153           (When you are finished type 5)
154
155
156             1. Relationship with Principal
157             2. Relationship with pupils
158             3. Relationship with colleagues
159             4. Relationship with parents
160             5. No further suggestions
161  arrow    1920
162  store    v4
163  ansv     3,2
164  endarrow
165  jump     crit3
                                                                        crit3
166  unit     crit3
167  branch    v4,x,x,x,2p,3p,4p,5p
168  at       0509
169  write     Please type your suggestion into the box below.
170            You have space for 3 lines. DO NOT type NEXT until
171            you have finished.
172  draw     1864;1812;1512;1564;
173  arrow    1613
174  inhibit blanks
175  ok
176  endarrow
177  jump     crit2
178  2p
179  at        0509
180  write    Please type your suggestion into the box below. You
181           have space for 3 lines. DO NOT type NEXT until you
182           are finished.
183  draw     1864;1812;1512;1564;
184  arrow    1613
185  inhibit blanks
186  ok
187  endarrow
188  jump     crit2
189  3p
190  at        0509
191  write    Please type your suggestion into the box below. You
192           have space for 3 lines. DO NOT type NEXT until you
193           are finished.
194  draw     1864;1812;1512;1564;
195  arrow    1613
196  inhibit blanks
197  ok
198  endarrow
199  jump     crit2
 ---------------------------------------------------------------- part= 1, block=e ----------------------
                                                                        space left = 5
200  4p
201  at        0509
```

176

```
202  write    Please type your suggestion into the box below. You
203           have space for 3 lines. DO NOT type NEXT until you
204           are finished.
205  draw     1864;1812;1512;1564;
206  arrow    1613
207  inhibit blanks
208  ok
209  endarrow
210  jump     crit2
211  5p
212  jump     press

                                                                  press
213  unit     press
214  at       0509
215  write    Did the simulation put pressure on you to please a
216           person or persons within any one particular group?
217
218
219              1.  Yes
220              2.  No
221  arrow    1920
222  store    v1
223  ansv     1.5,.5
224  endarrow
225  jump     crit4

                                                                  crit4
226  unit     crit4
227  jump     v1=2,offen,x
228  at       0509
229  write    Which person or persons did you feel most pressured
230           to please? Please type a number.
231
232
233               1.  The Principal
234               2.  The pupils
235               3.  The staff
236               4.  The parents
237               5.  All of them
238  arrow    1620
239  ok
240  endarrow
241  at       1809
242  write    Did you feel that this pressure detracted from the
243           spontenaity of your responses to the simulation?
244
245             1.  Yes
246             2.  No
247  arrow    2420
248  ok
249  endarrow
250  jump     offen

                                                                  offen
251  unit     offen
252  at       0509
253  write    Did you find any of the situations or alternative
254           reactions to them offensive?
255
```

```
256              1.  Yes
257              2.  No
258   arrow      1920
259   store      v1
260   ansv       1.5,.5
261   endarrow
262   jump       crit5
                                                                        crit5
263   unit       crit5
264   jump       v1=2,ambi,x
265   at           0509
266   write       Please specify what situation or alternative  you
267               found offensive.
268               Please type your comments into the box below.
269               You have space for 3 lines. DO NOT type NEXT until
270               you have finished.
271   draw       1864;1812;1512;1564;
272   arrow      1613
273   inhibit blanks
274   ok
275   endarrow
276   jump       ambi
                                                                        ambi
277   unit       ambi
278   at          0509
279   write      Did you find that any of the situations or
280              reactions to them were poorly explained?
281
282                1.  Yes
283                2.  No
284   arrow       1920
285   store       v1
286   ansv       1.5,.5
287   endarrow
288   jump       crit6
                                                                        crit6
289   unit        crit6
290   jump       v1=2,arti,x
291   at         0509
292   write       Please indicate which situation or alternative you
293               found to be poorly explained.
294               Please type your comments into the box below.
295               You have space for 3 lines. DO NOT type NEXT until
296               you have finished.
297   draw       1864;1812;1512;1564;
298   arrow      1613
299   inhibit blanks
300   ok
301   endarrow
302   jump       arti
                                                                        arti
303   unit       arti
304   at         0906
305   write      Did you find any of the situations or alternative
306              reactions to them contrived or artificial?
307
308
```

178

```
                1.  Yes
                2.  No
arrow    1820
store    v1
ansv     1.5,.5
endarrow
jump     crit7
```

---------- part= 1, block=f ----------
space left = 101

```
                                                                                                crit7
unit      crit7
jump     v1=2,similar,x
at       0509
write     Please specify which situations or alternatives
          you found to be contrived or artificial.
          Please type your comments into the box below.
          You have space for 3 lines. DO NOT type NEXT until
          you have finished.
draw     1864;1812;1512;1564;
arrow    1613
inhibit blanks
ok
endarrow
jump     similar
                                                                                                simil
unit     similar
at       0509
write    Did you experience any similar situations such as
         those presented by the simulation when you were at
         school?

            1.  Often
            2.  Sometimes
            3.  Never
arrow    1920
ansv     2,1
endarrow
jump     relev
                                                                                                relev
unit     relev
at       0509
write    Can the simulation be seen as a relevant part of
         pre-teaching practice preparation as you presently
         perceive it?

           1.  Very much so
           2.  Yes
           3.  Perhaps
           4.  No
arrow    1920
ansv     2.5,1.5
endarrow
jump     score
                                                                                                score
unit     score
```

```
358  at       0509
359  write    How did you feel about being rated in the four
360           main areas - Principal, Pupils, Colleagues, Parents?
361
362             1.  Happy
363             2.  Neutral
364             3.  Unhappy
365  arrow    1520
366  ansv     2,1
367  at       1809
368  write    Did you feel that the rating you got was fair?
369
370             1.  Yes
371             2.  No
372  arrow     2320
373  store    v1
374  ansv     1.5,.5
375  endarrow
376  jump     crit8
```

crit8

```
377  unit     crit8
378  jump     v1=1,pdata,x
379  at       0509
380  write     Please expand on why you feel that the rating you
381            received was unfair.
382            Please type your comment into the box below.
383            You have space for 3 lines. DO NOT type NEXT until
384            you have finished.
385  draw     1864;1812;1512;1564;
386  arrow    1613
387  inhibit blanks
388  ok
389  endarrow
390  jump     pdata
```

---------- part= 1, block=g ----------

space left = 82

pdata

```
391  unit     pdata
392  at       0509
393  write    How often did you refer to your pupils' data?
394
395             1.  Three times or more
396             2.  Twice
397             3.  Once
398             4.  Not at all
399
400  arrow    1920
401  store    v1
402  ansv     2.5,1.5
403  endarrow
404  jump     pdata1
```

pdata

```
405  unit     pdata1
406  jump     v1=4,hdata,x
407  at       0509
```

```
write   was your pupils' data realistic?

          1.  Yes
          2.  No
arrow   1220
ok
endarrow
at      1509
write   was your pupils' data too superficial?

          1.  Yes
          2.  No
arrow   2020
store   v1
ansv    1.5,.5
endarrow
jump    crit10                                                          crit1

unit    crit10
jump    v1=2,hdata,x
at        0509
write    What further pupil data should have been supplied?
         Please type your suggestion into the box below.
         You have space for 3 lines. DO NOT type NEXT until
         you have finished.
draw    1864;1812;1512;1564;
arrow   1613
inhibit blanks
ok
endarrow
jump    hdata                                                           hdata

unit    hdata
at      0509
write   How often did you request a meeting with your
        Principal?

          1.  Thrice
          2.  Twice
          3.  Once
          4.  Never
arrow   1920
store   v1
ansv    2.5,1.5
endarrow
jump    crit11                                                          crit1

unit    crit11
jump    v1=4,sdata,x
at        0509
write   Did you find the advice your principal gave you
        helpful?

        1.  Yes
        2.  No
arrow    1920
ansv    1.5,.5
```

```
462  endarrow
463  jump     sdata
                                                                    sdata
464  unit     sdata
465  at       0509
466  write    How often did you visit the staffroom?
467
468              1.  Three times or more
469              2.  Twice
470              3.  Once
471              4.  Never
472  arrow    1920
473  store    v1
474  ansv     2.5,1.5
475  endarrow
476  jump     crit12
                                                                    crit1
477  unit     crit12
478  jump     v1=4,length,x
479  at       0509
480  write    Did you find the gossip in the staffroom useful?
481
482              1.  Yes
483              2.  No
484  arrow    1920
485  ansv     1.5,.5
486  endarrow
487  jump     length
```

182


```
                                                                    lengt
488  unit     length
489  at       0509
490  write    What sums up your feelings about the length of
491           the simulation?
492
493                1.  Too long
494                2.  Just right
495                3.  Too short
496  arrow     1920
497  ansv     1.5,1.5
498  endarrow
499  jump     adject
                                                                    adjec
500  unit     adject
501  at       0509
502  write    What adjective best describes the simulation ?
503
504           Please type the number in front of the word or
505           phrase that you have chosen.
506
507           1)entertaining, 2)intimidating, 3)frustrating
508           4)upsetting, 5)challenging, 6)artificial
509           7)stimulating, 8)absorbing, 9)thought-provoking
510           10)reassuring, 11)boring, 12)trivial
```

```
511             13)refreshing, 14)none of these
512     arrow   1920
513     store   v1
514     ansv    7,7
515     endarrow
516     jump    crit14
                                                                        critl
517     unit    crit14
518     jump    v1=14,x,medium
519     at      0509
520     write   Please could you supply an adjective which you
521             think best describes the simulation. Please type
522             in the word next to the arrow.
523     arrow    1920
524     inhibit blanks
525     ok
526     endarrow
527     jump    medium
                                                                        mediu
528     unit    medium
529     at      0509
530     write    What did you like MOST about the computerizing
531               of the simulation?
532              Please type your answer into the box below.
533              You have space for 3 lines. DO NOT type NEXT until
534              you have finished.
535     draw    1864;1812;1512;1564;
536     arrow   1613
537     inhibit blanks
538     ok
539     endarrow
540     jump    med1
                                                                        med1
541     unit    med1
542     at      0509
543     write    What did you like LEAST about the computerizing
544              of the simulation?
545              Please type your answer into the box below.
546              You have space for 3 lines. DO NOT type NEXT until
547              you have finished.
548     draw    1864;1812;1512;1564;
549     arrow   1613
550     inhibit blanks
551     ok
552     endarrow
553     jump    thanx
                                                                        thanx
554     unit    thanx
555     size    2
556     at      0501
557     write   THANK YOU FOR YOUR CO-OPERATION!
558     size    0
559     at      1009
560     write   If you feel that there is anything further that you
561             wish to comment on then press SHIFT+TERM. when you
562             do this you'll be asked "what term?" and then you
563             must type "comment". Once you have done this you
```

```
564             will be given a 2 line display at the bottom of
565             your screen. Type in your comments here, pressing
566             next after each line - your typing will scroll off
567             the screen but don't be put off - you can type up to
568             20 lines. when you are finished your comments press
569             SHIFT+NEXT to send the comments to me.
570   at          2520
571   write     press SHIFT+STOP to leave
572   end       lesson
```

unit	block	unit location	references to unit				
academ	background	21					
adject	overall	500	499				
ambi	gen2	277	264	276			
areas	general	102	101				
arti	gen2	303	290	302			
crit1	general	119	118				
crit10	data	425	424				
crit11	data	452	451				
crit12	data	477	476				
crit14	overall	517	516				
crit2	general	148	147	177	188	199	210
crit3	general	166	165				
crit4	gen2	226	225				
crit5	gen2	263	262				
crit6	gen2	289	288				
crit7	gen1	316	315				
crit8	gen1	377	376				
discip	background	84	83				
experi	background	50	49				
hdata	data	438	406	426	437		
intro	background	3					
length	overall	488	478	487			
medium	overall	528	518	527			
med1	overall	541	540				
newiss	general	136	120	135			
offen	gen2	251	227	250			
pdata	data	391	378	390			
pdata1	data	405	404				
press	gen2	213	149	212			
relev	gen1	343	342				
school	background	71	70				
score	gen1	357	356				
sdata	data	464	453	463			
similar	gen1	330	317	329			
subj	background	39	38				
thanx	overall	554	553				

------ s y m b o l l e g e n d ------
upper case

'	shifted key	&	superscript
!	subscript		backspace
^	access	\	font
?	carriage return	X	times
+	divide	←	assign

------ s y m b o l l e g e n d ------
upper-lower case

!	subscript	&	superscript
?	carriage return	\	font
.	understrike for access		
¤	universal delimiter	X	times
÷	divide	←	assign
¦	vertical line	→	arrow
⊙	matrix multiply	X	vector product

08.58.42.UCLP, SA, TE54, 0.766KLNS.

** END OF LISTING **

APPENDIX C

C.P.A. Form E.273 for teacher assessment

DEPARTMENT OF EDUCATION, C.P.A. E.273

TEACHER APPOINTED ON PROBATION : EXTENSION OF APPOINTMENT

Division ..... School .....

Name of Teacher .....

Post Occupied ..... Appointed on Probation to .....

The Secretary,
School Board,
.....

The School Committee recommends that the appointment of the abovenamed teacher be:

* Extended on a permanent basis;
* Extended for a further probationary period of 12 months;
* Terminated on expiration of the current period of probation.
(*Delete whichever is not applicable).

Reason for recommendation if extension of appointment on a permanent basis is not desired: .....

.....

.....

Date: ....
SECRETARY OF SCHOOL COMMITTEE.

.....
Inspector of Education.

The above recommendation is:

* Supported by the School Board;
* Not supported by the School Board for the following reasons:

.....

.....
(*Delete whichever is not applicable).

Date: ....
SECRETARY OF SCHOOL BOARD.

The Director of Education,
P.O. Box 13,
CAPE TOWN.

* After inspecting the teacher's work;
* After consulting the Special Subject Inspector concerned, and taking account of the above representations, I recommend that the teacher's appointment be -

* Extended on a permanent basis;
* Extended on a further probationary period of 12 months;
* Terminated on expiration of the current term of probation.
(*Delete whichever is not applicable).

REMARKS (if any): .....

.....

.....

.....

.....

Date: ....
INSPECTOR OF EDUCATION.

A.1013/7/71.