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SEQUENCING INSTRUCTION AS A RULE-BASED ACTIVITY: TOWARDS INTELLIGENT DATABASE ROUTINES

by

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Sequencing Instruction as a Rule-based Activity: Towards Intelligent Database Routines

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ABSTRACT

This thesis argues that sequencing instruction by English as a Second Language (ESL) instructors is a rule-based activity which can be encoded in the searching and sorting routines of a computer database management system.

Ten subjects were selected on the basis of their reputations as excellent ESL instructors and length of experience to be participants in the research component of the thesis. The subjects were asked to identify the language errors in ten samples of ESL student writing and then to sequence these errors by error type in an instructional order. As they undertook these two tasks, the subjects verbalized their thoughts, which were then recorded on audio cassettes. An analysis of the verbal protocols was used to identify language error types and the sequencing rules subjects used to address these errors. The results of the research indicate that the instructional sequences between pairs of error types may be described as rules which are constrained in their application by varying degrees of certainty.

The thesis concludes with a description of an implementation of the research findings in a computer system that generates instructional sequences appropriate to the needs of individual ESL learners. The sequencing rules identified in the research are used to guide the searching, sorting and explanation routines of the system.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

When computers first began to be used in the English language training classroom, their novelty overrode concerns that the courseware they delivered did not reflect contemporary pedagogical theory. This situation has been changing in recent years as language teacher John Underwood (1984) notes:

> ...we seem to be falling into the same pattern of failure that characterized our use of the language lab: mesmerized by the hardware, we remain remarkably uncritical of the software and its underlying principles...the novelty will wear off...we are going to be stuck with another pile of equipment gathering dust in a closet somewhere. (p.39)

Underwood's fears are justified. Although computer-assisted instruction has been successfully incorporated across a wide variety of instructional situations (Coburn et al, 1982; Kulik, 1983; O'Shea & Self, 1983) many researchers in the field of language training are unconvinced about the potential for Computer-Assisted Language Learning (CALL) (Chappelle & Jamieson, 1984; Kleinmann, 1987; Sanders and Kenner, 1984; Vacc, 1984; Wheeler, 1985). Others argue that the potential is great (Dalton & Hannafin, 1987; Taylor, 1980; Tuman, 1983). The disagreement between these groups stems largely from what they surmise to be appropriate applications of computer technology. A survey of the literature in this field indicates that few, if any, CALL

applications meet the various requirements of both their proponents and critics.

Thus, one challenge facing CALL software developers has been to demonstrate that software can incorporate and reflect current trends in language training pedagogy. Another has been to demonstrate that the benefits of computer-based instruction are worth the cost of software development. Still another has been to demonstrate that the computer itself is an appropriate technology for language training. This thesis responds to these challenges by proposing a CALL implementation that incorporates solutions to the problems the challenges pose.

The research described in this thesis has two principal goals. The first goal is to identify some of the sequencing rules that expert English as a Second Language (ESL) instructors use when sequencing instructional activities. In order to ensure that the rules reflected current trends in language training pedagogy, they were elicited from the verbal protocols of expert ESL instructors who were teaching on a full-time basis at the time of the research.

The second goal is to incorporate these rules for sequencing instruction in the searching and sorting routines of a database management system in order to guide the

selection and sequencing of instructional materials contained in the database. The database management system can then be used to assist instructors in the time-consuming process of matching individual learner needs to appropriate instructional materials. The problem of matching needs to materials is a major one for instructors in their attempts to individualize instruction. One research subject remarked that he typically spends over 60% of his class preparation time in this endeavour on a weekly basis. The searching and sorting routines proposed in this thesis will help to reduce that amount of time.

Research in three areas that are relevant to the research methodology and implementation of the research findings of this thesis are included in the literature review. The first area reviewed is 'Computer-Assisted Language Learning'. The implementation is intended to be used by CALL instructors; therefore, it must be appropriate to their needs as well as to computer technology. A review of CALL literature reveals some of the major concerns of language instructors about CALL and provides support for the implementation of the research findings. The second area, 'Expertise Research', suggests how expert knowledge may be determined and quantified. Expertise research provides direction for research in the third area, 'Knowledge Representation in Computer Systems', which is relevant to programming the implementation of the research findings.

This section of the literature review discusses the relative merits of various systems of encoding the knowledge gleaned from experts in the research experiment.

The empirical findings of the research are implemented in 'RASSCALL', a CALL routine which utilizes the SPIRES Database Management System. RASSCALL applies information provided by learners or their instructors on individual learning needs and interests in combination with the rules for sequencing instruction derived from expert ESL instructors to select and sequence instructional materials.

The thesis concludes with listings of the database file definition and interface routine, the coding scheme for database entries and transcriptions of the verbal protocols of the experts.

CHAPTER 1:

LITERATURE REVIEW

This chapter reviews and discusses research in three areas of relevance to the empirical research and implementation of the research findings of this thesis. The first area of review is Computer Assisted Language Learning research. It is followed by a review of current investigations into the nature of expertise, and a review of current knowledge representation schemes in computer expert systems. The chapter concludes with a discussion of the implications of these three areas for the thesis research findings.

Computer-Assisted Language Learning Research

Many of the early CALL programs were loosely derived from the law of operant conditioning (Skinner, 1957); a principle which states that if an operant (i.e. a behaviour freely emitted by an organism) is followed by a reinforcing stimulus, the probability of the occurrence of that operant is increased. In many early CALL programs, operants were correct responses to prompts, and the 'reinforcing stimuli' were encouraging prompts issued by the

program. A major underlying pedagogical principle in these programs was that explicit knowledge, presented sequentially by example was an efficient methodology for delivering instruction. In short, the assumption was that language learners learn by being told, rather than discovering, facts and rules about the target language.

Linear instructional programs, of the type often seen in distance-learning correspondence courses, reflected this underlying pedagogical principle and had the added benefit of being relatively easy for CALL programmers to write. A CALL programmer would first write a sequence of questions or prompts that incorporated a particular teaching point, then code the correct responses to those prompts in an answer key. User input was matched to the answers in the key and, if a successful match was made, the answer was considered to be correct. If an unsuccessful match occurred, the user input was considered to be incorrect. Figure 1 illustrates the type of exchange which might have occurred and suggests some of the problems inherent in this approach. Obviously, 'nasty' is as good an antonym of 'sweet' as 'sour'. The programmer simply failed to incorporate it into the answer key, and also failed to incorporate a spelling check into the user interface routine.

```
prompt:   What is the opposite of sweet?
input:    NATSY
prompt:   That is incorrect. Please try again.
input:    NASTY
prompt:   The correct answer is 'sour'.
          Please type 'sour'.
input:    'SOUR'
prompt:   That is incorrect. Please try again.
input:    SOUR
prompt:   Yes, good for you!
```

Figure 1. Hypothetical exchange between a user and a linear CALL routine.

Some problems with this approach were alleviated by the adoption of branched programs where the learner's response controlled the computer prompt much more tightly than in linear programs. With branched programs an incorrect response might call up a series of remedial prompts; a correct response might introduce different instructional material, depending upon the learner's level of mastery. While the presumption that learners learn by being told something remained in both types of programs, branched programs focused more attention on remediating learners' errors, whereas linear programs sought to avoid learners' errors.

Tuman (1983) describes a CALL program in the behaviouristic tradition that incorporates branched routines to give the appearance that the computer somehow understands what has been input by the language learner. Called 'Boris', the program is used as a tutor in Russian language training

courses at Dartmouth College. It features a sophisticated answer key that classifies input errors by their significance and matching routines that attempt to respond in appropriate ways to the errors evidenced by the input. Superficially, the system appears to comprehend the input, and indeed, 'Boris' has been used successfully in an adjunct role to the Russian language curriculum at Dartmouth. However, the underlying principle that learners learn by being told remains, and this is a matter of concern for many ESL curriculum planners.

In a similar vein, authoring systems like PLATO (Chapelle & Jamieson, 1984; O'Shea & Self, 1983; Stevens, 1983) and MENTOR (Tuman, 1983) are popular among CALL programmers because of their facility in generating branched programs. However the programs such authoring systems produce tend to be overly preoccupied with concerns about the efficiency of instruction in their search for optimal responses, not the quality of that instruction. Such programs emphasize the systematic presentation of material rather than the learner's interaction with it. Little consideration is given to knowledge which the user brings to the computer, knowledge which may be as valid as that contained in the program's answer key. Ultimately, the programs have the effect of discouraging learners from testing out their own hypotheses about language use, by

virtue of the programs' sequential instructional process and chronic inability to deal appropriately with anomalous input.

One approach to developing CALL programs that begin to focus attention on knowledge that the user brings to the computer is suggested by research into schema theory (Anderson et al. 1983; Brooks & Dansereau, 1983; Carrell & Eisterhold, 1983; Summers et al, 1985). For ESL researchers schemata are previously acquired knowledge structures that enable readers to comprehend discourse effectively. A reader understands the sentence, "He held up his hand and stopped the speeding car" differently if "he" is a policeman than if "he" is Superman because of the schemata associated with each individual. By contrast, a computer would be unable to resolve the ambiguous meanings of the sentence unless it had been pre-programmed to recognize the semantic importance of 'he' in the sentence.

Minsky (1968), describes how semantic information may be encoded in data structures called frames that are used to represent stereotypical situations and characterizations. The frame for "Superman", for example, might include biographical details, distinguishing personal characteristics and assertions about his likely behaviour in stereotypical situations. Kolodner (1984) suggests how data structures called Memory Organization Packets (MOPS) may be

used to modify frames over a period of time, in order to enhance the information contained within them. Both frames and MOPS approximate the function of human schemata in that they attempt to encode knowledge that is employed in the resolution of ambiguous input.

A variety of CALL applications for this research seem plausible. For instance, CALL programs could incorporate frames and MOPS for individual users that would use personal information, provided by the learner or instructor, to guide the instructional process. Such information could be used by the computer program to prevent a learner receiving identical learning materials over a period of time or to select materials at an appropriate level of difficulty which incorporate topics of interest to the learner. However, beyond such fairly simple applications, the technical difficulties in coding appropriate frames and MOPS begin to undermine their usefulness. A frame or MOP for guiding a relatively simple task like selecting learning materials, for instance, would require far fewer lines of code than one for guiding a more difficult task like resolving ambiguous pronoun references.

A third approach to CALL programming is characterized by a concentration on areas where the computer, in some sense, creates the learning material and where learners' use of those materials is highly flexible.

Higgins and Johns (1984) argue that the locus of control for learning in many CALL programs is misplaced. Instead of the control being in the hands of the user, it is in the hands of the computer which acts in what they call "magisterial mode". As an alternative approach, they describe how the computer might adopt such roles as: "trainer", where the computer treats skills iteratively and tries to develop speed and dexterity, as in behavioural approaches; "informant", where the user questions the computer and freely explores the extent of the computer's knowledge; "environment", where the computer presents problems for discussion that focus on the meaning, not the form of language, and, "clown", where the computer produces absurd language which is modified by learners. These roles may be incorporated within larger CALL routines in order to vary the instructional approach. For example, the computer in an informant role may introduce a simulation environment. In larger programs, the adoption of such roles allow for greater flexibility in the presentation of learning materials as well as greater sensitivity to individual learning styles than the branched program techniques of the behaviourist approach.

In a further development of his earlier approach, Higgins (1987) describes a large number of CALL applications that make use of the linguistic knowledge a user brings to the computer. His "RHUBARB" program, for example, is a

series of language learning exercises in which ESL learners must render into English short passages written in a simple code based upon the word "rhubarb". The sentence, "I went to the store" in Higgin's code, would be rendered as "R HURB AR BRH UBARB". The sentences are presented within the contexts of various stories and reports, rather than as discrete items for analysis, and the final result of the exercise is a cohesive paragraph. In order to decode the passage, learners must apply their knowledge of syntax and vocabulary to the task and, in so doing, are encouraged to test their hypotheses about language use. The locus of control for learning is the user, not the computer. Learners proceed through the exercise at their own speed. If they are having difficulty, they may prompt the computer for a clue as to the solution, but the computer will not unilaterally provide assistance.

Higgins's CALL programs are notable for this attempt to make use of knowledge learners have previously acquired in the resolution of the problems the programs generate. He does this without attempting to encode the learners' previous knowledge in frames or MOPS but, rather, assumes that learners have prior knowledge and lets them determine the level of assistance they require from the computer. His approach thus avoids the technical difficulties inherent in the coding of frames and MOPS.

Higgins's approach is supported by research into open-ended programming, an approach which provides opportunities for the integration of previously acquired knowledge in learner-developed contexts (Lehrer & deBernard, 1987; Papert, 1980). In CALL applications of this approach (Papert, 1988; Weintraub, 1988) the locus of control is fully in the hands of the learner. Learners program the computer to generate, manipulate and explore the uses of language. For example, learners might program the computer to generate random "poems" using vocabulary lists they provide. Through a process of weeding out poems that do not scan or rhyme, the learners may be encouraged to discover the linguistic principles governing scanning and rhyming and modify their vocabulary lists accordingly. The nature of the activities may be determined entirely by the learner, the instructor, or a partnership of the two.

The LOGO computer language is particularly well suited for generating such contexts because it is a relatively easy language to learn and it has graphic, audio and list-processing capabilities that make it fun to use. LogoWriter (1987) and 3-D Logo (1986) are recent enhancements of the original language, developed to help make it more applicable to specific learning requirements.

Finally, Sanders and Kenner (1984) propose an approach to CALL programming that incorporates not only

knowledge learners users bring to the computer, but also the social situation in front of the screen. They make the point that language instructors often organize their classrooms in various ways to encourage specific types of communicative activity. Certain seating arrangements, for example, are more conducive for pair work or small group discussion than others. This principle may be utilized in a CALL lab to help ensure that the environment in front of the screen is organized to make maximum communicative use of what happens on the screen.

Expertise Research

The precondition of experience for expertise within a domain, is widely held by researchers. The terms, indeed, are cognates, derived from the Latin root "peritus", meaning "experienced" (Partridge, 1983). Means and Voss (1985) and Kolodner (1984) argue that the representations of knowledge of older experts may be regarded as quantitatively superior to that of younger experts because older experts have more developed domain-specific schemata. By implication, their quantitative superiority also constitutes qualitative superiority.

Barr and Feigenbaum (1981) suggest that experts in technical domains may be distinguished from non-experts by

their vast task-specific knowledge acquired from training, from subsequent reading and research and, especially, from long experience in their fields. On the surface, this definition seems satisfactory enough for many research purposes. Other researchers, however, suggest that it seems unlikely for experts to have simply stored more facts about an object domain than non-experts, although this is obviously a precondition for expertise. They must also be able to apply these facts using heuristics, rules of plausible reasoning and theories that constrain and guide their inferences (Feigenbaum, 1980; Feigenbaum & McCorduck, 1983; Michelson, 1987; Murphy & Wright, 1984)

Still more distinctions can be made. For instance, experts may be more likely than non-experts to form theories and beliefs that specify not only how categories differ but also what features they share (Medin & Smith, 1981) with the result that they are able to perceive underlying similarities in a great number of problems (Chi et al., 1981). In short, sometimes expertise means knowing specific facts that have been committed to memory, sometimes it means having the ability to make educated guesses about how to solve a problem and sometimes it means having had experience in applying knowledge.

Problems in defining expertise are aggravated by methodological problems in expertise research. Some

researchers (Roehler et al., 1987) argue for more sophisticated and methodologically stringent research into the relationships between the declarative, procedural and situational knowledge teachers employ as they become expert in their fields. Schoenfield and Hermann (1982) suggest that the understanding of how novices' performance improves in a discipline cannot be obtained by comparing them to a group of experts whose aptitude for the discipline is in all likelihood far beyond that of the novices. There are too many variables to consider. For instance, professors or advanced graduate students in a discipline differ from lower-division undergraduates in maturity, cohort group, comfort in testing situations and most notably aptitude. The experts' extended knowledge and experience allow them perceptions inaccessible to the novices. To Schoenfield and Hermann, it seems clear that the most direct way to ascertain the relationship between perception and expertise is with a repeated measures (longitudinal) research design.

Further difficulties emerge when experts attempt to verbalize their thought processes. Adelson (1984) suggests that experts represent the problems they are solving as elements that describe the operations to be performed. However they often represent information in a way that hides the details of the processes because of their difficulty in verbalizing what these operations are. The representation of the expert is more abstract and contains

more general information about what the program does, whereas the representation of the novice is more concrete.

A particularly important design issue for CALL developers is devising effective means for acquiring large amounts of knowledge from experts who would much prefer to "talk about" what they do rather than "dump" all their knowledge, as a computer does. Because humans are both the source and the users of expertise, it is essential for CALL system designers to have a clear understanding of how humans talk about what they know, what they mean and what they do not mean.

Knowledge Representation in Computer Systems

Researchers have developed numerous schemes for representing knowledge in computer databases. These may be characterized by their varying abilities to acquire knowledge, retrieve knowledge that is relevant to a particular situation, and solve problems using appropriate knowledge. CALL system developers can use this research to help them develop cognitive, rather than behaviouristic, systems and courseware.

Various applications of knowledge representation systems to computer-assisted courseware have been proposed

in general terms (Coburn et al, 1982; Kinnucan, 1984; O'Shea & Self, 1983). These four authors argue in favour of learner-focused, as opposed to content-focused, courseware and, as such, provide support for a cognitive approach to language instruction.

Cohen and Feigenbaum (1981) describe three implementations which incorporate cognitive precepts. SCHOLAR was a pioneering effort to handle unanticipated student responses and generate instructional materials in varying degrees of detail based upon those responses. WHY extended SCHOLAR's conversational ability and incorporated this enhancement into a socratic, question-posing tutorial method. WEST made use of computer-coaching to guide students to correct responses.

The manner in which knowledge is represented in cognitive implementations is typically of three types: by means of semantic networks, logic systems and production rules.

Semantic Networks

Semantic networks allow knowledge to be linked to related knowledge through what are called "property inheritance links". Quillian (1969) describes how his pioneering semantic networks were inspired by standard

dictionary formats for word definitions. In a dictionary, words are often defined in terms of their relationship to other words in the dictionary. An "elephant" for example is a kind of "animal", and an "African" elephant is a kind of animal that comes from the "continent" of "Africa". This type of relationship may be encoded as three conceptual units in a semantic network:

1. (elephant) - (is-a) -(animal)
2. (Africa) - (is-a) - (continent)
3. (African) - (originates) - (Africa)

In this example, "elephant", "animal", "Africa", "African" and "continent" constitute nodes in the semantic network that are linked together by the property inheritance links, "is-a" and "originates". Quillian used this organizing principle to develop a number of applications which he used to interpret text. His early successes inspired his student, Ronald Brachman, among others, to further develop the scheme.

Brachman (1978) describes a paradigm for the description of the levels of operation of a semantic network. He identifies four levels in current (i.e. 1978) applications - implementational, logical, conceptual and linguistic - and postulates the inclusion of a fifth, the epistemological level. The fifth level of operation would govern how the network relates parts of a particular concept to the concept as a whole. The inclusion of a fifth level

would permit conceptual knowledge to be organized into larger and more structured units than nodes and links. The effect would be faster processing of input, achieved by decreasing the number of conceptual units to be searched by the computer.

Brachman's (1985) article makes a case for decomposing property inheritance links, with special emphasis on the "is-a" relationship, into smaller semantic subcomponents and using the subcomponents as links in a network. The effect of this would be to produce more detailed conceptual units. Figure 2 illustrates what the example cited above might look like.

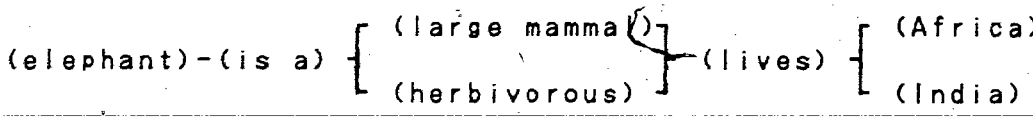

Figure 2. Semantic network description of an elephant (adapted from Brachman, 1985).

The representation in Figure 2 like the one postulated in Brachman (1978), would permit faster searching of conceptual units by increasing the complexity of the description.

The need for close definition of conceptual units in semantic networks tends to make their applications domain specific. They work well only in constrained environments and are not generally considered to be

exportable to other domains. As a result, they tend to be content-focused, rather than learner-focused applications and are therefore probably unsuitable for many CALL applications.

Logic Systems

Another approach to knowledge representation is the use of logic systems to represent propositions and their interrelationships. Logic systems apply the rules of formal logic to derive facts from propositions. For example the fact that "Joe is mortal" could be logically inferred from the two propositions "Joe is human" and " all humans are mortal".

The Japanese Fifth Generation Computer Project, (Feigenbaum & McCorduck, 1984; Moto-Oka, 1981; Muller & Pottmeyer, 1984) intend to build computers that will process information using logical rules rather than algorithms. These new computers will make inferences like the one cited above by utilizing heuristics (i.e. meta-rules used for guiding search routines, roughly analogous to the "rules of thumb" humans use when solving problems) and logical rules to resolve problems. Rather than search a database for matching patterns of characters, a number-crunching operation, fifth generation computers will interpret the character strings using principles of logic, an inferential

process requiring a programming language with special string processing capabilities.

That language is PROLOG (from PROgramming in LOGic), a descriptive language based on predicate logic that represents knowledge as either facts or rules (Clark & McCabe, 1984; Clocksin & Mellish, 1984). PROLOG permits users to determine the validity of a statement independently from the rest of the program. Many conventional programming languages are algorithmical in the sense that they perform computations by executing a series of actions in a precise order. Each statement in such a language is merely one step in an algorithm and cannot be evaluated out of context from the complete program. PROLOG is, by contrast, procedural, in the sense that it describes how the data for a problem may be manipulated to solve the problem. In addition, PROLOG treats statements iteratively, dealing with them as independent entities. This feature allows users to increase the size of a knowledge base or drastically alter its contents by simply adding, deleting or modifying individual facts or rules. If a logical rule is modified, the inferences generated from applications of that rule will be similarly modified.

Ferguson (1981) illustrates how knowledge is encoded in PROLOG by demonstrating how Isaac Asimov's (1951) three laws of robotics might be written. The three laws are listed

in Figure 3.

> 1.A robot must not injure a human being, or, through inaction, allow a human being to come to harm.
>
> 2.A robot must obey orders given it by human beings except where such orders would conflict with the first law.
>
> 3.A robot must protect its own existence as long as such protection does not conflict with the first or second law.

Figure 3. Asimov's three laws of robotics (1951).

In order to function properly, the robot needs to make judgements (inferences) about the commands it receives. Otherwise, it risks breaking one or more of the three laws. In PROLOG, this may be done by using mini-interpreters such as the word "obey" to govern the order in which statements are read. For example, beginning with a command to fetch fuel for a rocket:

```
fetch(fuel,rocket).
```

one might then attach conditions to that command. The first condition might be a validity test, whether or not to obey the command:

```
obey(fetch(fuel,rocket))?.
```

This will start the process of evaluating the command in terms of the three laws of robotics. "Obey" is a mini-interpreter for PROLOG that checks to see if the human or the robot needs protecting before executing the command.

Next is needed a meta-level rule to tell the robot to stop searching its knowledge base when it has found at least one plausible solution to its validity test:

```
obey ((x,y)) <- !,obey (x), obey (y).
```

This reads, "If a command consists of two subcommands, execute the first one first, then the second one." The exclamation point is a signal to PROLOG that if backtracking causes a return to that point, then the parent goal should be failed immediately. this ensures that "Obey" does not introduce any extra backtracking. Similarly, another meta-level rule might be:

```
obey ((x,y)) - !,obey (x); obey (y).
```

which reads, "If a command gives you a choice between two other commands, do either one."

Finally comes the actual rule itself, which reads, "If there is only one command (or 'goal') and a statement which proves it, protect the human and robot then execute the command (goal and subgoals)."

```
obey(goal) <- clause(goal, subgoals), protect(human),
protect(robot), obey(subgoals),!.
```

The term "clause" is a built-in function. The statement "clause(goal, subgoals)" will return the subgoals associated with a goal. The statements in combination will cause the robot to interpret a situation before performing any action.

The descriptive ability of PROLOG is of great

utility in coding rules to guide database searching and sorting routines, then applying those rules in logical ways. However, a trouble point for logic-based CALL applications results from PROLOG's generation of new rules and facts from new input, incorporating them all in its knowledge bases. The potential for "infection" of a knowledge base by wrong information is great. While systems based upon procedural languages would simply fail to operate unless the data fulfilled certain predefined parameters, PROLOG systems, because they are designed to accept input iteratively, might use that data to generate completely wrong solutions. These wrong solutions might then be used to generate even more wrong solutions and within time the integrity of entire knowledge base could be destroyed. What is needed, then, is a system of input-processing rules to ensure the validity of input. These, of course, might also be written in PROLOG.

Production Rules

Production rules (Anderson, 1973; Clancey & Letsinger, 1981; Harmon and King, 1985; Kieras & Bovair, 1986; Naylor, 1983; Newell, 1973; Rich, 1983; Waterman & Hayes-Roth, 1978) are condition-action rules (i.e. "if-then" statements) where the condition is usually one or more assertions that test the properties of a current state of facts. The action, in turn, changes the current state of

facts. Production systems consist of sets of production rules and operate by matching rules to sets of facts. When facts and conditions match, action is taken. Like those in logic-based applications, the tasks undertaken by production systems do not have algorithmical solutions. Production rules, like PROLOG rules and facts are independent entities, applied iteratively in cycles. As such, production systems, too, run the risk of being "infected" by erroneous input and require input-processing routines to guarantee the integrity of their knowledge bases.

A large number of computer expert systems utilize production systems to represent knowledge. Applications developed by The Stanford Heuristic Programming Project (Davis & Lenat, 1982) are illustrative of this trend. MYCIN, the first large-scale system developed in the project, performs consultations with physicians about infectious disease diagnosis. TEIRESIAS, developed by Davis, assists users to understand how MYCIN and other large systems make their decisions. AM, developed by Lenat, makes plausible conjectures about number theory, though it does not prove them.

AM has special implications for CALL programmers in its approach to problem solving - it does not solve the

problem, but instead only offers approximate solutions. Many problems related to language instruction are ill-defined. For example, a learner may state that he or she has difficulty in understanding telephone conversations. The precise nature of the learner's problem is unclear. It could be a vocabulary , syntax, precision-listening or listening comprehension problem, or any combination of these. Lenat's approach suggests that there may be various solutions to the learner's problem, and that that all may be equally valid. An analysis of the verbal protocols in the research component of this thesis suggests that at least some expert instructors feel the same way.

Negoita (1985) suggests how "degrees of certainty", when applied to production rule conditions permit the rules to be logically chained to form fuzzy sets, basic data structures of expert computer systems, like AM, that employ inexact reasoning. In so doing, he makes use of both production rules and rules of logic. From a non-mathematical point of view, fuzzy sets are sets of partial facts organized according to logical principles which may be used in data processing to generate approximate solutions to problems. In mathematical terms, a production rule may be considered to be a " crisp set" of facts, represented as the set of all valid solutions to "IF A THEN B" conditions. Inexact reasoning, by contrast, is based on the construct "IF A (to some degree of certainty) THEN B (to some degree

of certainty)". When production rules are combined through the mechanism of the logical operator "AND", they can be modeled as "families of crisp sets", Negoita's definition of fuzzy sets. For example, a fuzzy set may be considered to be the set of all valid solutions to "IF A (to some degree of certainty) AND B (to some degree of certainty) AND C (to some degree of certainty) THEN D (to some degree of certainty)" conditions. The utilization of these fuzzy sets to process input is governed by the same logical rules that determine their structure.

Aikins (1983) and Clancey (1981) discuss a major limitation of production systems as representations of expert knowledge. While acknowledging the effectiveness of production rules to represent many kinds of domain-specific knowledge, both authors make the point that numerous existing production systems are deficient in their abilities to explain how they arrive at solutions to problems. The reason for this is that the supporting knowledge essential for explaining why a particular rule is applied to a particular problem is often embedded within the rule itself. There is a need, they argue, for this type of explanatory knowledge to be represented explicitly, in domain-independent rules, in order to permit users to understand and modify production systems.

Aikins (1983) suggests that frames are more

suitable knowledge structures than production rules for explicitly representing varieties of "standard data patterns with ranges of plausible data values specified for each frame" (p. 200). She proposes a medical consultation application (CENTAUR) which utilizes both production rules and frames to guide its processing and explain its performance to the system user. Frames are used to guide the interactive consultation between CENTAUR and users as well as to represent prototypical domain-level knowledge for twenty-four pulmonary diseases. These, then, are used to guide the application of appropriate production rules contained in the system's rule-base.

Clancey (1981) examines the original rule representation scheme in MYCIN, finds it wanting, and proposes a reconfigured rule-base implemented in a new system (NEOMYCIN). The reconfigured rule base, unlike the one in CENTAUR, utilizes production rules to guide its explanations. They are represented as domain-independent rules which guide the application of other rules (Figure 4).

The rules listed in Figure 4 are examples of explicitly stated strategies. In the original MYCIN rule-base, these strategies were merely implied. Clancey's reconfiguration reifies the implicit strategies and thus helps make the rule-base more comprehensible for lay users.

> If nothing has been observed, consider situations that have no visible manifestations.
>
> If unable to make a decision, assume the most probable situation.
>
> If there is evidence for two hypotheses, A and B, that tend to be confused, then rule out B.
>
> Figure 4. Examples of domain-independent production rules (Clancey, 1981, p. 41)

Somewhat ironically, in view of the cognitive approach favoured by many CALL researchers, production systems make cognitive psychology compatible with behaviourist theories (Harmon & King, 1985).

> A cognitive psychologist using a production system can easily integrate external behaviour with internal mental activity. Events in the world produce stimuli that impinge upon us. We sense stimuli and store them in buffers. Some stimuli are transferred to working memory. The transferred stimuli activate the 'if' portion of a production rule. The 'then' portion of the production then indicates appropriate actions. The actions are implemented by the motor system and are observed as responses. (p.26)

This point of view suggests that cognitive and behaviourist theories may be compatible in their models of human knowledge representation and, as such, it constitutes a powerful argument in favour of utilizing production systems as models of human thought processes.

Discussion

This chapter has reviewed research in three areas of relevance to the empirical research and implementation of the research findings of this thesis: Computer Assisted Language Learning, the nature of expertise, and knowledge representation schemes in computer expert systems. A discussion of the implications of research in these three areas for the empirical research and implementations of the research findings of this thesis now concludes the chapter.

The findings of CALL researchers indicate that there is a need for CALL programs that make use of knowledge learners bring with them to the computer, knowledge about individual learning needs and knowledge of the target language. Behavioural routines have typically not satisfied the first two requirements. Schema theory research has suggested methods for incorporating learners' knowledge in CALL routines, but the technical difficulties in coding this knowledge in frames and MOPS beyond fairly simple applications remains problematical. Applications such as those proposed by Higgins and Johns, and open-ended applications, all of which make use of previously acquired knowledge yet avoid many of the technical problems associated with coding frames and MOPS, seem flexible enough to satisfy all three requirements.

As a result of CALL research findings, the

implementation of the research findings of this thesis utilizes information about the linguistic ability and interests of learners, provided by learners themselves or by their instructors, to guide the selection of appropriate instructional materials. It assumes that learners have different language needs and abilities, but avoids the difficulties of coding sophisticated frames and MOPS by making use of only the specific information required to select materials. As such, it is consistent with the findings of CALL researchers.

The result of the difficulties in the definition of expertise and the transfer of expertise to computers has been that many CALL system developers have presumed expertise to be merely knowledge of the central facts of a language - its rules of syntax, pragmatics and semantics. This is a demonstrably insufficient definition, and as such, is one that will not support the development of systems which demonstrate expertise. At the very least, what is needed in order for a CALL system to claim any degree of expertise is for it to be able to reliably apply these central facts to language problems.

As a result of expertise research findings, the selection of experts for the research component of this thesis is based upon their good reputations as expert instructors in combination with their experience in the

field of English Language Training. The criteria of good reputation, though virtually impossible to quantify, was chosen because its determination involves an assessment by others of many of the characteristics of expertise identified by researchers. The transfer of expert knowledge to computers utilizes experts' verbal protocols as the source of expert knowledge contained in its database. The decision to use verbal protocols was a logistical one, based on the fact that none of the subjects in the research had written down everything they knew about sequencing instruction, the central problem addressed by the research.

The central problem in knowledge representation for CALL developers is how to encode expert knowledge in reliable and valid ways. There is difficulty in determining exactly which knowledge to encode because the nature of expertise is ill-defined. The potential for disaster of incomplete or inaccurate knowledge being applied to complex problem resolution seems obvious. Semantic networks are too domain-specific to be of much practical application in such a broad domain as ESL. Logic-based systems provide the means for describing, as rules and facts, many of the "rules of thumb" ESL experts use to solve problems related to sequencing instruction, and are therefore appropriate as guides for database searching and sorting routines. Production systems, which represent knowledge in similar ways to logic systems, are also appropriate guides, and have

the added advantage of being relatively easy to code.

As a result of knowledge representation research findings, the implementation of the research results of this thesis utilizes production rules and logical assertions to represent the knowledge expert instructors use to sequence instruction. Production rules guide users through the system by querying them for information that the implementation requires for successful operation. For example, a particular learning need is considered to be a condition that must be met before the system is activated. If the condition is not met, the database searching and sorting routine is not activated. Needless processing is thus avoided. Logical assertions are utilized in the representation of expert knowledge in the database goal records. Instructional sequences are represented as assertions of the type "Problem type A precedes problem type B (to some degree of certainty)". The logical operators "AND" and "OR" may then be used to combine assertions to infer longer instructional sequences. For example, from the assertions "A precedes B" and "B precedes C" the inference can be made that "A precedes B OR C".

CHAPTER 2:

EMPIRICAL RESEARCH

This chapter describes the methodology and findings of research into how expert ESL instructors sequence their instructional activities. The research had two principal goals. The first goal was to identify some of the sequencing rules that expert English as a Second Language (ESL) instructors use when sequencing instructional activities. The second goal was to incorporate these rules for sequencing instruction in the searching and sorting routines of a database management system in order to guide the selection and sequencing of instructional materials contained in the database. The chapter begins with a statement of the rationale for the research, continues with a description of the methodology employed and results obtained and concludes with a discussion of the results.

Rationale

After informal discussions with ESL instructors, the researcher came to the conclusion that a computer

system which incorporated experts' knowledge for sequencing instruction would address a major problem ESL curriculum planners have in sequencing instruction for large numbers of learners on an individual basis. This problem resulted from the great amount of time required by instructors to match individual learning needs to instructional materials over a period of time (i.e. the central task in sequencing instruction) for large populations of learners. The amount of time spent in this undertaking often precluded an instructor from providing sufficient individual feedback and guidance to learners. Thus, a system which assisted instructors in matching learner needs to instructional materials would permit the instructors to spend more time in face-to-face instructional activities.

The researcher also determined in informal discussions that certain types of propositional knowledge employed by instructors in sequencing their instructional activities could be represented as production rules or logic assertions. For example, the commonly held proposition that "Basic sentence patterns are taught in beginner level classes" may be represented as the production rule "If class is beginner level then teach basic sentence patterns". Similarly, the proposition "Teach basic sentence patterns before both compound patterns and complex patterns" may be represented using the inclusive logical operator "OR" as "Basic patterns precede compound patterns OR complex

patterns". This fact suggested to the researcher that the knowledge instructors use to sequence instruction was rule-based knowledge. As such, it could be coded as production rules and logical assertions which then might be used to modify search and sort commands in the SPIRES Database Management System.

There are a variety of possible applications of a computer system that can assist instructors in matching individual needs to instruction materials. For example, such a system might be used to generate course syllabuses, based upon the stated and/or perceived language needs of learners. It might also be used to guide the presentation of instructional materials in CALL applications. Learning Centre volunteers might use it to assist them in developing short courses for their students. Test writers might use it to assist in the validation of placement and progress test items. In all such applications, the instructional sequence would be guided by the same rules as those employed by instructors.

Method

Subjects

The selection criteria used in this research

incorporate the variables of "reputation" (Berliner, 1986; Shulman, 1986) and "length of experience"(Kolodner, 1984; Means & Voss, 1985) as indicators of expertise.

Ten ESL instructors were identified on the basis of these variables to be subjects in the research. All instructors were teaching ESL to adult learners at the time of the research, five to foreign students and five to immigrants. "Reputation" was determined in private consultation with five program directors at five institutions where the subjects were employed. The directors were asked to suggest appropriate candidates for the research, both from their own and other institutions. A total of 47 instructors were identified by the program directors. Subjects who were identified by more than one program director formed the group of experts for the research. "Length of experience" referred to actual classroom experience, and excluded program administration positions which subjects may have held. The minimum length of experience for this research was determined by asking the program directors how long it generally takes to "get good" at teaching English as a Second Language. Their median response was 7.24 years with a range of 2.11 years. In cases where the length of experience was less than the median response (i.e. subjects "B", "G" and "J"), reputation was considered to be the more important criterion for selection. In the final group of experts, their mean length of teaching

experience was 11.66 years of full-time employment with a range of 9.16 years (Table 1).

Table 1: Full-Time ESL Teaching Experience of Subjects

Subject	Years	Subject	Years	Range	Mean
A	11.66	F	12.08	9.16	11.66
B	7.08	G	7.50		
C	12.91	H	16.66		
D	7.91	I	16.66		
E	10.41	J	7.50		

Note. Length of experience was determined at the time subjects participated in the research.

Procedures

Subjects were asked to perform two tasks. First, they were asked to identify the syntactic and/or semantic errors in ten sample sentences of ESL student writing (Figure 5). This activity was intended to elicit the descriptions of error types in the sample sentences. The sample sentences were written in uppercase leters on individual cards in order to facilitate the second task, in which subjects were asked to arrange the errors they identified by error type in remediative order. The second task was intended to elicit the instructional sequences employed by the subjects to address the problems indicated

in the sample sentences.

The ten sample sentences were written by intermediate level students attending an immersion English programme at the University of British Columbia English Language Institute . All samples were written by students whose first language was Japanese. Students were asked to write for ten minutes on a topic of their choice using past tense verb forms. The samples were obtained by taking the first sentence that contained an error in the resulting compositions. As a result, each sentence was from a different individual, and a different context.

In order to minimize the influence of the researcher on the results of the experiment a "think aloud" descriptive research method (Aanstoos, 1983; Ericcson & Simon, 1980; Schweiger, 1983) was employed. This method instructs the subjects to record their thoughts as they proceed through the experiment or, in other words, to say out loud what they are thinking. Furthermore, subjects were not advised of the origin or method of selection of the sample sentences, so as to not prejudice their analyses.

After reading an information sheet describing the procedures of the research experiment and signing a consent form, subjects were provided with an envelope containing ten cards arranged in random order on which the sample sentences

were written, a tape recorder and a pre-recorded cassette reiterating the instructions on the information sheet. Subjects were asked to speak as clearly as possible and to think of the tape recorder as a novice teacher trainee to whom they had been assigned. They were then left to themselves to record their thoughts as they proceeded through the two tasks.

---

1. I COULD LEARN VARIOUS THINGS FROM NATURE. FOR EXAMPLE, "WHY DO LEAVES CHANGE COLOUR IN THE FALL?"
2. TERRY FOX HE HAD RAN ACROSS CANADA.
3. I RELAXED THERE EACH SUMMER TIME.
4. I GOT A PAMPHLET FOR SCHOOL WHEN I WENT DOWNTOWN AND FOUND OUT THIS COURSE OF CLASSES.
5. I HAD TO GO TO THE DRIVING SCHOOL OVER THAN A MONTH.
6. I HAD HEARD THAT SHE WILL TAKE CARE OF THE CHILDREN AND ME.
7. THERE WERE SOME KINDS OF TRANSPORTATIONS FOR TRAVEL IN DIFFERENT PART.
8. WHEN SHE SAID THE NAMES OF THE SINGER I DIDN'T KNOW THEM.
9. THE FIRST DAY I CLEANED OUR ROOM AND MADE SOMETHINGS FOR DINNER.
10. HE WAS DEAD AT JUNE 28, 1981.

Figure 5. Sample sentences written by students.

The research procedure was reviewed and approved by the Simon Fraser University Ethics Review Committee. All subjects were advised that their involvement in the research would be on a confidential basis and were assigned a designated code to insure the confidentiality of their responses.

Complete transcriptions of the subjects' verbal protocols are contained in Appendix "G".

Results

The tasks were similar in terms of the amount of time subjects required to complete them (Table 2). A Pearson Product-Moment correlation of .807 indicates a moderately high relationship between task completion times for the two tasks. One-way ANOVA (Table 3) indicates that there was no significant difference in task completion times.

Analysis of verbal protocols revealed that subjects often called similar problems by different names. For example, when identifying the error types in Sentence 10 ("He was dead at June 28, 1981"), subjects A, C, G and H identified one of the errors as a confusion of verb and adjective forms. Subject D, identified the same error as a confusion of past participle form with the simple past tense

form of the verb "to die". Subject F described it as a verb form error; subject J as a tense error and subject E as a usage error.

These are all valid and are not mutually exclusive descriptions. However, a problem emerged in coding all of the descriptors employed by subjects in data sets which could be efficiently analyzed using standard statistical routines. Twenty-nine different descriptors were used by subjects to describe the errors they identified. This unwieldy number of descriptors became an unwieldy number of input variables for standard statistical routines and, correspondingly, an unwieldy number of null sets. The number of null sets in the input prevented, for example, a successful determination of an overall coefficient of concordance.

In an effort to obtain meaningful results from standard statistical routines, the twenty-nine descriptors were categorized as belonging to one of eleven categories (Table 4). The groupings were made in accordance with the Table of Contents headings in Jenkins-Murphy (1982) and Quirk et al (1985), two standard English Grammar references. The sequences in which error types were addressed were then tabulated for each subject and summarized in Table 5.

Table 2: Elapsed Time for Task Completion

Subject	Task One	Task Two	Total
A	3:28	5:04	8:32
B	13:45	8:50	22:35
C	6:25	9:02	15:27
D	8:22	10:18	18:40
E	8:21	7:46	16:07
F	4:44	7:42	12:26
G	4:25	8:44	13:09
H	4:27	4:35	9:02
I	12:23	15:27	27:50
J	18:55	15:27	29:55
M	8:32	8:39	17:24
Mdn	7:23	8:47	15:47
SD	5:02	3:41	7:23
r (8)*	.807		

Note. Elapsed time is expressed as minutes:seconds
* $p < .005$

Table 3: One-Way ANOVA for Task Completion Times

Source of Variance	SS	d.f.	MS	F	p
Between groups	10665.5	1	10665.5	.152211	.70117
Within groups	1.26127	18	70070.6		
Total	1.27194	19			

Table 4: Categories of Error Types

Category	Code	Descriptor(s)
Verb Tense	VT	past tense, past time, past perfect
Verb Form	VF	adjective forms, participle forms
Clause Structure	CS	adverbial clause, adjective clause, noun clause, reported speech, sequence of tenses, conditionals, comparatives
Sentence Structure	SS	simple sentence, complex sentence, compound sentence, subject-verb presentation
Punctuation	PN	punctuation, use of semi-colon
Plurality	PL	countable/noncountable nouns
Redundancy	RD	double subjects
Pronoun Reference	REF	ambiguous reference
Vocabulary	VO	usage, idiom, diction
Preposition	PR	preposition
Article	AR	use of the/a

In Table 5, the first line reads "Subject A would deal with verb tense errors first, then verb form, then clause structure errors. Then he or she would deal, in no particular order, with plurality, vocabulary and preposition errors. He or she did not identify sentence structure, punctuation, redundancy, reference or article errors in his or her verbal protocols ". The average ranking for each

error type is listed at the bottom of the table, suggesting that there might have been an optimal instructional sequence, however, Table 6 shows that this is not the case.

Table 5: Error Types Sequenced in Rank Order by Subjects

Subj.	VT	VF	CS	SS	PN	PL	RD	REF	VO	PR	AR
A	1	2	3	X	X	4	X	X	4	4	X
B	3	X	4	4	X	2	X	X	1	1	X
C	X	1	3	X	4	X	X	X	2	2	X
D	2	X	X	X	X	1	X	X	3	2	4
E	1	X	4	2	X	X	2	X	3	X	X
F	1	X	X	5	X	X	1	3	4	2	X
G	X	1	5	2	X	4	X	3	X	1	X
H	X	1	3	X	X	2	1	X	4	X	X
I	4	2	6	5	7	4	X	X	1	1	X
J	1	X	4	X	X	2	X	X	1	2	X
M	1.86	1.4	4.0	3.6	5.5	2.71	1.33	3.0	2.56	1.88	4.0

An analysis of the correlation coefficients between subjects for instructional sequences (Table 6) indicates that, although the absolute size of most of the correlations is non-significant, there are a number of correlations which are significant, based on the directional-hypothesis assumption. Specifically, there are significant correlations (at $p < .05$) between the sequences of subjects A and H or J; B and E, I or J; H and J. Furthermore, trends (i.e. coefficients of correlation which fall between $p < .10$ and $p > .05$) are indicated in the correlations of subjects B and A or G; C and I; J and E or

G. In general, the subjects appear to see the same items in approximately the same order, however, the mean coefficient of correlation does not suggest only one optimal sequence of instruction for the eleven error categories.

Table 6: Spearman Correlation Coefficients for Instructional Sequences

Subj	A	B	C	D	E	F	G	H	I	J
A	1.000									
B	.503	1.000								
C	.358	.047	1.000							
D	.395	.126	-.122	1.000						
E	.116	.547	.136	-.098	1.000					
F	-.046	.116	-.235	.057	.342	1.000				
G	.263	.525	.027	.309	.108	.042	1.000			
H	.600	.272	.272	-.008	.530	-.167	.171	1.000		
I	.166	.584	.503	-.304	.173	-.220	.313	-.008	1.000	
J	.337	.613	.136	.139	.476	.010	.491	.641	.153	1.000

Note. Number of observations = 11
Mean correlation coefficient = .3562
Critical value at $p < .05$ = .536
Critical value at $p < .10$ = .427

Although an overall sequence of instruction cannot be stated with confidence, the sequential relationships between many pairs of error types may be derived from an analysis of how subjects sequenced them on a category-by-category basis. Table 7 is a summary listing of error types by their instructional sequence. Line 1 reads "In the instructional sequences for all subjects, verb tense errors preceded verb form errors one time, clause structure errors five times, sentence structure errors three times,

punctuation errors one time, plurality errors two times, redundancy errors one time, reference errors one time vocabulary errors six times, preposition errors two times and article errors one time".

Table 7: Error Types by Instructional Sequence

Precedes	VT	VF	CS	SS	PN	PL	RD	REF	VO	PR	AR
VT	X	1	5	3	1	2	1	1	6	2	1
VF	1	X	5	2	2	4	1	1	3	2	0
CS	0	0	X	0	2	4	0	0	2	2	0
SS	1	0	4	X	2	4	0	1	1	0	0
PN	0	0	0	0	X	0	0	0	0	0	0
PL	3	0	4	1	1	X	0	0	3	1	1
RD	0	0	2	1	0	1	X	1	3	0	0
REF	0	0	2	1	0	1	0	X	2	0	0
VO	2	1	5	3	2	2	0	0	X	0	0
PR	2	0	4	4	2	3	0	2	2	X	1
AR	0	0	0	0	0	0	0	0	0	0	X

Note: Number of subjects = 10
"X" indicates no reported sequence

Table 8 lists the certainty factors associated with the instructional sequence for pairs of error types. Certainty factors were calculated by observing differences in the number of times an error type preceded another error type in a sequence. For example, cell (1,3) in Table 7 indicates that verb tense errors preceded clause structure (CS) error types five times in subjects' verbal protocols. Cell (3,1) indicates that clause structure error types never preceded verb tense error types. Thus, the certainty that verb tense error types precede clause structure error types

is 5/5, or 100%, based on subjects' verbal protocols.

Table 8: Certainty Factors for Instructional Sequences (in %)

Precedes	VT	VF	CS	SS	PN	PL	RD	REF	VO	PR	AR
VT	X	50	100	75	100	40	100	100	75	50	100
VF	50	X	100	100	100	100	100	100	75	100	X
CS	0	0	X	0	100	50	0	0	29	33	X
SS	25	0	100	X	100	80	0	50	25	0	X
PN	0	0	0	0	X	0	0	0	0	0	0
PL	60	0	50	20	100	X	0	0	60	25	100
RD	0	0	100	100	X	100	X	100	100	X	X
REF	0	0	100	50	0	100	0	X	100	0	X
VO	25	25	71	75	100	40	0	0	X	33	100
PR	50	0	67	100	100	75	0	100	67	X	100
AR	0	X	X	X	X	0	X	X	0	0	X

Note. Number of subjects = 10
"X" indicates no reported sequence

Table 9 lists the sequencing rules derived from Table 8 in prose form. The rule numbers have been assigned arbitrarily and are used only to distinguish one rule from another. Certainty Factors (C.F.) are expressed as percentages.

Table 9: Sequencing Rules Derived from Certainty Factors for Instructional Sequences

No.	Rule	C.F.
1	Verb Tense precedes Clause Structure	100
2	Verb Tense precedes Punctuation	100
3	Verb Tense precedes Redundancy	100
4	Verb Tense precedes Article	100
5	Verb Form precedes Clause Structure	100
6	Verb Form precedes Sentence Structure	100

(continued)

Table 9 - Continued

No.	Rule	C.F.
7	Verb Form precedes Punctuation	100
8	Verb Form precedes Plurality	100
9	Verb Form precedes Redundancy	100
10	Verb Form precedes Pronoun Reference	100
11	Verb Form precedes Preposition	100
12	Clause Structure precedes Punctuation	100
13	Sentence Structure precedes Clause Structure	100
14	Sentence Structure precedes Punctuation	100
15	Plurality precedes Punctuation	100
16	Redundancy precedes Clause Structure	100
17	Redundancy precedes Sentence Structure	100
18	Redundancy precedes Plurality	100
19	Redundancy precedes Pronoun Reference	100
20	Redundancy precedes Vocabulary	100
21	Pronoun Reference precedes Clause Structure	100
22	Pronoun Reference precedes Plurality	100
23	Pronoun Reference precedes Vocabulary	100
24	Vocabulary precedes Punctuation	100
25	Vocabulary precedes Article	100
26	Preposition precedes Sentence Structure	100
27	Preposition precedes Punctuation	100
28	Preposition precedes Pronoun Reference	100
29	Preposition precedes Article	100
30	Sentence Structure precedes Plurality	80
31	Verb Tense precedes Sentence Structure	75
32	Verb Tense precedes Vocabulary	75
33	Verb Form precedes Vocabulary	75
34	Vocabulary precedes Sentence Structure	75
35	Preposition precedes Plurality	75
36	Vocabulary precedes Clause Structure	71
37	Preposition precedes Clause Structure	67
38	Preposition precedes Vocabulary	67
39	Plurality precedes Verb Tense	60
40	Plurality precedes Vocabulary	60
41	Verb Tense precedes Verb Form	50
42	Verb Form precedes Verb Tense	50
43	Verb Tense precedes Preposition	50
44	Preposition precedes Verb Tense	50
45	Clause Structure precedes Plurality	50
46	Plurality precedes Clause Structure	50
47	Sentence Structure precedes Pronoun Reference	50
48	Pronoun Reference precedes Sentence Structure	50
49	Vocabulary precedes Plurality	40
50	Verb Tense precedes Plurality	40
51	Vocabulary precedes Preposition	33

(continued)

Table 9 - Continued

No.	Rule	C.F.
52	Clause Structure precedes Preposition	33
53	Clause Structure precedes Vocabulary	29
54	Plurality precedes Preposition	25
55	Sentence Structure precedes Vocabulary	25
56	Vocabulary precedes Verb Form	25
57	Vocabulary precedes Verb Tense	25
58	Sentence Structure precedes Verb Tense	25
59	Plurality precedes Sentence Structure	20
60	Clause Structure precedes Verb Tense	0
61	Punctuation precedes Verb Tense	0
62	Redundancy precedes Verb Tense	0
63	Article precedes Verb Tense	0
64	Clause Structure precedes Verb Form	0
65	Sentence Structure precedes Verb Form	0
66	Punctuation precedes Verb Form	0
67	Plurality precedes Verb Form	0
68	Redundancy precedes Verb Form	0
69	Pronoun Reference precedes Verb Form	0
70	Prepositions precedes Verb Form	0
71	Punctuation precedes Clause Structure	0
72	Clause Structure precedes Sentence Structure	0
73	Punctuation precedes Sentence Structure	0
74	Punctuation precedes Plurality	0
75	Clause Structure precedes Redundancy	0
76	Sentence Structure precedes Redundancy	0
77	Plurality precedes Redundancy	0
78	Pronoun Reference precedes Redundancy	0
79	Vocabulary precedes Redundancy	0
80	Clause Structure precedes Pronoun Reference	0
81	Plurality precedes Pronoun Reference	0
82	Vocabulary precedes Pronoun Reference	0
83	Punctuation precedes Vocabulary	0
84	Article precedes Vocabulary	0
85	Sentence Structure precedes Preposition	0
86	Punctuation precedes Preposition	0
87	Pronoun Reference precedes Preposition	0
88	Article precedes Preposition	0

Discussion

This chapter described the methodology and findings of research into how expert ESL instructors sequence their instructional activities. The results of the research indicate that even a small-scale project such as this one can provide guidance for CALL database developers. A larger-scale project, conducted along much the same lines as this one, may provide even more comprehensive and reliable data.

Readers of this thesis are cautioned that the findings of the research are constrained by the fact that the analysis of the verbal protocols was undertaken by the researcher alone. There were no inter-rater reliability checks. The manner in which error types identified by the subjects were categorized is illustrated in Appendix A.

The first goal of the research was to identify the order in which expert instructors addressed particular kinds of language errors. Although the Spearman correlation coefficients for the instructional sequences do not support the contention that there is a commonly agreed-upon instructional sequence among the experts, there were six significant correlations and four trends indicated between pairs of subjects, suggesting that the subjects were in

agreement with one another at least part of the time. The relatively low mean correlation may be the result of the small number of subjects and large number of error categories they attempted to organize.

The second goal of the research was to utilize these empirically obtained instructional sequences to guide the database searching and sorting mechanisms of a prototype computer expert system. The relationships between pairs of error categories was determined with varying degrees of certainty. With a larger number of subjects and fewer error categories, certainty factors may be more consistent. Still, the results provide guidance for sequencing instruction for pairs of error types. The sorting routine employed by the implementation of these research findings can justifiably use the certainty factors to identify the sequence in which errors may be addressed by selecting the sequence which has the higher certainty factor.

The research results further suggest that the criteria of reputation and experience were appropriate for the selection of expert subjects. Subjects displayed many of the characteristics associated with expertise, according to the findings of researchers described in the literature review. Their average age (41.7 years) is consistent with the findings of Means & Voss (1985) and Kolodner (1984) that age plays a factor in expertise. The variety of descriptions of

similar types of errors indicates that the subjects have a wide range of task-specific knowledge (Barr & Feigenbaum, 1982). Three of the subjects attempted to form theories or apply principles that would categorize the errors they found in the largest groups possible, a behaviour observed among experts by Medin and Smith (1981) and Chi et al (1981). Subject C referred to many of the errors as clause structure problems. Subject D described many as relating to problems of plurality. Subject J made continuing references to problems in diction when describing errors. None of the subjects, however, explicitly stated the heuristics they used when sequencing the errors. This is possibly the result of the researcher's failure to request that subjects do so. However, the research findings demonstrate that at least some of the heuristics they used can be inferred directly from the sequences they produced.

Finally, the contention of ESL instructors that they spend a inappropriately long amount of time matching learners' needs to instructional material over a period of time is supported by an analysis of the amount of time subjects spent completing the two research tasks. Sequencing instruction for a large population would, indeed, be a very time-consuming endeavour. Subjects dealt with only ten sample sentences, which may be considered to be ten different learners. In a typical week the subjects may teach

from 80 to 300 different learners, depending upon where they work. Thus, the amount of time the subjects might spend in matching learner needs to instructional materials could conceivably range from an average of slightly less than three hours to well over eight hours.

CHAPTER 3:

IMPLEMENTATION

This chapter describes how the findings of this thesis were implemented as a computer database. The implementation utilized the SPIRES database management system. SPIRES was used because it is available on the Simon Fraser University mainframe computer, and is a system that permits the customization of its routines through the use of the SPIRES protocol language.

The process involved in implementing the findings in a SPIRES database was as follows:

1. identify appropriate data structures and code appropriate goal records for the database.
2. write the file definition for the database.
3. write searching and sorting subroutines using sequencing rules elicited in Task 2 of the research project.

Each of these three steps is described more fully in the sections that follow.

As has become the informal custom among CALL programmers, the researcher has chosen an acronym to name the implementation : GRASSCALL - a play on the phrase , "(A)

Rapid Sorting and Searching (Routine) for Computer Assisted Language Learning (Purposes)."

Data Structures

Data "elements" are the smallest units of data known to SPIRES. In RASSCALL they correspond to such things as course goals and the physical locations of curriculum resources. "Records" are collections of related data elements. A record in RASSCALL's database, for example, contains elements pertaining to the learning strategies and curriculum resources of a particular type of course. Within a record, elements may be grouped together in "structures" which may be referenced in the same manner as elements.

Goal Records

"Goal records" are records that can be found as a result of a SPIRES search operation. RASSCALL's first goal record begins with a declaration of its uniqueness as an entity - its RECord number - followed by the ability level for which it is appropriate. All of the sample sentences used in the research project were written by intermediate level students, therefore, the results of the research are

only applicable to this level of student ability.

```
REC01 = 1;
     ABILITY = INTERMEDIATE.ADULT;
```

RASSCALL incorporates two structures within each record. The first structure, "TYPE", links the element RULES to the elements RULE.NUMBERS, PROBLEM.TYPES and CERTAINTY.FACTORS (all listed in Table 9). For example:

```
TYPE;
RULE.NUMBER = 35;
PROBLEM.TYPES = Preposition, Plurality;
RULE =  Preposition Problems precede Plurality
        Problems;
CERTAINTY.FACTOR = 75;
```

The second structure, "RESOURCE" links curriculum resources to the rules, location, and description of the resource. "RESOURCE" is nested within "TYPE" so that it may be accessed separately, or together with "TYPE". Multiple resources may be listed in individual structures.

In the following program extract, that illustrates a "RESOURCE" record, "DESCRIPTION" is a general description of the type of learning material; "LOCATION" is intended to be an indication of where the material might be found within an institution and, "CALL" is a suggested call number for the material. "ACTIVITY" is a description of how the material might be used. Element values for "ACTIVITY" are derived from the suggested listing of activity types in

Appendix B. "CW:PR" means the activity involved is a "Crossword" puzzle relevant to problems involving prepositions. An instructor who wished to use RASSCALL would simply describe his or her curriculum resources using these descriptors, then enter them in the database.

```
RESOURCE;
      DESCRIPTION = PUZZLE;
      ACTIVITY = CW:PR;
      LOCATION = LAB;
      CALL = PCW 101;
```

The complete goal record for this example is:

```
RECO1 = 1;
   ABILITY = INTERMEDIATE.ADULT;

TYPE;
   RULE.NUMBER = 35;
   PROBLEM.TYPES = Preposition, Plurality;
   RULE =  Preposition Problems precede Plurality
           Problems;
   CERTAINTY.FACTOR = 75;

RESOURCE;
   DESCRIPTION = PUZZLE;
   ACTIVITY = CW:PR;
   LOCATION = LAB;
   CALL = PCW 101;
```

File Definition

In RASSCALL users never come into contact with individual database records. All requests are relayed by the interface system, which translates the requests into the language of the database management system.

RASSCALL's file definition consists of three distinct sections: the goal-record section, which defines the elements (or "fields") for each record; the index records, which define how the goal-records will be searched; and the linkage section, which defines how information is passed from the goal-records to the index-records.

Goal-record Types

In the SPIRES file definition language, the abbreviation "ELEM" means "element" and corresponds to "field" in other database management systems. "ALIASES" are alternative element names which may be used to simplify search commands. "LEN" means length in bytes. "INPROC" means "input processing rule" and is an input verification tool. Integers, for example, are governed by the rule "$INT" which first ensures that the input is an integer then assigns it a

length value of "4". "OUTPROC" means "output processing rule" and it is an output verification tool that works in the same way as "INPROC". Both "INPROC" and "OUTPROC" function to ensure the consistency of information the user enters and receives.

"TYPE" is a structure-type element, which means it can contain other elements nested within itself. This type of data structure allows the programmer to have many strategies affiliated with a particular course. In the extract below, the elements "RULE.NUMBER" , "RULE" and "CERTAINTY.FACTOR" are all nested within the structure "TYPE".

```
ELEM = TYPE;
    TYPE = STR;
    STRUC-NAME = TYPE;

OPTIONAL;
ELEM = RULE.NUMBER;
   ALIASES = RN,NO,N;
   LEN = 4;
INPROC = $INT(4);
OUTPROC = $INTO.OUT;

ELEM = RULE;
   ALIASES = R,.RUL;

ELEM = CERTAINTY.FACTOR;
   ALIASES = CF, CERT;
   LEN = 4;
INPROC = $INT(4);
OUTPROC = $INTO.OUT;
```

Linkage Section

The linkage section connects the goal-records to the index-records through pointer-type elements. The name "ZIN" is assigned by SPIRES as a unique identifier, connected to the goal-record specified as its "KEY". Each goal-record has its own linkage-record, though only two, "ABILITY" and "RULE.NUMBER" are illustrated.

```
RECORD-NAME = ZIN01;
    REQUIRED;
    KEY = ABILITY;
  OPTIONAL;
    ELEM = POINTER;
    TYPE = LCTR;
    INPROC = $HEX;
    OUTPROC = $HEX.OUT

RECORD-NAME = ZIN02;
    REQUIRED;
     KEY = RULE.NUMBER;
    OPTIONAL;
     ELEM = POINTER;
     TYPE = LCTR;
     INPROC = $HEX;
     OUTPROC = $HEX.OUT
```

Index-Records

An index record consists of a series of data elements and an internal pointer to a goal record. "EXTERNAL-NAME" is the term used to describe search results. In RASSCALL, these are called "RECORDS". For example the computer would display the result of a search as "RESULT =

20 RECORDS". "PASSPROCs" are procedural rules used by the system when passing records from the goal-record level to the index-record level and vice-versa.

```
GOALREC-NAME = REC01;
   PTR-ELEM = POINTER;
   EXTERNAL-NAME = RECORD;
   PASSPROC = $PASS.LCTR;
```

RASSCALL's index is a "simple" one in that it contains one record for each entry in the index. The "INDEX-NAME" refers to the corresponding linkage element , and ultimately to a goal-record element. In the example, the goal-record element is "ABILITY". "ALIASES" at the goal-record level are now called "SEARCHTERMS" to avoid confusion. "SRCPROCs" are searching procedure rules.

```
INDEX-NAME = ZIN01;
  SEARCHTERMS = ABILITY,,A,AB,ABIL,L,LEV,LEVEL;
  SRCPROC = $CAP;
  PASSPROC = $PASS.ELEM('COURSE.NAME', 1)/ $NULL;
  PTR-GROUP = POINTER
```

Finally, the name of the database is declared as "SUBFILE-NAME", along with access privileges.

```
SUBFILE-NAME = RASSCALL;
  GOAL-RECORD = REC01;
  ACCOUNTS = XYZ;
```

The complete file definition is listed in Appendix D.

User Interface

The purpose of the interface system is to act as a liaison between users and the database management system. It prompts users for information, then fashions SPIRES commands from the responses it gets from the user.

Searching Routine

The first utilization of production rules occurs during the security check. After welcoming the user to the system, the interface searches a database of authorized users, identifies the user and records the session in a separate file. For example,

WELCOME TO RASSCALL!

Please enter your name..

Hello (user's response). Have a nice session!

A null response to the query "Please enter your name" shuts the system off. This sequence of prompts can also be used to restrict access to the system.

The system utilizes a variety of security switch

responses to deal with different circumstances. If a user fails to provide enough information for RASSACALL to begin a search it responds with:

YOU HAVE NOT GIVEN RASSCALL ENOUGH INFORMATION TO CONDUCT A PROPER SEARCH.

It will then ask if the user wishes to continue:

DO YOU WISH TO CONTINUE? (Y/N)...

If it does not have the information desired by the user, it says,"Sorry" and when it completes a search it says," Thanks for the visit."

If the system does not recognize a user's name it displays

You are not permitted access to RASSCALL.
Have a nice day! Goodbye!

The name of the user , date and terminal number are recorded in a separate file for record-keeping purposes.

The system also uses assigned variables to record user responses to questions about a student's ability level. If an instructor indicates, for example, that the student has no problems with verb forms, the system will remind him

or her of its limitations. In this case, the following message appears:

RASSCALL IS NOT SURE THAT THIS STUDENT IS AT THE
THE INTERMEDIATE LEVEL

These procedures are illustrated in the excerpt from the user interface in Appendix E.

RASSCALL also uses production rules to make simple inferences about the ability level of the student. The intermediate level learner is assumed to have the kinds of difficulties indicated by the sample sentences of the research project (Figure 5, p.38).

For example, a user who answers "3", "4" or "5" to the following prompt is quickly advised, by means of the security switch, that RASSCALL is uncertain that the student is at an intermediate ability level.

How much evidence do you see of a problem with the active or passive forms of verbs?

1. A lot 2. Some 3. A little 4. None

Select one number...

If the answer is "1" or "2", the program continues with a

search of the database.

The search procedure uses the SPIRES command "FIND" to locate all records containing a reference to Verb Form problems. In the extract below, the "/ACTE" line writes a heading in a temporary file, in which instructional materials may be assembled and listed.

```
++SEARCH1
 FIND RULE STRING VERB.FORM
 /ACTE 'LESSON ONE: ACTIVE/PASSIVE VERB FORMS'
 JUMP PROBLEM2
```

The same procedure is followed for the remaining problems. The order in which information about problem types is requested was determined from the average sequence of error types listed in Table 5. That is, problems related to redundancy are queried first, then verb form, verb tense, preposition, pronoun reference, plurality, vocabulary, sentence structure, articles, clause structure and punctuation.

Sorting Routine

Logical assertions are utilized first of all in the explanation subsystem. The SPIRES "SEQUENCE" command provides explanations for the sequences RASSCALL generates. It orders rules and their corresponding certainty factors from highest to lowest value. After a sequence has begun

(i.e. after two problems have been presented) in the terminal session, a user may question why the program has sequenced the problem in a certain way, by pressing the CONTROL X key. The system then searches for instances of the problem types currently being processed, then lists them. This process is repeated for every possible response. The explanation always consists of a comparison between two rules. It will not work for longer sequences.

For example, if a user were to request an explanation of why RASSCALL sequenced instructional materials related to preposition problems before materials related to plurality problems, the system would respond with the following explanation:

RASSCALL always chooses the rule with the higher degree of certainty.

The rules governing this sequence are as follows:

RULE.NUMBER = RULE 35

RULE= Preposition problems precede plurality problems.

CERTAINTY.FACTOR = 75

RULE.NUMBER = RULE 59

RULE = Plurality problems precede preposition problems

CERTAINTY.FACTOR = 25

The length of instructional sequences may be controlled through the use of the logical operators "AND" and "OR" in combination with the SPIRES "FIND" command during the searching routine. For example, the command "FIND RULE STRING VERB.FORM AND PLURALITY" will activate a search for all records containing those two error types in combination. The result of this search would be displayed as "RESULT = 2 RECORDS". The "SEQUENCE" command would list the records by their certainty factors in stacks in the computer memory and display the result as "STACK = 2 RECORDS". At that point, the command "LIST" will cause the stack to be displayed in goal-record format on the terminal screen. For this example, the display would be:

```
TYPE;
RULE.NUMBER = 8;
PROBLEM.TYPES = Verb.Form, Plurality;
RULE =  Verb Form Problems precede Plurality
        Problems;
CERTAINTY.FACTOR = 100;


TYPE;
RULE.NUMBER = 67;
PROBLEM.TYPES = Verb.Form, Plurality;
RULE =  Plurality Problems precede Verb Form
        Problems;
CERTAINTY.FACTOR = 0;
```

The application of a formatting routine to this display produces the type of display employed by the explanation subroutine.

It is possible to produce quite lengthy sequences, through the use of the logical operators "AND" and "OR", although the research findings of this thesis do not support such activities. "FIND RULE STRING VERB.FORM OR VERB.TENSE", for example, would activate a search for all records related to verb form and all records related to verb tense. The result would be thirty records. "FIND RULE STRING VERB.FORM OR VERB.TENSE OR STRING CLAUSE.STRUCTURE OR SENTENCE.STRUCTURE" would produce an unwieldy and ultimately meaningless list of all the rules related to verb form, verb tense, clause structure and sentence structure.

A sample terminal session is illustrated in Appendix F.

This chapter has described how the research findings of this thesis were implemented in a computer database routine, RASSCALL. The implementation suggests that computers are an appropriate technology for language instruction. This thesis demonstrated a small, rule-based application that incorporated the findings of researchers in the fields of CALL, Expertise and Knowledge Representation.

RASSCALL utilizes information about ESL learning needs, provided by learners or by their instructors, to guide the selection of appropriate instructional materials. This is consistent with the findings of CALL researchers who stress the importance of individualizing CALL applications. Because RASSCALL applies rules iteratively to the selection of materials, it can be said to be a non-linear, non-behaviouristic application. It therefore responds to a major demand of CALL critics that CALL applications should reflect cognitive, rather than behavioural approaches to instruction. Because the rules RASSCALL applies were elicited from subjects who were actively teaching at the time of the research, it can be said to incorporate contemporary pedagogical practices, another concern of many CALL critics

RASSCALL also utilizes production rules and

logical assertions to represent the knowledge expert instructors use to sequence instruction. This concern is in accordance with the applications suggested by many researchers in the field of knowledge representation.

The system limitations of RASSCALL may enhance its usefulness for busy instructors. Learners' needs change over time, sometimes very quickly. RASSCALL can respond to these changes quickly because it sequences only two instructional activities and requires relatively little information to conduct its searches. An application which generated, for example, an instructional sequence for a month of classes may run the risk of ignoring the changing requirements of learners. Furthermore, such an application might require considerably more information and time to conduct its searches than does RASSCALL. As such, large applications may prove to be of little value to instructors.

In summary, computer technology seems well-suited for the type of data processing RASSCALL does, namely, matching learners' needs to instructional materials in justifiable instructional sequences. In addition, the system is not domain-specific. Activities can be virtually anything the curriculum planner desires. The goal records for the database can contain pointers to instructional materials in virtually any domain. The instructional sequences can be determined by a group consensus or individually. User

interface routines can be easily customized. At the very least small systems like RASSCALL will save teachers curriculum development time, permit more contact with learners and encourage them to base their curricula on individual needs.

Appendix A: Information Sheet for Subjects

Thank you for helping me out with my research into how expert language teachers sequenc their instruction. Please be sure that you understand what you are about to do before you begin.

You should have, in front of you, a tape recorder and an envelope. Please do not open the envelope yet. There is one sentence on one card, to make a total of ten cards in all.

Although the cards are numbered, they are in no particular order. The numbers are there merely to help you keep track of the cards throughout this activity. A sample card is on the outside of the envelope.

I would like you to do two things with the cards in the envelope. First of all, please identify the language problem or problems suggested by each card. For example, you might say that the sample card suggests problems with the plural form of pronouns and subject verb agreement. Please tape record your answers for each card, as the answer occurs to you.

Secondly, please arrange the cards in the order in which you would most likely address the problem or problems suggested by the cards. You might think of this process as

being similar to compiling a syllabus or developing a curriculum outline that is based upon specific language problems.

While you are arranging the cards, and this is very important, please think out loud. Record your reasons for arranging the cards in your particular manner, while you are actually arranging them. In short, please say out loud what you are saying to yourself.

Make sure that you have pressed both the "record" and "play buttons", and that you are, in fact, recording. Also please make sure that the "PAUSE" button is disengaged. Once started, do not stop the recording - it is essential that you record your thoughts precisely at the time you arrange your cards.

As for the level of detail in your explanation, my research requires that it be the same level you would use when speaking to a teacher trainee who has never been in front of a class. Indeed, it may help you to think of the tape recorder itself as such a person.

When you have finished arranging the cards to your satisfaction, please give me a call. I have a few more questions to ask you. Please feel free to take as much or as little time as you like.

If, after reading this, you still want to participate in this research, please sign the attached consent form and give it to me. At that time I will cheerfully provide you with a cassette recorder and you can begin!

Thanks again.

William McMichael

Appendix B: Sample Protocol Analysis

The verbal protocols were analyzed by first underlining the error descriptors used by subjects , then categorizing the errors as being one of eleven types. The categories used are listed in Table 4. The extract below (from Subject "A") illustrates the procedure. Descriptors are numbered in parentheses. Full transcriptions of the verbal protocols are contained in Appendix G.

> First sentence is 'I got a pamphlet for school when I went downtown and found out this course of classes'.
> (uh) Seems to be a number 1, a vocabulary or idiomatic problem (1) and number 2, ome with (uh) prepositions -found out about.(2) Maybe (um) that would have more to do with two or three-word verbs.(3)
>'This course of classes' seems seems to be some interference for from (uh)
> the (uh) native language so (uh)
> that's a vocabulary problem. (4) It's really not a teachable thing so much as something you gotta point out to people and have them work on.
> 'Terry Fox he had run across, he had ran across Canada.' Gosh these are terrible mistakes.
> Again, a duplication of (uh)
> subject, redundancy (5)
> and (uh) this person doesn't know how to use (uh) verbs
> (uh) doesn't know past tense and is confused with past perfect.(6)
> I had heard that she will take care of the children and me.
> (uh) Same problem again - doesn't know past tense
> and past perfect.(7) 'Of the children and me', now that could be right or it could be wrong.
> Hmmm.
> 'When she said the name of the singer I didn't know them'. 'Names of the singer, I didn't know them'.
Plurals plurals.(8)
> 'When she told me'. Reported speech.(9)
> 'I had to go to the driving school over than a month.'
> For more 'than a month' or for over 'a month'.
> Time clauses and then (uh) prepositions. (10)
> He was dead.
> Oh,

> classic
> here.
> Past tense, some confusion with (uh)
> confusion with passive voice. (11)
> 'I could learn various things from nature for example, why do leaves change color in the fall'.
> I would learn, had learned, I learned.
> Hmmm.
> (uh) Some modal problems there.(12) Again, most of these are verb problems.

Table B1. Error Descriptors and Categorizations.

No.	Descriptor	Category
1	vocabulary or idiomatic problem	Vocabulary
2	prepositions (found out about)	Prepositions
3	two or three-word verbs	Vocabulary
4	vocabulary problem	Vocabulary
5	duplication of subject, redundancy	Redundancy
6	past tense...past perfect	Verb Tense
7	past tense and past perfect	Verb Tense
8	Plurals	Plurality
9	Reported speech	Clause Structure
10	Time clauses...prepositions	Clause Structure Prepositions
11	Past tense...passive voice	Verb Tense Verb Form
12	modal problems	Vocabulary

Appendix C: Database Coding System for Instructional Activities

The following table is a suggested coding system of learning materials, loosely based upon a variety of ESL curriculum resources. It may coded in the "RESOURCE" structure of the database.

Table C1: Coding System for Instructional Activities

Activity Type	Abbrev.	Description
Chaining	CH	Breaking down sounds in an utterance into small units to practice intonation
Charting	CR	Creating charts to describe relationships
Clozing	CL	Inserting missing words in a text
Connected Prose	CP	Reading passage
Crosswords	CW	Crossword-type vocabulary building exercises
Describe and Draw	DD	Drawing from information given by teacher or partner
Dictionary Work	DW	Using a dictionary to find meanings of words
Discourse	DC	Speaking in a linked pattern of discourse
Discussion group	DS	Topics and outlines for discussions
Flowchart	FW	Creating specific charts to show sequences

(continued)

Table C1- Continued

Activity Type	Abbrev.	Description
Focus Listening	FL	Listening for a specific purpose
Games	GM	Rule or Task-based activities
Highlighting	HL	Underlining or extracting information from written text
Jigsaw	JG	Unscrambling information to produced an ordered text
Labelling	LB	Naming parts of a diagram
Linking	LK	Combining sentences with conjunctions
Matching	MA	Identifying relationships between two pieces of information
Note-making	NM	Extracting information from written text to support an opinion
Note-Taking	NT	Extracting specific information from discourse and writing it
Pronunciation	PR	Focusing on pronunciation or intonation by means of repetition, chaining, etc.
Questionnaire	QU	Filling in answers to written questions
Ranking	RA	Assembling information into a specified order
Repetition	RT	Repeating a model

(continued)

Table C1- Continued

Activity Type	Abbrev.	Description
Role-play	RP	Improvising speech and behaviour in specific situations
Sorting	SR	Putting mixed lists of words in the same word families
Summary	SM	Finding a title for a text, precis-writing
Transfer	TR	Substituting new utterances in a model dialogue

```
FILE = BMCM.RASSCALL;

RECORD-NAME = REC01;
  REMOVED;
  SLOT;
  OPTIONAL;
    ELEM = ABILITY;
    ELEM = TYPE;
      TYPE = STR;
    ELEM = RESOURCE;
      TYPE = STR;

  STRUCTURE = RESOURCE;
    OPTIONAL;
      ELEM = DESCRIPTION;
      ELEM = ACTIVITY;
      ELEM = LOCATION;
      ELEM = CALL;

  STRUCTURE = TYPE;
    OPTIONAL;
      ELEM = RULE.NUMBER;
        LEN = 4;
        INPROC = $INT(4);
        OUTPROC = $INT.OUT;
        ALIASES = RN;
      ELEM = PROBLEM;
      ELEM = RULE;
        ALIASES = R;
      ELEM = CF;
        LEN = 4;
        INPROC = $INT(4);
        OUTPROC = $INT.OUT;

RECORD-NAME = ZIN02;
  REQUIRED;
    KEY = ABILITY;
  OPTIONAL;
    ELEM = POINTER;
      TYPE = LCTR;
      INPROC = $HEX;
      OUTPROC = $HEX.OUT;
RECORD-NAME = ZIN03;
  COMBINE = ZIN02;
  REQUIRED;
    KEY = RULE.NUMBER;
      INPROC = $INT(4);
      OUTPROC = $INT.OUT;
  OPTIONAL;
    ELEM = POINTER;
      TYPE = LCTR;
      INPROC = $HEX;
      OUTPROC = $HEX.OUT;
RECORD-NAME = ZIN04;
  COMBINE = ZIN02;
  REQUIRED;
    KEY = PROBLEM;
  OPTIONAL;
    ELEM = POINTER;
      TYPE = LCTR;
```

```
        INPROC = $HEX;
        OUTPROC = $HEX.OUT;
RECORD-NAME = ZIN05;
  COMBINE = ZIN02;
  REQUIRED;
    KEY = RULE;
  OPTIONAL;
    ELEM = POINTER;
      TYPE = LCTR;
      INPROC = $HEX;
      OUTPROC = $HEX.OUT;
RECORD-NAME = ZIN06;
  COMBINE = ZIN02;
  REQUIRED;
    KEY = CF;
      INPROC = $INT(4);
      OUTPROC = $INT.OUT;
  OPTIONAL;
    ELEM = POINTER;
      TYPE = LCTR;
      INPROC = $HEX;
      OUTPROC = $HEX.OUT;
RECORD-NAME = ZIN07;
  COMBINE = ZIN02;
  REQUIRED;
    KEY = DESCRIPTION;
  OPTIONAL;
    ELEM = POINTER;
      TYPE = LCTR;
      INPROC = $HEX;
      OUTPROC = $HEX.OUT;
RECORD-NAME = ZIN08;
  COMBINE = ZIN02;
  REQUIRED;
    KEY = ACTIVITY;
  OPTIONAL;
    ELEM = POINTER;
      TYPE = LCTR;
      INPROC = $HEX;
      OUTPROC = $HEX.OUT;
RECORD-NAME = ZIN09;
  COMBINE = ZIN02;
  REQUIRED;
    KEY = LOCATION;
  OPTIONAL;
    ELEM = POINTER;
      TYPE = LCTR;
      INPROC = $HEX;
      OUTPROC = $HEX.OUT;
RECORD-NAME = ZIN10;
  COMBINE = ZIN02;
  REQUIRED;
    KEY = CALL;
  OPTIONAL;
    ELEM = POINTER;
      TYPE = LCTR;
      INPROC = $HEX;
      OUTPROC = $HEX.OUT;

GOALREC-NAME = REC01;
```

```
PTR-ELEM = POINTER;
  EXTERNAL-NAME = RECORD;
    PASSPROC = $PASS.LCTR;

INDEX-NAME = ZIN02;
  SEARCHTERMS = ABILITY;
    SRCPROC = $CAP;
    PASSPROC = $PASS.ELEM('ABILITY',1)/ $NULL;
  PTR-GROUP = POINTER;
INDEX-NAME = ZIN03;
  SEARCHTERMS = RULE.NUMBER, RN;
    SRCPROC = $INT(4);
    PASSPROC = $PASS.ELEM('RULE.NUMBER',NUMERIC)/ $NULL;
  PTR-GROUP = POINTER;
INDEX-NAME = ZIN04;
  SEARCHTERMS = PROBLEM;
    SRCPROC = $CAP;
    PASSPROC = $PASS.ELEM('PROBLEM',1)/ $NULL;
  PTR-GROUP = POINTER;
INDEX-NAME = ZIN05;
  SEARCHTERMS = RULE, R;
    SRCPROC = $CAP;
    PASSPROC = $PASS.ELEM('RULE',1)/ $NULL;
  PTR-GROUP = POINTER;
INDEX-NAME = ZIN06;
  SEARCHTERMS = CF;
    SRCPROC = $INT(4);
    PASSPROC = $PASS.ELEM('CF',NUMERIC)/ $NULL;
  PTR-GROUP = POINTER;
INDEX-NAME = ZIN07;
  SEARCHTERMS = DESCRIPTION;
    SRCPROC = $CAP;
    PASSPROC = $PASS.ELEM('DESCRIPTION',1)/ $NULL;
  PTR-GROUP = POINTER;
INDEX-NAME = ZIN08;
  SEARCHTERMS = ACTIVITY;
    SRCPROC = $CAP;
    PASSPROC = $PASS.ELEM('ACTIVITY',1)/ $NULL;
  PTR-GROUP = POINTER;
INDEX-NAME = ZIN09;
  SEARCHTERMS = LOCATION;
    SRCPROC = $CAP;
    PASSPROC = $PASS.ELEM('LOCATION',1)/ $NULL;
  PTR-GROUP = POINTER;
INDEX-NAME = ZIN10;
  SEARCHTERMS = CALL;
    SRCPROC = $CAP;
    PASSPROC = $PASS.ELEM('CALL',1)/ $NULL;
  PTR-GROUP = POINTER;

SUBFILE-NAME = RASSCALL;
GOAL-RECORD = REC01;
  ACCOUNTS = BMCM;
;
```

Appendix E: User Interface Extract

The following extract from the user interface is intended to illustrate how the SPIRES Protocol Language uses production rules and logical operators to guide the database searching and sorting routines. Explanatory notes are contained within the square brackets. Detailed descriptions of the commands used are contained in Chapter 3, pages 60 - 65. A sample terminal session is listed in Appendix E.

```
*RASSCALL.USER        [the interface routine name]
SELECT RASSCALL       [the database name]
SET FORMAT $PROMPT    [output format routine name]

++WELCOME         [label]

 RASSCALLRASCALLRASCALLRASSCALLRASCALLRASCALLRASSCALLR
 A                                                    A
 S                                                    S
 S                 WELCOME TO                         S
 C                                                    C
 A                  RASSCALL!                         A
 L                                                    L
 L                                                    L
 RASSCALLRASCALLRASCALLRASSCALLRASCALLRASCALLRASSCALLR

ASK PROMPT='Please enter your name...'   [system prompt]
IF $ASK=MAX THEN JUMP HELLO  [input variables are prefixed
                              with "$". "JUMP" = "GOTO".]
IF $ELSE THEN JUMP END
```

```
++HELLO

LET NAME- $ASK  [assigns new variable name to $ASK]

/Hello #NAME. Have a nice session!

/USE RECORD-FILE      [SPIRES database management commands
                       are  prefixed with "/". "RECORD-FILE"
                        is a data file of all system users]


/ACTE 'ACCESS GRANTED TO #NAME'  ["ACTE" writes to the end of
                                  the active file, in this
                                  case, "RECORD-FILE")]

/ACTE $DATE
/ACTE $TIME
/ACTE $TERMINAL
 JUMP GO1


++GO1

  How much evidence do you see of a problem with
      redundancy of subjects?
 1. a lot  2. some    3. a little   4. none

ASK PROMPT= 'Select one number...'
IF $INT(ASK) <=2 THEN JUMP GO2      ["$INT" tests that input
                                     is an integer]

IF $INT(ASK) >=3 THEN JUMP SYSTEM.CHECK1
IF $ELSE THEN JUMP ERROR.CHECK


++SYSTEM.CHECK1

LET CHECK1=$ASK

/  #NAME, because you answered #CHECK1 here,
   RASSCALL is not sure this student is at an
   Intermediate ability level.

ASK PROMPT='Do you wish to continue? (Y/N)...'
IF $ASK=Y THEN JUMP GO2
IF $ASK=N THEN JUMP END
IF $ELSE THEN JUMP CHECK1
```

```
++ERROR.CHECK

LET CHECK1=$ASK

/  #NAME, you have not provided enough information
   for RASSCALL to proceed. Let's try again.

JUMP GO1


++GO2

/FIND RULE STRING REDUNDANCY [initiates a database search]

 How much evidence do you see of a problem with the
     active or passive forms of verbs?
 1. a lot  2. some    3. a little   4. none

ASK PROMPT= 'Select one number...'
IF $INT(ASK) <=2 THEN JUMP GO3
IF $INT(ASK) >=3 THEN JUMP SYSTEM.CHECK2
IF $ELSE THEN JUMP ERROR.CHECK


++GO3

/FIND RULE STRING VERB FORM
/AND STRING REDUNDANCY      ["AND" restricts the search to
                            only rules related to verb forms
                            and redundancy. this search
                            supercedes the previous one]
 JUMP SEQUENCE1


++SEQUENCE1

/SEQUENCE CF                [sequences the rules by certainty
                             factors]

 RASSCALL suggests that you address these problems
     in the following instructional sequence:

/TYPE PROBLEM               [types the problems associated
                             with the rules, by certainty
                             factor]

ASK PROMPT='Would you like an explanation? (Y/N)...'
IF $ASK=Y THEN JUMP EXPLAIN1
IF $ELSE THEN JUMP END
```

```
++EXPLAIN1

     RASSCALL bases its suggestions for sequencing
     instruction on 88 rules derived from those used
     by expert ESL instructors to sequence instruction.
     The rules applied in this case were:

/TYPE RN,PROBLEM,CF          [prints rule.number, problem and
                              certainty factor to the screen]

ASK PROMPT='Would you like to see a list of resources?
            (Y/N)...'
IF $ASK=Y THEN JUMP RESOURCE1
IF $ELSE THEN JUMP END


++RESOURCE1

/USE -PRINT                  [sets new active file]

/FIND RULE STRING REDUNDANCY

/SET HEADER 'Redundancy Problems'   [formatting command]

/OUTPUT                      [writes to active file]

/TYPE DESCRIPTION, ACTIVITY,LOCATION,NUMBER

/FIND RULE STRING VERB FORM

/SET HEADER 'Verb Form Problems:'

/OUTPUT CONTINUE     [writes to end of active file]

/TYPE DESCRIPTION, ACTIVITY,LOCATION,NUMBER

ASK PROMPT='Would you like a printout of the
            resources?(Y/N)...'

IF $ASK=Y THEN JUMP PRINT

IF $ELSE THEN JUMP END


++PRINT

/$COPY -PRINT TO *PRINT*  [prints active file]

JUMP END
```

```
++END

/ Thanks for the visit, #NAME
  If you wish to restart RASSCALL, please press
  the RETURN key.
```

Appendix F: Sample Terminal Session

In the following sample terminal session, user input is in uppercase boldface. The user in the example is a teacher named "Max".

Screen 1: Welcoming message and security check

```
RASSCALLRASCALLRASCALLRASSCALLRASCALLRASCALLRASSCALLR
A                                                     A
S                                                     S
S                    WELCOME TO                       S
C                                                     C
A                     RASSCALL!                       A
L                                                     L
L                                                     L
RASSCALLRASCALLRASCALLRASSCALLRASCALLRASCALLRASSCALLR

Please enter your name... MAX

Hello MAX. Have a nice session!
```

Screen 2: Diagnostic prompt

```
How much evidence do you see of a problem with
redundancy of subjects?
 1. a lot  2. some    3. a little   4. none

Select one number... 4
```

Screen 3: System Check

```
MAX, because you answered 4 here,
RASSCALL is not sure this student is at an
Intermediate ability level.
Do you wish to continue? (Y/N)...Y
```

Screen 4: Continuation of Diagnostic prompts

```
How much evidence do you see of a problem with the
active or passive forms of verbs?
 1. a lot  2. some    3. a little   4. none

Select one number... 2
```

Screen 5: Continuation of Diagnostic prompts

```
How much evidence do you see of a problem with
use of past tenses?
 1. a lot  2. some   3. a little   4. none

Select one number... 4
```

Screen 6: System Check

```
MAX, because you answered 4 here, and 4 to
the second diagnostic prompt,
RASSCALL is very unsure this student is at an
intermediate ability level.
Do you wish to continue? (Y/N)...Y
```

Screen 7: Continuation of Diagnostic prompts

```
How much evidence do you see of a problem with
use of prepositions?
 1. a lot  2. some  3. a little  4. none

Select one number... 1
```

Screen 8: Suggested Instructional Sequence

```
RASSCALL suggests that you address these problems
in the following instructional sequence:
 1. Verb Form Problems
 2. Preposition Problems

Would you like an explanation? (Y/N)...Y
```

Screen 9: Explanation

```
RASSCALL bases its suggestions for sequencing

instruction on 88 rules derived from those used

by expert ESL instructors to sequence instruction.

The rules applied in this case were:

RULE 11
Verb Form Problems Precede Preposition Problems
CERTAINTY  100 %

RULE 70
Preposition Problems Precede Verb Form Problems
CERTAINTY    0%

Would you like to see a list of resources? (Y/N)...Y
```

Screen 10: Resource List

Note. A listing of activity types is given in Table B1. Locations and material numbers are specific to the institution.

```
Verb Form Problems:

DESCRIPTION: Headway (workbook)- p 72
ACTIVITY: Highlighting
LOCATION: Resource Room
NUMBER: INT 111-2

DESCRIPTION: Worksheet
ACTIVITY: Clozing
LOCATION: Curriculum Files
NUMBER: INT 55

Press RETURN to continue
```

Screen 11: Resource List (continued)

```
Verb Form Problems:

DESCRIPTION: Audio Casette
ACTIVITY: Focus Listening
LOCATION: Language Lab
NUMBER: INT 35

Preposition Problems

DESCRIPTION: Orbit 1 (workbook)- p.17
ACTIVITY: Role-play
LOCATION: Resource Room
NUMBER: INT 134-2

Would you like a printout of the resources? (Y/N)...Y
```

Screen 12: Signoff

```
Thanks for the visit, MAX.

If you wish to restart RASSCALL, please press

the RETURN key.
```

Appendix G: Transcribed Verbal Protocols

Recording conventions used in these transcriptions

Standard punctuation is used in these transcripts, with the following specially defined characters:

> followed by text, indicates a resumption in speech after a break in the flow of speech. Pauses for breath are not considered to be breaks in the flow of speech.

> followed by an blank line indicates a period of silence of three seconds in duration.

'single quotation marks' enclose text that is being read by the subjects.

UNderlining indicates that a word was given unusual stress by the subject. In words of more than one syllable, the syllable that has been most stressed is capitalized.

[square brackets] enclose explanatory comments inserted by the researcher.

Square brackets around a number refer to the number of the sample sentence being discussed by the subject. These sentences are as follows:

[1] I COULD LEARN VARIOUS THINGS FROM NATURE. FOR EXAMPLE, "WHY DO LEAVES CHANGE COLOUR IN THE FALL?"

[2] TERRY FOX HE HAD RAN ACROSS CANADA.

[3] I RELAXED THERE EACH SUMMER TIME.

[4] I GOT A PAMPHLET FOR SCHOOL WHEN I WENT DOWNTOWN AND FOUND OUT THIS COURSE OF CLASSES.

[5] I HAD TO GO TO THE DRIVING SCHOOL OVER THAN A MONTH.

[6] I HAD HEARD THAT SHE WILL TAKE CARE OF THE CHILDREN AND ME.

[7] THERE WERE SOME KINDS OF TRANSPORTATIONS FOR TRAVEL IN DIFFERENT PART.

[8] WHEN SHE SAID THE NAMES OF THE SINGER I DIDN'T KNOW THEM.

[9] THE FIRST DAY I CLEANED OUR ROOM AND MADE SOMETHINGS FOR DINNER.

[10] HE WAS DEAD AT JUNE 28, 1981.

SUBJECT A

> First sentence is 'I got a pamphlet for school when I went downtown and found out this course of classes'. [4]
> (uh) Seems to be a number 1, a vocabulary or idiomatic problem and number 2, one with (uh) prepositions (found out about). Maybe (um) that would have more to do with two or three-word verbs.
>'This course of classes' seems seems to be some interference for from (uh)
> the (uh) native language so (uh)
> that's a vocabulary problem. That's really not a teachable thing so much as something you gotta point out to people and have them work on.
> 'Terry Fox he had run across, he had ran across Canada.' [2] Gosh these are terrible mistakes.
> Again, a duplication of (uh)
> subject, redundancy
> and (uh) this person doesn't know how to use (uh) verbs
> (uh) doesn't know past tense and is confused with past perfect.
> I had heard that she will take care of the children and me. [6]
> (uh) Same problem again - doesn't know past tense
>
> and past perfect. 'Of the children and me', now that could be right or it could be wrong.
> Hmmm.
> 'When she said the name of the singer I didn't know them'. 'Names of the singer, I didn't know them'. [8] Plurals.
> 'When she told me'. Reported speech.
> 'I had to go to the driving school over than a month.'[5]
> For more 'than a month' or for over 'a month'.
> Time clauses and then (uh) prepositions.
> He was dead. [10]
> Oh,
> classic
> here.
> Past tense, some confusion with (uh)
> confusion with passive voice.
> 'I could learn various things from nature for example, why do leaves change color in the fall'. [1]
> I would learn, had learned, I learned.
> Hmmm.
> (uh) Some modal problems there. Again, most of these are verb problems.
>I'm having a hard time here identifying the language group. I presume its Japanese because I know that (uh)
> you teach at the Language Institute but (uh) they don't seem to be
> anything (uh) specific. The there's the one with the double subjects seems to be a Spanish speaker.
> 'There were some kinds of transformations for trouble [sic] transportations for travel in different part'. [7]

> Where do you start here?
> This person doesn't know how to express themselves period.
> 'I relaxed there each summer time'. [3]
> (uh) Don't see a really serious problem there.
> 'Time' of course.
> 'The first day I cleaned our room and made somethings for dinner.'
> For,
> made someTHING.
> 'The first day I cleaned our room and made something for dinner.'
> Simple plural problems.
> Made it tough this time.
> So I gotta try and make a syllabus outa this.

[Elapsed time for task one: 3: 28]
> And (uh)
> I'm more inclined this time to go with (uh) GRAMmar
> than I normally would be because (uh) these look like grammatical problems.
> Let's just look at these.
> Number 7.
> That person needs a very basic (uh) work with writing.
> Okay, number 1
> is verbs.
> Number 10 is verbs. Number 5 is verbs.
> Number 6 is verbs.
> Number 2 is verbs.
>
> Okay, so let's just (uh)
> go with that first. It would seem that this person is interested in past perfect
> but doesn't really know past tense
> so I would start by teaching this person past tense and I would contrast that with the difference with (uh) past perfect.
> That's the first thing I would do.
> I would introduce modals and when they are used, but these are > very basic things. I would also introduce the concept of passive tense.
> Okay, so the basic thing is I think I'd start with verb tenses and I'd start with past tense.
> This person has got to learn past tense.
> And then the next two things I would teach this person is (uh)
>
> is how to use past perfect
> and probably would do a lot of that with writing because this seems to be a written problem
> (uh) in many ways, okay?
> And the other thing I would teach this person is the use of correct use of modals and of passive voice.
> This the 'was' and 'be' coming up when it shouldn't. He was dead.
> (uh), it's important to teach a person passive voice so that they don't do that and to really hound them about it.
> There doesn't seem to be anything really communicative (uh) or

functional I can put my fingers on in all this stuff.
> I guess that's my particular bent at this time.
> (uh) Okay now, the second problem I have.
>
> Okay the other thing seems to be idiomatic.
> Plural problem there.
> Plural problem there.
> (uh), Reported speech would be another one - 'when she told me the names of the singers, I didn't know them' [8] - I think I'd just work on reported speech. Seems to be another thing.
> Seems to be an intermediate type person - lower intermediate.
> (uh) Idioms - 'I relax there each summer time' 'I relax there every summer' [3]
> Go with a lot of idiom and vocabulary work.
> First day I...
> okay. So (uh)
> again, this must be Japanese 'cause of the extra plurals.
> I made some things for dinner - (uh), pretty good.
> Nothing I can really put my finger on there.
>
> Okay, so I basically think that what you're gonna do is have a verb-oriented (um)
> curriculum here. Past tense, past contrasted with past perfect,
> teach them passive voice and reported speech. Hound them a little bit about plurals, idioms and prepositions.
> (uh) Number 7 'there were some kinds of transportations for travel in different part' - I would just ignore
> that because there is no beginning point to (uh) correct it. This person needs some
> very basic word order and grammatical work. So, you got a grammatical base curriculum plan. Nothing functional.
> What do you think, Katherine ? [the name on the tape recorder]
>
> Definitely plan this curriculum around the person's needs and the person's needs are
> (uh) verbs.
> I think a lot of (uh)
> sentence creation
> (uh) a lot of problem solving where they have to answer in complete sentences,
> lot of contrast work, a lot of composition writing was what this person,
> or these people, need.

[Elapsed time for task two: 5:04]
[Total elapsed time: 8:32]

SUBJECT B

> I'm doing number 10. He was dead at June 28, 1981. This is obviously a vocabulary problem.
> (um) The student has a problem with the adjective 'dead'
> and probably the
> participle
> was killed.
> Maybe a passive (uh) problem.
> (um) There's also the student isn't using the simple verb
> 'to die'.
> It's a confusion of the verb and the adjective, whether it's a a passive voice or a participle problem (um)
> is hard to say.
> Now I'm looking at card number 5.
> I had to go to the driving school over than a month.
> Two errors here that I can see. The driving school. I think I would probably delete the article.
> I had to go to driving school.
> (uh) For over a month should obviously be for more than a month.
> (uh) So the student is,
> just has a problem here with the preposition and with the comparative.
> (uh)
> I think that handles that one.
> Let's go on to card number 9. The first day I cleaned our room and made somethings for dinner.
> There's a plural problem with somethings. The student wants to say made some things, two words, but (uh)
> the student is confusing it with the (uh)
> pronoun 'something'.
> The first day I cleaned our room and made somethings for dinner.
> (um) I think that's all there is really there.
> (uh) Student...
> no that's it.
> On to card number 2. Terry Fox he had ran across Canada. Hmmm.
> several problems here. One is the (uh)
> pronoun 'he' following the subject.The student (uh)
> just simply has two subjects and needs to learn that (uh) the pronoun isn't necessary.
> He had ran across Canada. The other one is, of course, the (um)
> past participle for (uh)
> the past perfect.
> (um) The student probably knows it's an irregular verb
> (um) hasn't mastered the irregular form (uh)
> run,ran,run.
> Looking at card number 8. When she said the names of the singer I didn't know them.
> When she said the names of the singer. Okay the student has...
> There's a little punctuation problem - I'd have a comma after singer.
> There's also the problem with 'names'. There's an agreement problem.

> (uh) do we have names of the singers ?
> Or name of the singer.
> I'm not sure that there is only one singer
> I think the student means there is one singer and the student is thinking of a first name and surname
> and then of course there is the agreement pronoun that the student has done correctly.
> The (uh) pronoun 'them' is plural for the antecedent 'names'.
> If, however, the student were to (uh)
> rewrite it (uh) indicating appreciation that the name, in fact, should be singular,
> then the student would say 'When she said the name of the singer, I didn't know it." Or, I didn't REcognize it
> would probably be better than 'know', and that's simply a vocabulary problem.
> (um)
> Let's go on to card number 4. I got a pamphlet for school when I went downtown and found out this course of classes. Vocabulary problem here - 'course of classes'. The student is thinking of 'course' perhaps as we would use the word 'program'.
> (um) 'Course' is a group of classes. (um) Now there are some other errors here. I got a pamphlet for school.
> (um) We have a (um) problem here with
> the degree of formality. I don't know if I would use 'got'. The student should probably be using 'I picked up', or
> 'I found a pamphlet', I picked up a pamphlet.
> For school is also a vocabulary problem.
> It might be, described, or should possibly be 'I
> picked up a pamphlet describing the school'.
> Or 'about the school'. 'For' is the problem here. The pamphlet is not for school, it's about
> the school. (um) It's a preposition and a vocabulary problem.
> 'When I went downtown' - a problem there, (uh) if I were rewriting this, I would say 'I went downtown and picked up a pamphlet about the school
> and learned about or found out about
> this program.'
> (um) So, the student has a problem there with (uh) syntax - when I went downtown - I would probably put at the beginning of the sentence 'When I went downtown, I picked up', .
> or
> perhaps just,
> 'I picked up a pamphlet for school downtown'. Maybe just turn it into an adverb rather than an adverbial clause. And 'found out
> this course',
> no we need a preposition there, 'found aBOUT this course of classes'. 'Found out about this programme'.
> Again, vocabulary.
> 'Course of classes' should be
> 'programme'.
> (uh) Number 6.
> 'I had heard she will take care of the children and me'.

> Not bad except that we have this conditional
> (uh) not it's not a conditional-it's a simple past tense
> (uh)
> and we need to put the
> second clause
> that she will take care of in the past tense. I had heard that she would take care of the children and me.
> It's related to a reported speech (uh)
> (um) structure.
> (uh) Let's go on to number 3.
> 'I relaxed there each summer time.'
>
>
> I relaxed there...
> I relaxed there every summer?
> (uh) Okay, problem with summer time.
> summer time
> is a season
> but summer is a PEriod.
> So it's a vocabulary problem here/
> (um) 'I relaxed there every summer'
> would be a correction. We also have a vocabulary problem with 'relaxed', I think
> and I would
> rewrite this as (uh)
> 'I went there to relax every summer'.
> 'I went there to enjoy myself every summer'.
> (um) It's a problem. It's a semantic problem
> (um)
> 'Relaxed' used the way the student has it here
> 'I relaxed there every summer',
> (uh)
> indicates a great degree of intent in the
> relaxing
> and, of course, relaxing is not something that is (uh)
> generally done intentionally
> so, it's (uh) simple semantics.
> I would rewrite this as
> I went there to relax every summer.
> We could say I went there to relax each summer.
> So, two errors there -
> one semantic, both semantic
> relaxed and summer time.
> (uh) Now sentence number 1.'I could learn various things from nature for example why do leaves change colour in the fall'.
> This is, one of the problems here is tense
> I don't know if the student is
> describing
> a possibility that was DEfinitely in the past. For example
> if the student is describing the (um)
> an experience in childhood
> the student might say

> I was able to learn various things for—I was able to learn various things from nature
> describing a past experience.
> If the student is, of course, describing a PREsent experience, it's got to be
> I am able
> or, I can learn
> various things from nature.
> I would quibble over the use of the word "things"
> (uh) it's just not a very (uh)
> good word here. It's not very descriptive. It's not very concrete
> (um) I might use, well, I'd simply (uh)
> look for
> a better lexical item.
> Now, let's go on to the
> next part of this sample.
> We obviously have a sentence fragment, 'for example why do leaves change colour in the fall'.
> (uh) This should not be separated from the first part of the sample.
> We should have
> I was able to learn various things from nature
> (uh) comma, for example
> why do leaves change colour in the fall?
>
> Or (uh) I can learn or I have learned?
> Yeah, if we go back to that tense problem I might deal with it as a present perfect (uh)
> I've learned various things from nature
> (uh) and, of course, we need a comma for example why do leaves change colour in the fall?
> Two problems
> tense and
> the sentence fragement that should be...
>
> The sentences should be combined
> (uh) Number 7. 'There were some kinds of transportation for travel in different parts'.
> Well, we have to decide what the student means.
> I think the student means
> 'there were different modes of transportation
> for travel in different parts'.
> The student might mean 'there were different modes of transportation depending on where you wanted to go'.
> What else might the student mean?
> (uh)
> It's a tough one
> because the intent of the student isn't clear. It's hard to
> pin down where the error would be.
>
> 'Different kinds' I would use rather than 'some kinds'.
> ' Of transportation'
> is another error. Transportation, of course, is (uh) NEVER, as far

as I know, plural.
> It's an abstract noun.
> 'For travel'
> now, 'in different parts'
> We probably have a preposition problem here
> (uh) and I would use "to", of course different
> and then part we have an agreement problem.
> I believe if the student means what I think he means-
> [telephone rings] Just a moment please...
> Okay, now we're back to (uh) Number seven about fifteen minutes later. Let's see where we were. 'There were some kinds of transportation for travel in different parts'.
> I think we dealt with the preposition 'travel to' and it should be 'travel to different PLAces'.
> We have an agreement problem there
> (uh)
> dictated by the
> (uh)
> determiner "different".
> "Different" is going to require
> (uh) something plural.
> So, I would write, simply write (uh)
> There were different kinds of transportation for travel to different places or
> different destinations.
> I hope I've itemized them clearly enough there.
> (uh)
> Okay, let's go on to number... Oh we did number 10. I've been through all ten cards.

[Elapsed time for task one: 8:25]

> Now I'm going to do the arranging.
> I believe I'm to arrange them in the order which I would address them.
> Okay, I've done a really quick arranging. I'll talk (uh) my way through the - I think I would probably go with the simple vocabulary or semantic problems first. For example, "I relaxed there each" on number 3
> and (uh) number 10
> are fairly low level vocabulary problems.
> (uh)
> As is number (uh) 9.
> It's also a simple compound sentence so
> (uh) I might (uh)
> arrange number 9 in that- we'll put number 9 in that group
> (um) 'I had heard that she would take care of the children'.
> Okay- I'm now going through and putting the fairly complex sentences at the HIGHer end
> or at the LAter part of the teaching sequence
> (um)
> as I probably would verb tenses.

> So, I've got five of them: 1-7-6-5-2.
> arranged fairly late in the sequence.
> Now I'm looking at number 8 is primarily vocabulary and agreement...
> no, it's not an agreement problem - it's simply vocabulary.
> "When she said the name of the singer I didn't know them".
> I would say, "When she said the name of the singer, I didn't recognize it"
> or, " I didn't know it".
> (uh)
> So I'd put that at a fairly low level.
> (uh) Now.
> Okay. This is a REAlly preliminary sequence and I'll probably be going through them again.
> Oh ! Number 10 does have another problem that I didn't even notice and that's the problem "on June twenty-eighth"
> should be he died on June twenty-eighth, nineteen-eighty-one
> I would pick that first - that's vocabulary and preposition.
> (uh) Then I'd go to number 3
> (um) I went there to relax each summer
> (uh) took a vacation there each summer
> or every summer.
> (uh)
> Yeah. I'd go to number 3.
> The first day I cleaned our room and made some things for dinner.
>
>
> Yep, number 9.
> Number 8 "When she said the names of the singer I did not
> -here we have a complex sentence
> and that simple plural problem with names.
> Number 4 " I got a pamphlet for school downtown.
> DOWNtown I picked up a pamphlet for school and found out about-
> (uh) I would do it this way - 'I found out about this programme from a pamphlet about the school that I picked up downtown'. Fairly complex sentence.
> (uh)
> I wouldn't put number 4 there, it's too complex.
> 'Terry Fox he...'
> 'Terry Fox ran across Canada'.
> I'd put number 2 there.
> Simple verb tense problem.
>
> And we're at sample number 5, " I had to go to the driving school."
> Of course, this should be for more than a month
> it's a (uh) comparative and a preposition problem.
> We could also do this as " for over a month" but (uh) I would consider that to be not quite standard. I would use 'for more than a month'. This is Canadian Press style - 'for more than a month'.
> Anyway, (uh) this may very well go in this position because it is
> comparative
> and preposition.
> I had heard that she would take care of the children and me. This is

number 6.
> This is a tense, but it's also a complex sentence
> (um) reported speech-related.
> (uh)
>.Should possibly be in this position.
> Number seven, 'There were different kinds of transportation for travel' or 'different modes of transportation
> for travel to different places'.
> (uh) Here we have a
> fairly, well, it's a simple sentence, but we have a "there were" construction. We also have a plural problem, a vocabulary problem and a preposition problem.
> (um)
> Lots of problems here. I'd probably leave it right here.
> Then we have Finally
> two complex sentences,
> ' I was able to learn various things from nature for example'. This is
> (um) a
> fairly high level composition-related problem. Let's see, I'm looking at number four at the same time. I got a pamphlet from...
> Yeah, here we have a compound and a complex structure.
> I'd probably reverse four and one because number one...
> Okay, number 4 is compound-complex sentence.
> Number one is a run-on sentence problem with a quotation in it. So there's, it's something that would
> (um) relate to a
> (um)
> PARagraph context perhaps.
> (uh) I'd probably put it last.
> So let's go through and look at the sequence.
> This is not very hard and fast.
> I think I'd do them in this order: 10-3-9-8-2-5-6-7-4-1.
>
> (um) I would think, too, that (uh)
> 10 and 3 could probably be switched.
> (um) 9 could be anywhere in that first group.
> I'd leave 8 as the fourth one.
> (um) 2 and 5 might be reversed.
> Six, I'd probably leave. It's not a simple verb problem. It's a modal auxiliary problem as well, so I'd probably have two and five or five and two followed by 6 because it involves the modal auxiliary 'would'.
> And then, 7, 4 and 1 I think I'd leave in that order.
> It's Really difficult to say. I don't know if I would deliberately set about teaching the, teaching (uh) or setting up a syllabus or curriculum that would handle these in this order.
> (um) With the exceptions of the first (uh) three or four, they're largely vocabulary and agreement problems. The others would be errors that would come up at a somwehat advanced level of student writing and I would probably deal with them as an error analysis in class similar to what (um) I've just done on tape here. And as a group , we would in

class look at
> (uh) these errors, assuming that (um) a large number of students in the class would be able to provide some
> (uh) valuable input in the error analysis.
> I don't know if I would handle them sequentially.
> All right. I hope that serves your purposes and...
> Yes, I'd be happy to participate further in this research and I just hope I have enough time to be of
> (um) sufficient help. It's been fun
[Elapsed time for task two: 8:50]
[Total elapsed time: 22:35]

SUBJECT C

> Okay, card number 10.
> (uh) This is a problem with
> 'He was dead at June 28'.
> (uh) The student has (uh)
> confused the
> active form with a kind of a
> what should be an active form using a pattern with a
> copula verb and an adjective.
> Student number (uh) sentence number 9.
> 'The first day I cleaned our room and made
> somethings for dinner'.
> Oh, it's a problem of (uh).
>
> something.
> 'The first day I cleaned our room and made something for dinner'.
> A problem of usage of the
> two forms some thing and SOMEthing
> (um) as one word or two words. In this case when you're using a plural form
> of things for dinner,
> you should
> you should not use it as (uh)
> one word.
> If you wanna use a singular, you'd use
> 'something for dinner'.
> Card number 8. 'When she said the names of the singer I didn't know them'.
> 'When she said the names of the singer,
> I didn't know them'
> It's ambiguous if,
> if the...
> could be no error at all if if she was saying
> both of the names of the singer, but usually, of course, we would
> think of it as one name
> of the singer. I didn't know it.
>

>
> Could also say that (uh) for vocabulary (uh)
> know, recognize might be better than know.
> Sentence number 7. 'There were some kinds of transportations for travel
> in different part'.
> 'Transportations for travel'...
> This is really (uh) messed up use - messed up vocabulary here
> 'Some kinds of
> travel in different part'
> (Hmm)
> (uh)
>
> The student just doesn't know how to put together his main idea here
> I think he's thinking here - 'some kinds of transportations for travel in different part' -
>
> there's some there's different kinds of
> means, different means of travel in different areas of some place.
> It's basically a problem of vocabulary.
> Sentence 6. 'I had heard that she
> will take care of
> of the children.'
> Oh, this is a problem of noun clauses and
> tenses with noun clauses.
> And when you're usin' noun clauses in an object you have to
> make sure that the tenses progress after the main verb tense, so
> this case the (uh) main verb tense is
> I had heard. It's past perfect so
> the verb in the noun clause that follows as an object should be in the
> the perfect form- she would take care of the children.
> Sentence 5. I had to go to the driving school over
> than a month.
> (uh)
> I had to go to the driving school
> Well, it's (uh) for over a month, right? And (uh)
> it's a vocabulary problem, not using "than". Instead
> should be used for... [unintelligible]
> So, I had to go to a driving school for over a month.
> Sentence 4. 'I got up a pamphlet for school when I went downtown and found out this course of classes'.
>
>
> (uh) The student has ommitted a preposition here. I got a pamphlet for school when I went downtown and found out about this course.
> Sentence 3. I relaxed there each summer time.
>
> (um)
> I re...
> I relaxed there.

>
> Using each summer time usually implies a
> habitual kind of form
> and we would usually use I relaxed there every every summertime > or each summer holiday
> (uh) Using each with a holiday would be better and
> using every with summertime.
> Of course you could use a habitual in the past and relaxed would be okay, as in "I used to relax".
> Sentence 2. 'Terry Fox
> he had ran across Canada'.
> That's a sentence fragment without any verb. You've got a student using an adjective clause
> incorrectly
> and then not having a main
> verb. So you have
> Terry Fox, who had run, who had ran, who had tried to run, across Canada, blah, blah, blah.
> It's a wrong verb tense and wrong usage of an adjective clause > in mid sentence.
> Sentence 1. 'I could learn various things from nature.
> Punctuation problem'.
> For example, why do leaves change colour
> in the fall.
> (uh)
>
> 'I could learn various things from nature
> for example'...
> (uh) There's a little bit of a semantic problem, but if we ignore that for a while
> it's (uh) grammatically okay (uh).
> Problem with the punctuation.

[Elapsed time for task one: 6:25]

> Okay now I'm supposed to order these things in
> in some kind of order.
> Why don't we try one out.
> Let's see now.
> Punctuation, number 1
> Number 2, adjective clause and fragment
> Number 3, vocabulary
> Number 4, usage
> Number 5, preposition usage
> Number 6, noun clauses
> Number 7,
> usage
> Number 8
> (uh)
> 'When she said the names of the singers I didn't know them'...
>
>

> Number 9
> 'and then I made some things for dinner'
> 10,
> Okay
>
> All right, just looking quickly here
> (uh) I guess I would start with number 10. It's a very common kind of problem -
> students using (uh) confusing the to be verb with adjective forms and
> past part, verb forms, so he died on June
> 18th, the preposition of that
> So we'll start with sentence 10. It's a
> recurring problem and quite simple problem.
> Should be brought to students' attention quite early in their
> career. They won't get it right away, but they should be made aware of that.
> Okay, now what's next.
> (uh)
>
>
>
> An adverb clause.
> I think number 8 is more of an, I noticed an adverb clause problem there, too, so I put it that over with the clauses
> Compound sentences, that's another basic division we have
> for doing a grammatical kind of thing. Simple formal sentence. > One clause sentences and two clause sentences.
>
>
>
>
>
>
> Okay, I think I'll put 3 and 9 together for just some basic, beginner level vocabulary things the students should be aware of.
> 'The first day I cleaned our room and
> made something for somethings
> something for supper, for dinner'
> and (uh) the students use
> - it's not a crucial item of any kind, but (uh) just was simply for correcting their writing and
> it's not a difficult sentence so
> number nine. And number 3 is a similar kind of
> vocabulary problem - I relaxed there
> every summer -
> 'I relaxed there each summer holiday',
> or each summer time. It's just in usage. Vocabulary I would think.
> So, I would put 3 and 9 next
> I think.
> Now, I think I'd move next into
> the clause type of problems here.

> Oh, sorry, I forgot number 5 here
> I had to go to a driving school
> for over a month. It should be...
> Yeah, That would be
> either the same time as 9 and 3
> or just before it even.
> (uh) Students should know how to use that time expression for over a month, one month, for over a month, okay?
> Now...
>
>
> Now the next I think I'd
> try to use
>
> (uh)
>
>
>
> at the same time should try to use some
>
>
> some (uh)
> CLAUSes in sentences, two-clause sentences.(uh)
> I got the... Probably the number 4 would be a good simple item of vocabulary to introduce
> I got a pamphlet for school when I went downtown and I found out about
> (uh)
>
> to found out about this... Oh, I see.
> It could. Number 4 could, you could approach it as simple found out aBOUT this course, but later on you might want to
> reduce that to
> an infinitive and say, "when I went downtown to find out about this course."
> But, let's just keep it as a simple problem of putting the preposition in there. So "found out about something". And that would be a vocabulary item, I think.
> So put number 4 next.
> Now
> clauses here.
> Students should be introduced to the idea of adjective clauses
>- this student anyway -
> next with this, 'Terry Fox, he had run across Canada'[2]
> then
> then after that
> then we need
> the who form
> Terry fox, who had run, et cetera.
> And so, do that type of thing next.
> (uh)
> Then, if the student is writing the kind of sentence like this, I

would, number 6
> with the
> noun clause objects.
> Should work on those type of forms next I would think.
>
> Now, number 8. I changed my mind about number 8. I noticed that it
> probably would be easier,
> easier to approach it as a time clause, or advarb clause in
> in about the same time as you're doing in 2 and 6
> noun, adjective clauses and
> (uh) noun clauses.
> Not all simultaneously of course, but then you might say AFter she said the names....
> Excuse me, beFORE she said the names of the singer I didn't know them. Just changing the "when" to "before". Different meanings of time clauses
> Okay, number 8.
> Next now, we got 7 and 1 here.
>
> Now, one is a semantic problem too, but it does look like [unintelligible] punctuation.
> Should be left later to (uh)
> clean up student's writing.
> And (uh) number 7 is
> a semantic problem. I'm not sure what the student is going to have to...
> You can have quite a...the student is going to be doing quite
> well in later, you know, progressing along, getting right along
> so there's some - I'd approach that one later on probably, that type of
> semantic problem. So it's part of a writing segment which would come much later I would think.
> Okay?
> I think I've covered them all.

[Elapsed time for task two: 9:02]
[Total Elapsed time: 15:27]

SUBJECT D

> Okay the first card I'm looking at
> says 'The first day I cleaned our room
> and made somethings for supper'[9]
>
>
> The thing that jumps out at me here is
> plurals.
> 'The first day I cleaned our room'.
> The plural
> adjective 'our'
> and the singular 'room' might lead me to think that it should be our rooms although it's possible they only have one.
> But the other one 'made somethings',
> making 'somethings' plural,
> (uh) when it's really talking about some kind of an ambiguous
> food. We don't know what the name of it is, some kind of anonymous
> or unknown
> type of food and it certainly doesn't need to be plural
> so I think plurals would be the main problem with that one.
> Second sentence, 'When she said the names of the singer
> I didn't know them' [8]
> Okay I want to know how many names does the singer have.
> If it's only one -
> (uh) but then again perhaps it's more than one singer. If it's one singer, I would be curious to know why this
> one person has several different names. It doesn't seem to be very practical if you're an entertainer.
> So, I think, once again,
> it's a problem with 'singer',
> (uh) whether or not it's singular or plural. So I would say plurals again.
> The third one, 'He was dead at June 28, 1981'.[10]
> Okay, the first thing is obviously the 'was dead',
> the verb to die
> (uh) using the past participle instead of the simple past.
> And the second thing in this sentence is the misuse of the preposition 'at'
> before June the 28th, 1981.
> So, the two things would be the verb and the preposition.
> The fourth card, 'I had to go to the driving school over than a month'. [5]
> Okay, the modal looks okay.
> But I don't think in this sentence you need the article in front of 'driving school'.
> And, 'over than a month'.
> I think the person has confused two quantitative expressions,
> for Over and more than.
> So quantitative expressions would be something to look at so
> the articles and the quantitatives.
> Next one. 'There were some kinds of transportations for travel in

different part'.
> Once again, plurals jump out.
> 'Transportations' in the plural form,
> which shouldn't be and different'part'
> implies, of course, more than one and they've left it as a singular, so plurals would again be a problem.
> And if it's 'different parts', then it would have different kinds of transportation, so the 'some'
> (uh) would not be the best choice of words, vocabularily [sic] speaking.
> In that sentence, I would be tending to
> try for some kind of parallelism
> in that sentence.
> Next one. 'I relaxed there each summer time'. [3]
> 'Each' and every
>
> in the habitual.
> I think I would look at that, 'each' and every.
> Now 'summer time'
> I don't think we would need the time, since we're talking about the season.
> And I don't think I would (uh)
> go for the 'time' part of it.
> 'I relaxed there'. I think I would look for another, another word instead of 'relaxed'.
> (uh)
> I think I'd try to find some kind of synonyms.
> What exactly does the person mean?
> (uh) 'Relaxed' as if you flopped down in your chair, or 'relaxed' as go for a beer, or what.
> What are they talking about. And try to find something more specific than simply 'relaxed'.
> So vocabulary and each and every
> would be the two things I look at there.
> 'Terry Fox, he had ran across Canada'.[2]
> Duplication of the subject 'he' when you've already said 'Terry Fox'
> and the verb tense 'had ran' for the past perfect instead of had run.
> So, duplication of the subject and verb tense.
> 'I had heard that she will take care of the children and me'. [6]
> Okay, it's a nice noun clause but I don't like the tense, 'had heard'.
> I would be tempted to leave it in the simple past
> (ahem) and if it is in the simple past it would need a past form in the noun clause. So the 'will take care of'
> nice use of a two-word verb
> but the tense would be better in a past form. So verb tenses, particularly verb tenses with noun clauses, sequence of tenses.
> 'I got a pamphlet for school when I went downtown and found out this course of classes'. [4]

> First of all I hate the word 'got'.
> I always try to choose any other word other than 'got'.
> So, I would try to get the student to find a better word for that.
>'I got a pamphlet for school when I went downtown and found out'
> 'found out' about, I think I would encourage the extra preposition to find out about something.
> 'This course of classes'.
> (uh) In this sentence I suspect that 'course' and 'classes' refer to same thing.
> So you would need one or the other.
> If you chose the singular, 'this course'
> that would be fine. It could stay as is - 'found out about this course'.
> Or if you chose the plural, it would have to be these 'classes'.
> So, in either case I don't think you need both.
> So, I would choose another vocabulary expression for 'got'.
> The adverb clause of time, the tenses seem to be okay, but (uh) I would want the demonstrative adjective 'this' to be
> more in keeping with whether or not they had decided to be singular or plural.
> And finally, "I could learn various things from nature. For example, "Why do leaves change colour in the fall?"'.[1]
> To me this, the first sentence, ' I could learn various things from nature' is a simple statement of fact and as such, I would
> I would stick to the simple present.
> Rather than ' I could learn' I would use I <u>can</u> learn
> since it's a simple statement of fact.
> And the second thing that I think bothers me from a writing point of view is
> making the second sentence <u>SEParate</u>.
> (uh) I would be tempted, depending upon the sophistication of the class, to use a colon before the example instead of making it into a separate sentence so, verb tenses and
> punctuation, I guess.
> Okay, with regard to arranging the cards in order of how I would teach the various problems or how I would address the various problems
> I think the obvious thing to do is to group the cards with similar problems together
> and, within that grouping
> to go from the simple to the more difficult.
> So, for instance,(uh)
> I think verb tenses are very important as are
> plurals, so if I wanted to look at the verb tenses first
> then I would look at
> (uh)
> 'He was dead' [10] and
> (uh)What's the other one ?
> 'Terry Fox he had ran across Canada' [2] 'I had heard that she will take care of us' [6]
> and 'I could learn various things from nature ' [1].
> So I'd take a look at those and I think the simplest one is obviously 'He was dead at June 28, 1981.' [10]

> That would give me an opportunity to address that verb tense plus the preposition.
> Then I would look at the Terry Fox sentence [2]
> with the problem of the past perfect.
> which would also give me an opportunity to address the problem of the subject
> Then, following up on the past perfect, I would look again at the sentence about ' I had heard that she will take care of the children and me'.[6].
> Another example of the past perfect.
> That would also give me an opportunity to lead into
> the noun clause, the verb tense and the noun clause and how that should also be in a past form.
> (um) I'm wondering would it be better -
>
> it might be more reasonable to put
> the 'I could learn various things from nature' [1] in front of the two sentences about the past perfect.
> Because, otherwise, you jump from 'He was dead' [10]
and then do the past perfect and then jump back to 'could learn'. [1]
> So it might be a better idea to put down
> that sentence about 'I could learn various things from nature' [1] after
> 'He was dead at June 28'[10] but then -
> (uh) yeah I think that's okay. The small point about the colon for punctuation is not gonna confuse too many people even at an easier level than the sentence would indicate.
> So I think that's the first four that I would look at, and that takes care of the verb tenses
> as well as taking care of several little problems.
> Then I think I'd look at the plurals,
> which would be (uh)
> 'There were some different kinds of' or pardon me, 'some kinds of transportations for travel' [7] 'The first day I cleaned our room' [9] and 'the names of the singer'
[8].

[Elapsed time for task one: 8:22]

> Okay.
> I think I'd start off with 'The first day I cleaned our room and made somethings for dinner' [9] since that has two examples of potential problems with plurals in it.
> And I would try, as I suggested before to indicate that if you have 'our room', it is obviously more than one person
> (uh) and I would try to get the
> people to think about how many actual rooms were you talking about? Do you live in the same room? (uh)
> Was it only one room that was cleaned, et cetera, et cetera. And then I would go on to 'somethings for dinner'
> and talking a little about the fact that you don't really know whether it was one thing or two things or how much food you were

making, so how would you know that it was plural and why should you put an "s"? At this point in time you don't know.
> So, it's better to keep it as a singular, since it's an unknown and it's sort of a mass noun
> in a sense, well it's not really, but it's certainly isn't something you can count one thing, two things, three things.
> Try to get away from that.
> Then I think I would look at the sentence about 'some kinds of transportations' [7]
> and emphasize that transportation would not be something that you could count,
> but that 'parts' were.
> So I would go into countable and non-countable nouns at that point
> and review, using that, the idea about 'somethings'.
> This would also give me an opportunity to talk about parallelism in 'different kinds of', 'in different parts', and how you should try to stick to the same type of construction.
> 'When she said the names of the singer' [8] I would attempt to show how
> the lack of
> a plural
> makes it very ambiguous. You don't really know
> whether, as I said before, it's one singer with many different names or several different singers or
> or, and I think the problem with this sentence, of course is, like all the others, it's completely out of context.
> But (uh), perhaps if I knew what the surrounding story was it might be different but
> the way it sits here, I have no idea.
> But I would make some kind of an assumption. I would try to get the students to come to some kind of an assumption about whether it was one singer or more than one and
> from that point on. Maybe it's not a problem. Maybe there is more than one singer.
> Oh I dunno.
> So, that takes care of verb tenses, plurals, prepositions
> quantitatives, not quantitiatives
> some and different kinds, things like that.
> So, what have I got left here.
> 'I relaxed there each summer time'.[3]'I had to go to the driving school over than a month'.[5]
> 'I got a pamphlet for school when I went downtown and found out this course of classes'.[4]
> Okay (ahem)(um)
> I think I'd be tempted to start off, even though it's a little more complex sentence with 'I got a pamphlet for school when I went downtown found out this course of classes' [4]
> because it would continue on with talking about plurals, I could look at the last few words, 'this course of classes'
> and (uh) try to clean that one up.
> Try to decide whether or not they were talking about one class or two classes,

> whether they were talking about a course or a single class, whether they meant the same things or whether they were talking about an arts degree at university, in which case they'd have several courses.
> (uh) They might have more than one class in each course and I'd try to get that message across that
> you decide which one you're gonna go with and stick with one.
> And if you're gonna make it singular fine. If it's plural also fine. If you're gonna use it plural, then it's gotta be a plural demonstrative adjective.
> Then that would give me a chance to get into the vocabulary.
> Particularly the 'got' and the 'found out about'.
> In this case, a three word verb, really. Find out and find out about are really very close but (uh)
> it's impossible to leave out the second preposition in this one so, a litle bit of
> review on two-word verbs.
>Then I think I'd go to the simpler ones from there
>(um)
> and I don't think it really matters which of these two you take in order.
> 'I relaxed there each summer time'.[3]
> Go over the each and every.
> Summer time, another small point. I guess it's a lexical point.
> 'Relaxed'.
> Do some work on the fact that there really aren't any true synonyms
> unless your are speaking in medical terminology, and what are the connotations that go with each synonym.
> And then finally, the last one, ' I had to go to the driving school over than a month. [5]
> The article
> Why you don't need an article, and finally the mixing up of the expressions of 'more than' or for over.
> So, even though it looks as if I am hitting them over the head at the beginning with a lot of the hardest points. I repeat that I think verb tenses, control of verb tenses are essential.And that would be the thing that I would consider most important to adddress at first.
> The little things are things that you pick up in single instances. They're not repeated errors. They're things that happen one-shot, that I would look at the things that seem to be repeated problems in the sentences and deal with those problems first.
> and then move on to the things that occur only infrequently and address those problems last and are not perhaps quite as verb tenses and singulars and plurals, which I think deserve more attention in the initial phases of any program.

[Elapsed time for task two: 10:18]
[Total Elapsed time: 18:40]

SUBJECT E

> I'm looking a card number 1. Card Number one says ' I could learn various things from nature'
> (uh) I'd teach this as a problem in uncderstanding the concept of
> (uh) possibility- what I could do.
>
>
> (uh) Second card I'm looking at reads 'Terry Fox he had ran across Canada'.
> (uh)
> I'd teach this (uh) as past time
> and I'd (uh)
> remind students about
> (uh) 'he' being redundant
> in (uh)
> showing (uh) subject-verb word order in (uh) English.
>
>
> Card number 3 reads 'I relaxed there each summertime'.
>
> Again, if (uh), if I could assume that the students understood the vocabulary
> then I would teach it as a
> past time and a (uh)
> repeated event in the past.
> Item number 4 reads 'I got a pamphlet for school when I went downtown and found out this course of classes'.
>
> Well,
> again, if I assume that students understood the vocabulary, I'd teach it as (uh)
> past time , with the addition of a time clause.
>
> and I'd (uh) explain that (uh)
> 'this course of classes is idiomatic'- it's not something that's usually used.
> Item 5 reads ' I had to go the driving school over than a month'.
> I'd explain this as (uh)
>
> a word order problem and a vocabulary problem
> in that when you're showing a period of time you have to use the phrase "for over a month" or "more than a month", rather than 'over than a month'.
>
> Item 6 reads 'I had heard she will take care of the children and me'.
> I'd explain this (uh) from the point of view that if you have
> a past perfect
> followed by a noun clause
> that you
> use the past form of will as opposed to the present form of will.

>
> Item 7 reads 'There were some kinds of transportations for travel in different part'.
> Now I think with number 7 I'd have to ask the student what (uh)
> what he meant to say with this statement, 'There were some kinds of transportations for travel in different parts' [sic]
> It really doesn't have much meaning out of context.
> 'There were some kinds of transportations for travel' is easy to understand; 'in different parts' [sic] is not so easy to understand.
> I would explain that we usually use the expression "different kinds of transportation"
> and that we have the plural for kinds but not for the prepositional phrase 'transportations'.
> Item 8 reads 'When she said the names of the singer I didnt' know them'.
>
>
> Well I see two problems. One is that (uh)
> using 'said' I'd explain that (uh)
> 'said' is somewhat (uh)
> casual speech. Usually we say "When she told me the names of the singer"
> as opposed to 'said the names of the singer'. The second thing I'd explain is that you would have to have 'singer' as plural because you've got 'names',
> and that's all. I assume there could be an ambiguity here in (uh) that it could be one singer with several names.
> I'm assuming that there are several singers as we usually don't talk about the 'names' of the singer.
> And a third item or is it fourth item, where it says 'I didn't know them'. Usually we don't use 'didn't know', we use "didn't recognize", so it's a vocabulary problem, a usage problem.
>
> (uh) Item 9 reads 'The first day I cleaned our room and made somethings for dinner'.
>
> (uh) The problem here is
> it appears the student's confused "something", the singular "something" with the two words "some things"
> and (uh)
> 'The first day I cleaned our room and made somethings for dinner'.
> (uh) Again, it's just a matter of explaining that "something" and "some things" are two separate items.
>
> Item 10 reads 'He was dead at June 28, 1981.'.
> (uh) To explain, well, the problem is that usage suggests we say "he died
> on June 28th, 1981".
> Again, I'd (uh) explain this as a usage problem. What is common usage in English and what is not common usage.
>

[Elapsed time for task one: 8:21]

> I'm now gonna do the second part of the activity which is to arrange the cards in the order that I would (uh)
>
> the cards in the order that I would do what
> teach them
> the manner in which I would address the problem.
> Okay, they don't all lend themselves to TEACHing, but
> I think from the point of view of the student being able to understand them, I would do them from the following point of view.
> Number 10, I would put first. (um)
> It's simply, it's a problem of past time. Students can understand past time relatively early. They dson't produce it relatively early but they can use it realtively early and they can easily understand the concept.
> (uh) The second problem,
> (uh) sorry, I would put card number 2 second.
> 'Terry Fox he had ran across Canada'
> This is a relative, relatively easy concept for students to understand also.
> I'd assume, I would assume that I would be explaining it in some context so that
> anyway, I believe the students could understand the concept relatively easily, although they wouldn't again, wouldn't be able to, produce it relatively easily.
> (uh) I'd put card number 3 next. 'I relaxed there each summer time'.
> Again, this would be a relatively easy concept to teach.
> I would put card number 9 next. 'The first day I cleaned our room and made somethings for dinner'.
> Again, the concepts are easy.
> '... first day ... cleaned our room ... made something for dinner'- it's a vocabulary problem. There isn't too much language to process, the concepts are not too difficult.
> Then I would put item 4, ' I got a pamphlet for school when I went downtown and found out the course of classes.' Again the concept is not difficult.
> (uh)Past time, got, time
> showing when the event happened. I find this relatively easy for students to understand
> and they can produce this information relatively early.
> Then I would put item 8, 'When she said the names of the singer I didn't know them'
> This would be easy to teach or explain because again, you have a
> you have a past tense,
> a past time item
> with a
> restricted by time.
> The problem here, I'm putting this item later
> because of the problem of the vocabulary item
> (uh), teaching the concept of "recognize".
> Item 5 comes next.

> Past perfect showing length of time. This is not that difficult.
> I think I'd teach at this point of time probably because (uh)
> why
> (uh Students wouldn't
> -I wouldn't expect that students had learned this- oh I see what the problem is.
> (uh)'...had to go to the driving school over than a month'
> It's not a difficult problem for students to understand the concept of time, length of time.
> I would probably teach it later because
> it's not that useful of an item. A lot of people say I went to driving school for over a month.
> And it's not an item that they are likely to produce well.
>
>(uh) The next item would be 6.' I had heard that she will take care of the children and me.' (uh)
> I would teach this later because
> it's something that students don't produce well until much later.
> (uh) I've found in my experience students have difficulty with (uh) the sequence of tenses
> and (uh) again, I'm probably repeating myself, students (uh)
> wouldn't be producing this kind of a sentence until much later. > Next I would put item 1. 'I could learn various things from nature.
> For example, why do leaves change colour in the fall.'
> (uh) This is probably a writing problem.
> Well there are two problems here. I wouldn't teach this till much later because
> (uh) the possibility of conditional idea is difficult for the students to produce.
> It's also relatively difficult for them to learn.
> And it's a very long utterance. It's the kind of (uh) utterance that students would be using, producing much later in their English.
> And item 7, 'There were some kinds of transportations for travel in different parts [sic].'
>(uh) I'm putting this one last. Why? There were some kinds of transportations...
>
>
> Actually, I could - 'there were some kinds of transportations.' > I suppose if I knew (uh) what the student was trying to say here
> then I might try to teach it earlier,
> perhaps (uh)
> fifth or sixth spot rather than last.
> Actually, it certainly could be taught much much earlier because students could understand
> the problem much earlier. There's not a, it's not difficult from a conceptual point of view.
> The vocabulary's not difficult.
> Yeah, this could be taught in anywhere from fourth or fifth or sixth (uh) spot.

[Elapsed time for task two: 7:46]

[Total elapsed time: 16:07]

SUBJECT F

> Okay, now looking at card number 6. 'I had heard that she will take care of the children'.
>
>
> Had to look back at the instructions. 'I had heard that she will take care of the children and me'.
> (uh) Verb, future after had heard is the problem there. (uh)
> Time with noun clauses, I guess.
> Number 7. 'There were some kinds of transportations for travel in different part'.
> Ooh, agreement all over the place.
> 'There were some kinds of transportation
> for travel'
>
> Unnecessary adjective phrase for 'travel' and (uh) two (uh)
> agreement problems.
> Number 8. 'When she said the names of the singer
> I didn't know them'.
> Unless the singer has a bad case of mistaken identity, we have, again (uh), an agreement problem - 'names' and 'know them' unless we are looking at
> I think that's the problem. Agreement, 'name' to 'singer', 'them' to 'singer'.
> Number 9. 'The first day I cleaned our room and made somethings for dinner'.
>
> (uh) Mistaken between "some thing" and "something".
> (uh) Plural form again. Just
> Geez, I guess vocabulary selection.
>
> Number 10. 'He was dead at June 28, 1981'. Normally, the choice would be "he died at June, on June 28, 1981" so we have verb form and (uh) prepositional.
> Now we jump to number 1. 'I could learn various things from nature. For example why do leaves change colour in the fall?'
> Punctuation
>
>
> And I don't think we'd normally put in a direct quotation in such a phrase. It would be a noun clause.
> Why
>leaves change colour in the fall is what I learned. I learned why.
> Noun clause, too.
> 'Terry Fox, he had run, he had ran across Canada.'
> Subject (um)
> repetition unnecessarily and (uh) verb form.
> Number 3. 'I relaxed there each summertime.'
>
>
> Vocabulary selection, 'summertime'.
>

> Number 4. 'I got a pamphlet for school when I went downtown and found out this course of classes.' That boggles me.
> I got a pamphlet for school when I went downtown
> there should be an article with 'school'.
> 'I got a pamphlet for school when I went downtown and found out this course of classes.'
> "Found out about", prepositional,
> "about this course" and unneccesary prepositional adjective at the end.
> Number 5. 'I had to go to the driving school over than a month.' Ooh boy, comparative forms mixed up.
> I had to go to the driving school over,
> the preposition would be <u>for</u> over one month or <u>more</u> than one month, so again we have comparative vocabulary selection there.
>
[Elapsed time for task one: 4:44]

> Okay, here we go- first to last on this.
> (uh) I'm seeing second part- arrange the cards in order- I'm not clear what you really want, but anyway,
> according to my "KEC-oriented" brain (hahaha, eh Bill). Here we go.
> I have to look at them. I'll lay them out in front of me.
>
>
>
>
> Okay, I laid them out on the table in front of me
>
>
> Okay, I just selected 'Terry Fox he had run [sic] across Canada' [2] because I feel that (uh) subject and verb presentation is fairly low level of getting language right.
>
> I move number 1 about the noun clause over to the side because that's generally a harder one to deal with. The noun clause form, I would guess, would be. I dunno, I guess I just move to the side. Higher level.
>
>
> Taken out number 8, which is 'the names of the singer, I didn't know them'. That agreement there is a fairly easy thing in terms of ease, I feel, I may rearrange.
>
>
> Putting number 6 down with the other one about the noun clauses because they 're
> somewhat similar. There's the time relationship is easier to teach than the other, I <u>think</u> - the alternate direct/indirect.
>
>
> Putting number 7 and (uh) number 4 together. 'A pamphlet for school when I went downtown ... found this course of classes' extra

vocabulary there (uh)
> with the one about 'some kinds of transportation [sic] for travel in different parts'. Just seem to be somewhat similar - excess stuff- but I don't know where I'm gonna place them.
>
> Number 3 'summer time...I relaxed there each summer time' with 'first day I cleaned the room and made somethings for dinner' [9] Put those together. I feel they're somewhat similar.
>
>
> Okay. looking like we're getting a bit form now, by putting number 10 'He was dead at June 28, 1981' [10] with 'Terry Fox, he had run [sic] across Canada' [2] and 'When she had [sic] said the names of the singer I didn't know....'[8] I would say the two verb ones were pretty much together and that one preposition slides in there.
> So, moving from
> at the first there would be 2 and 10 and maybe on to 8 and (um)
>
> maybe look at (um) the fairly early on the distinction of the vocabulary items in 9 and (uh)
> 9 and 3 and (uh)
> these three mixtures here, 4,7 and 5 ' I had to go to driving school more'
> That comparative form is,
> I feel it should be "I had to go more than a month ago - no, for more than a month".
> So, preposition and the 'more than' - I guess that's fairly early, in terms, you know, getting that in to the comparative with "more than, greater than, less than," that kind of stuff.
> (uh) 7 and 4 I just put in together after 5 there, I'll reinforce the order in a second and the last two I feel are both noun clause problems which
> (uh) probably 6 ' I heard that she would take care of....' I could straighten out fairly
> quick. But, you gotta get into (uh)
> subordination of noun to that and then,
> the other one [7] which <u>really</u> is a combination of punctuation problem and
> and use of direct instead of indirect speech, which is fairly high-falutin' problem. So I'm back now to a list here.
> (uh)
> I would start with number 2, the extra subject and the verb problem
> and move to number 10 which is a verb problem and a little preposition there. That one is a problem because prepositions are very late learned, I feel.
> (uh)'When she said the names of the singer I didn't know them'. [8] Just agreement, a fairly low level of error.
> 'The first day I cleaned out our room and made somethings for dinner.'[9] Again I would think that's (uh) vocabulary selection and should be fairly early as is 'relaxed there each summer time'[3]. Vocabulary
> work.

> "To go to the driving school for a month" [5] is next.
> (uh) Again that comparative form
> in with vocabulary selection. (uh)
> A litle less,
> a little lower in the work than the real grammar messups comin' up.
>
> 'I got a pamphlet for school when I went downtown and found out this...' [4] Vocabulary, again and, and
> funny kind of stuff.
> 'This course of ....' EXcess vocabulary - excess LANGuage.
> 'There were some kinds of transportations....' [7] Again, excess, I guess coming from some language, I don't know which
> (uh)
> showing that, you know, the FIlters are not there in English to,

> to correct these things, besides the agreement problem.
> (uh) Number 6. Fairly straightforward noun clause and verb agreement problem, but that's still a late learned kind of thing, I feel, from, you know, from my KEC oriented point of view. And lastly number 1. That (uh)
>
>
> punctuation, noun clause.
> Okay?

[Elapsed time for task two: 7:42]
[Total elapsed time: 12:26]

SUBJECT G

>Okay let's see. Number 8. 'When she said the names of the singer I didn't know them.' Looks like (uh) pronoun agreement
> problem.
> Number 7. 'There were some kinds of transportations for travel in different part.'
> (uh) That's a plural singular problem, for the 'part'
> and a preposition -
>
> 'some kinds of transportations.'
> Well I guess they just have to leave out 'for travel' so it's some kind of vocabulary problem.
> Number 3. 'I relaxed there each summer time.'
>
> (hmm)
>
> It's just a problem, they don't have to say 'time'. It's not a big problem, just vocabulary, I guess.
>
> Number 4. 'I got a pamphlet for school when I went down and found out this course of classes.'
> (hmm)
>
> It's really hard to say what kind of problem that is.
>
> Okay, let's skip that one.
> How about number 2. 'Terry Fox he had ran across Canada.'
> Well, that's a problem with (uh)
> double subject
> in the sentence.
> They don't need to use 'Terry Fox' and the pronoun.
> Number 10. 'He was dead at June 28, 1981.' So, instead of using the adjective, they use the verb, "He died" and there's a preposition problem - "on June 28."
> Number 9. 'The first day I cleaned our room and made somethings for dinner.'
> Well, if they just separate the 'some' and 'things', it would be okay
>
> or just take "s" off "something" and that (uh) is
> a countable/uncountable problem.
> Number 1. ' I could learn various things from nature. For example, " Why do leaves change colour in the fall?"'
> Okay, so it shouldn't be two sentences. There should be a comma after 'nature' so (uh)-
> (hmm) wait a minute.
> No, that could be another sentence but they don't need the
> quotation marks.
> ' I could learn various things from nature. For example why do ....'
> No, so if they take out the quotation marks, that would be okay.
> So that's a problem with

>
> punctuation.
> Number 5. 'I had to go to the driving school over than a month.'
>
> Okay, so they need to say, "for more than a month,"
> or, "for over a month."
> So, they've the (uh) expression "more than" and "over" mixed up.
> So that's a vocabulary problem. (ahem)
> Number 6. 'I had heard that she will take care of the children and me.'
> (uh) That's a problem of
> reported speech.
> The tense,
> well, not really tense, but 'will' should be "would".
> I had heard that she would take care of the children and me.
> So that's
> a problem with indirect speech.
> Okay now what order would I teach them?

[Elapsed time for task one: 4:25]
>
> Well, the things like prepositions I would
> start with, but that's the kind of thing that you keep on teaching throughout the term because they never quite - it's not just a lesson on prepositions, but you need to
> keep on reinforcing it.
> Also, I think the tenses
> would be one of the first things.
>
>
>
>
>
> Okay so, maybe start with number 10, because then you
> can start with (uh) changing, using a verb instead of an adjective
> and also go into (uh) the prepositions used with different times like "in June", "on June 28th", "in 1981" and so on.
> That would be - number 10 would be the first one.
> And then,
>
>
> let's see
>
>
> And (uh), number 2, 'Terry Fox'. That would be, I would want to teach that near the beginning too because that's a basic
> structure, the sentence structure of subject and verb and not having two subjects.
> So
> that one would be second, and it depends on the (uh) context of the sentence. They shouldn't really be using the past perfect there unless there's some reason for it in the context. So that might involve some

tense work, too. So, after number 10, that would run in, that would work in with number 10, using the tenses and making simple sentence structures.
>
> (um)
> (hmm)
> Then I think number 8
> because (uh) the pronouns
> the pronoun problem in number 8 kind of follows along with the Terry Fox sentence. 'When she said the names of the singer I didn't know' -
> whoops, yeah that's a plural problem, too. "When she said the names of the singers I didn't know them," or, "When she said the name of the singer I didn't know it," or " I didn't know him." So it's an agreement problem and also (ahem)
> a pronoun problem,
> that would come after 'Terry Fox', so number 10, number 2, number 8.
>
>
>
> and then number 9 is another....
> Well gee, maybe number 9 should come first because number 8 is a more
> complicated sentence.
> Yeah, okay, so how about number 10, number 2 number 9 because (uh)
> it's just a compound sentence
> so there are two simple sentences in a compound sentence so the sentences are getting more difficult in
> 'The first day I cleaned our room and made somethings for dinner.'
> That's countable/uncountable
> but still working with a simpler sentence formaticn.
>
>(um)
>
> Okay, uh number 3
> I'd do next, so 'I relaxed there each summertime.'
> "I relaxed there every summer".
> And (uh)
> it's a simple sentence
> so it would follow naturally after the other simple sentences or compound sentences.
>
>
> Then number 5. "I had to go to the driving school for over a month."
>
> And
> number 7."There were some kinds of transportations in different parts."
> (ahem)
> So that's another agreement problem but also
> (uh) using the dummy subject "there were"
> so it's getting tc be a more difficult type of sentence.

>
> And then number 1. 'I could learn various things from nature. For example -'
> and that, I guess also would be more correct to say, "For example why the leaves changed colour in the fall," or "change colour in the fall," so it's another
> reported speech or (uh)
> embedded question.
>
> So, after that one would be the other one with the (um)
> reported speech so number 1 and then number 6
> 'I had heard she would take care of the children and me'.
> So one they are a similar type of process, changing from (uh)
>
> using noun clauses.
> So I guess number 1 and number 6 should be the last two.
> And then,
> okay so let's see.
> Number 10, number 2, number 9, number 3, 5, 7, then 8 - "When she said the names of the singer - singers - I didn't know them."
> So that's an agreement problem but it's
> a sentence with a time clause, so, that one would come later on and also number 4 after that because another time clause. " I went downtown
> and found out about this course."
> So that would go with number 8 and then numbers 1 and 6 at the end because they're using noun clauses.
>
> So now when I think about what I said about the grammar problems when I went over it the first time, I see that there were things that I
> I'd want to change now, but you probably don't want me to go back and change the tape,
> so I'll just leave it the way it is.

[Elapsed time for task two: 8:44]
[Total elapsed time: 13:09]

SUBJECT H

> The first sentence. ' I could learn various things from nature. For example, "Why do leaves change color in the fall?" [1]
> I think the problem here is the (uh) wrong words. Also 'I could learn various things from nature.'
> (uh) I could learn some things from nature. Also the person here is having trouble with the indirect questions
> and a little-bit of unidiomatic English, too.
> The second question. 'Terry Fox he had run - he had ran across Canada.' [2] Here of course is the (uh) redundant, double subject and the person doesn't (uh)
> isn't sure of the past participle form of the verb.
>
> The third sentence. ' I relaxed there each summer time.' [3] There is an unidiomatic expression
> also superfluous use of 'time'
> so it's a question of teaching the (uh)
> idiom. English idioms.
> Number 3 again. [sic]
> ' I got a pamphlet for school when I went downtown and found out this course of clases.' [4]
> All right there's a lack of proper subordination.
> Also, there's the wrong preposition
> not 'for' but "about".
> And (uh) the wrong word
> instead of 'course' it should be "programme".
> Generally, word order,
> but overall it's a subordination problem.
>
> Sentence 5. ' I had to go to the driving school over than a month.'
> (uh)
> Wrong (um) preposition
> ' I had to go to the driving school.'
> I, the wrong preposition -
> the use of 'over' there
> is wrong
> and 'I had to go to school for more than....' Seems to be that there is some problem with, confusion with the comparative.
> And time phrases, that's the problem here. The person has to be taught time phrases.
> Number 6. 'I had heard that she will take care of the children and me.'
> There's a wrong tense in reported speech.
> Sequencing on the tenses is different in reported speech.
> Number 7. 'There some kinds of transportations for travel in different part.'
> This person has to review the non-count nouns,
> also some preposition.
> They have to learn about prepositions of direction.
> Number 8. 'When she said the names of the singer I didn't know them.'

> Unidiomatic use there of 'said'.
> So there's lack of agreement with the antecedent.
> Number 9. 'The first day I cleaned our room and made somethings for dinner.'
> Again there is the problem of the uncountables.
> Also
> the time expression
> on 'the first day'. There's some teaching of that time expression necessary. Specific times.
> Number 10. 'He was dead at June 28, 1981'. The person's confusing the adjective 'dead' with the verb "to die".
> And also the
> exact date.
> Instead of 'at' "on" this certain date. Specific time again.

[Elapsed Time for Task One: 4:27]

> Now as to what order I would teach these,
> I think I would approach them this way.
>
> I would teach the (um)-
> first I would take up the one on Terry Fox. 'He had ran across Canada.'[2] That's something that (uh) beginners can review.
> (um).
> Where was I? I just had to rearange all these (uh) cards.
> I think I would teach the past participle
> and the (um)
> wrong use of the - double (uh), double subject. That's to be taught first. (um)
> Non-count nouns.
> Number 9 I would teach. Number 9.
> Number
> 7, number 7.
> Again, number 9 and 7 are using the non count nouns.
> Number 10 because
> you have to start on this very, very soon because it seems to be a problem throughout.
> You start at the beginners and also the advances always fall into that trap of using the adjective instead of the verb.
> Number 6. The sequencing, Reported speech - of verbs in reported speech. That takes a lot of repetition. That should be done
> at this time.
> Number 4. 'The pamphlet for school....'
> Subordination,
> so it's a little more sophisticated than just the simple (uh)
> simple sentence then they - subordinate clause - but this 'and' is a common problem and it seems to be a little more difficult
> for individuals ~~to~~ spot at times.
> Here at number 3, the unidiomatic use of words in the English language. That is a problem that recurs
> constantly.
> And number 5,

> regarding the driving school,
> perhaps I've got it in the wrong order. Perhaps I should have tackled this sooner.
> (um) 'I had to go to the driving school for more than, for over a month.'
> Yes, that really is in the wrong order. I would think perhaps I would have, I <u>should</u> have introduced it the correction of the form, or <u>reVIEWED</u> the form perhaps
> after
> after number 10.
> I would
> reorder that one
> 'cause it also involves the (uh) reteaching of comparisons
> so that you can see the contrast.
> Number 8, about the names of the singer.
> You can be a little more sophisticated now and talk about antecedent or referents
> and of course the idiomatic use of words , there will always be a problem with them.
> And similarly, the last one, number 1. 'I could learn various things from nature.' Now, that's very ambiguous
> 'cause that is correct, but is it what the student wants to say?
> And, the indirect questions are a problem throughout a second language learner's life
> never mind just their study period.
> Now, I've gone through these very quickly, Bill. If I had more time, I would have given you more time.

[Elapsed time for task two: 4:35]
[Total Elapsed time: 9:02]

SUBJECT I

> I'll start with number 1.
> 'I could learn various things from nature. For example, "Why do leaves change color in the fall?"'
> The problem with this sentence
> is that it is a sentence fragment.
>' For example, "Why do leaves change color in the fall?"' is not a sentence because it doesn't have a verb.
> (uh)
> What you need then
> after, in front of the 'For example', you need a semicolon rather than a period.
> ' I could learn various things from nature' semicolon 'for example' comma '"Why do leaves change color in the fall?"'
>
> I might consider (um)
> putting that into reported speech rather than direct speech. Somehow it sounds peculiar to me. I would never write a sentence like that,
> but, I guess it's fine if that's the way you,
> your brain works. Okay, on to number 2.
> 'Terry Fox he had ran across Canada.'
> Okay, two problems with this. (uh) The first one is that there are two subjects, 'Terry Fox' and 'he', so you eliminate the 'he'
> and 'had ran'. Well, first of all, you don't, there's no reason to use a past perfect in that sentence,
> but if you are going to use a past perfect,
> you've got to have a different, (uh)
> the past participle should be "run".
> It would be,
> what went before would determine whether or not you would use a past perfect sentence,
> a past perfect tense in that sentence. Okay.
> Number 3. 'I relaxed there each summer time.'
> I'm not sure what to call that sentence error. The corRECT sentence should be
> "I relaxed there
> every summer."
> or, "I relaxed there
> in the summer time."
> I don't know why you don't use 'each'.
> Yeah.
> If you're gonna use 'summer time' it must be part of
> (um) a phrase begionning with a preposition
> and after 'each' there must just be -
>
> each summer, each time -
> anyway, we just don't say that.
>
> Number 4. (ahem) 'I got a pamphlet for school when I went downtown
> and found out this course of classes.'

> 'I got a pamphlet for school
> when I went downtown
> and found out this course of classes.'
> Okay. (um)
> I'm not sure I even understand what is meant by this sentence.
>
>
> There shouldn't be an 'and' there.
> (um)
> 'I got a pamphlet for school when I went downtown....'
> It's because it's not from going downtown that I found out about the course of classes
> so you've got a problem with parallelism.
> 'Found out' about the course was from the pamphlet .cp255
> So let's just look at 'found out'.
> 'Found out' (um) does not
> cannot have an object. You don't find out a course. You have to find out about 'this course of classes. Even in 'this course of classes',
> I supPOSE some people would say that.
> It is not what I would say. "Found out about this course," and omit the 'of classes',
> or, "found out about the classes for this course."
> Now, what are you gonna do with that?
> " When I went downtown,
> I got a pamphlet
> for school
>
> from which I found out about this course of classes."
> It seems to me there are at least three distinct problems with that sentence.
> I'm not sure which you want addressed, but
> perhaps we've covered all three there.
>
> Number 5. 'I had to go to the driving school over than a month.'
> Okay, it's a preposition problem again.
> (um) and a
> a comparative problem.
> Should be "I had to go to the driving school for more than a month."
(um)
> Yeah, it's a, seems to be a fairly typical problem of
> (uh) wrong word, (uh) using 'over' rather than "more" and then
> taking the 'than' that you would need for the "more" and putting it with the 'over'.
>
>
> 'I had heard that she will take care of the children and me.'
[6]
> So you've got a past perfect there
> and a future tense
> which means you've got a sequence of tense problems. [sic]
> You have to say, "I had heard that she would take care of the children and me."

> I'm not sure why
> but it sounds better to me to say, ""I had heard that she would take care of me and the children."
> And it sort of bothers me that that sound better because normally
> we would teach that it was more polITE
> to put the OTHer person before you put yourself in the sentence, but it somehow, for some reason it sounds better to say "me and the children".
> Number 7.
> 'There were some kinds of transportations for travel in different part.'
> All right, first thing is
> the 's' on 'transportation'.
> 'Transportation' is an uncountable noun.
> "There were some kinds of transportation
> for travel in different parts."
> So you've got singular plural kinds of problems.
>
> It doesn't make very much sense to me.
>
>
> It doesn't seem very complete. In different parts of what?
> Does it mean in different areas? In different parts of the country?
> And I don't like the use of 'some' there.
> I would really need to know
> (um) what went on before that sentence and after that sentence before I would decide what to do
> with the 'some'
> and whether I thought there should be something else after the sentence.
>
>
>
> I would like it better if there were "DIFFerent kinds of transportation,"
> and, it's not absolutely necessary but I, myself, would use a gerund after the 'for', rather than the noun, "for travelling", although the noun is acceptible.
>
> Number 8. 'When she said the names of the singer I didn't know them.'
> Why does the singer have more than one name?
> Normally, even if we're talking about -
> I think you've got a singular plural problem again
> here."When she said the name of the singer I didn't know it."
> I presume that that is what that sentence is all about.
> 'The first day I cleaned our room and made somethings for dinner.' [g]
> Again it's this whole singular plural problem. 'Something' never has an 's' on the end of it.
> (um) "The first day I cleaned our room and made something for dinner." Okay.

> And Number 10.
> 'He was dead at June 28, 1981.'
> I see two problems with this one. (um) The easiest problem to tackle is the preposition problems, problem. Should be "on June 28, 1981."
> and if you mean that that was the day he died,
> then you need to say "He died on June 28, 1981."
> Of course, I guess there is a meaning, 'He was dead,'if you're providing an alibi for him. He was already dead on that day, in which case the verb is fine.
> I find this very difficult, to do this sentences in isolation.
[Elapsed time for task one: 12:23]

> All right, now I will try and put them in order.
> Okay, I'm gonna put the number 1 somewhere near the end
> partly, mainly because I think semicolons are a difficult kind of structure and (um)
> they're only needed for written communication. It's not, in a curriculum I would start with
> (um) the things one would need for oral work long before I would get into the niceties of written language, which I think semicolons are.
> Okay
>
> (ahem)
>
> Well,
> I wouldn't start with number 10 just because of the verbal. Those prepositions belong somewhere near the beginning.
> I guess number 9 is one of the first ones.
> because something is (uh)
> (uh) an important word in English
> and it needs to be learned very near the beginning.
> So that's going to be one if the beginning ones.
> (um) Number 8 also has to be taught near the beginning of the curriculum because (um)
> it's not so much a grammatical problem as a semantic problem of when you talk about somebody's first name or last name or even their middle name or whatever, all of those things together are simply their name and that seems to be a problem you have to deal with quite early on.
> Something about what to call people.
> (um) If I take number 7 as being a, simply a count versus uncount noun kind of thing
> it's gonna go early on. (um)
> Number 6 is a later learned (um)
> Couple of reasons:
> you've got a sequence of tenses there, you've got a complex sentence, (um)
> a more sophisticated utterance.
> It's not immediately
> needed. (um)
>
>
> Okay, number 4 is a parallelism kind of thing,

> so again that's getting into (um) longer utterances, more sophisticated language, so that goes somewhere near the end.
> (um) And 'I had to go to the driving school over than a month.' [5] (um)
> I would say that that is kind of a more-towards-the-beginning thing,
> "more than, less than" are needed very early on in communicative kinds of things.
> I find it really difficult to
> to separate the grammatical things from the (uh)
> the lexical items, the (uh) the content and perHAPS
> because when you're
> perhaps because when you're dealing with (um) very (uh) BASIC kinds of utterances
> really sort of survival kinds of English and they're making mistakes in the surVIVval English things
> those are the kinds of things that have to be dealt with first, so there's obviously a tie-in between the kinds of mistakes
> the kinds of grammatical mistakes that are being made (uh)
>
> and the the content of these utterances. Okay (uh)
> So,
> I guess the first thing I would do is "I made something";
> something is singular. And
> I'm torn between that and 'the names of the singer' because naming things seems to me a fairly early function and yet, that utterance is more complicated because you've got the agreement
> of the noun and the pronoun 'names' and 'them'. And,
> if it weren't a complex sentence, 'When she said', if the sentence were simply, "She said the names of the singer,
> but I didn't know them," I would be more inclined to put that first.
> I think I'll put that second,
> just because of the difficulty of the complex, of the adverb clause there.
> (um)
> Okay
> (ahem) Prepositions are a problem all the way through
> but they're, they need to be taught very early on and reviewed and reviewed and reviewed.
> so I think I would look at correcting that preposition mistake > (um) fairly early on so number 10 would come third.
>
> Countable and uncountable nouns
> seems to me a slightly more esoteric
> concept. It's not as simple as "something". "Something", it's quite clearly that "something" is a singular "something". (um)
> So, the other nouns are much simpler to deal with,
> but if you d number 7 you are getting into this whole problem of, you know, when you got countable and uncountable nouns,
> so if we reSTRICT number 7 to a problem of that uncountable noun "transportation", then you'd get into a, you'd probably have to find a, you'd have to do a whole lesson on all of those other WONderful uncountable nouns that, for which there's no basic reason like

"furniture" and "money". I mean everybody knows you can count furniture and money so why are they uncountable nouns? So, that's going fourth.
> I would have put number 2
>a little bit earlier on there except for the mistake in the past perfect tense so I'm not sure which mistake I should address. Using two subjects is a mistake I would deal with fairly early on, but (um)
> one doesn't really need to get into past perfect tense, so I'm saving that one fopr a little while.
> We shouldn't have split those two up.
> Okay.
>
>
> I'm also having trouble trying to decide how I would teach number 3.
> I would have to sit down and think about it. My inclination is simply to say to the student, "I relaxed there every summer."
> It's not
> an item that I have ever made a whole lesson around
> and I <u>REally</u> am having trouble putting it into this whole group of things.
> Especially because some of the time "each" is interchangeable with "every".
> So, I would really have to give that a little more thought before I taught it, so I'm gonna put that off for a little bit longer.
> Okay, so in that case I'll go on, I'll do the comparative,
> teaching "more than", "less than".
> (hmm) Maybe I should teach "more than" before -
> nyah.
>
> I think I'll teach "more than" right after, before the uncountables.
>
> All right, now we've got transportation moved.
> (ho-hum)
>
>
> I'm gonna put in (um) number 3 at this point. "I relaxed there each summer time,"
> (um) even though I haven't invented a lesson for that one yet.
> (ahem) Okay. Now,
> (um)
> I guess
> at the
> the thing about 'Terry Fox, he had ran across Canada', even without the past perfect there,
> (um)
> there reaches a point in teaching these things when one needs to be able to use the <u>words</u> of grammar, the vocabulary of grammar in getting them talking about subjects.
> And
>
> I think it's fairly easy to
> it's much easier to explain when the students have reached a level

of sophistication in the language, then you can say, "Look you've got two subjects for that verb." (um)
> If the students did not have that kind of ability in the language, (uh)
> and all you could say was, "You don't need the 'he'- just leave it out." (um)
> I think at this point we could teach that there were (uh)
> there were two subjects.
> Okay. (um) All right the next one is gonna be
> (uh) reported speech and sequence of tenses.
>
> It is a fairly complicated structure. (um)
>
> In my own children, listening to their language acquisition,
> they acquired reported speech (uh) fairly late on in the game
> and that's one of the reasons that I think that reported speech comes a little bit later,
> but also, it's not something
> (uh) that you need for survival when you're telling someone about what somebody else said. It's
> it's a little bit less
> directly involved with their life at that moment.
> So,
> that goes in there.
>
>
> (um) I'm going to leave the semicolon for the very last, because it is ONly a written problem
> and, even the parallelism of number 4 is more of a written problem (um)
>
>
> that is, if you're dealing with the problem of the parallelism,
> but you've also got
> the other problems in that sentence.
> Anyway, if that sentence were actually uttered, people would understand the meaning of it.
> (um), It's only so glaring when it's written down.
> Okay, so now I have in order, the first thing I would teach is number 9
> then number 8
> (um) number 10, number 5
> number 7, number 3, number 2, number 6, number 4 and number 1.
> Okay.

[Elapsed time for task two: 15:27]

[Total elapsed time: 27:50]

SUBJECT J

> Sentence number 5. 'I had to go to the driving school over than a month. I had to go to the driving school over than an month.'
> Well 'over ' is presenting the problem here. It seems like itmight be a
> a problem with meaning
> or intent.
> Does the speaker wish to say " I had to go to driving school for a month?"
> or, " I had to go to driving school more than a month."
> I think the use of the word 'than'
> suggests that the speaker went to the driving school for a longer time than a month.
> (uh)
> So I think it's probably a matter of unclear diction.
> For instance, instead of using 'over', " I had to go to the driving school for more than a month."
> So I would suggest the problem is just a matter of diction there.
>
> (uh) Number 2. 'Terry Fox he had ran across Canada.'
> Well the first thing here is we have a
> "he", 'Terry Fox he'
> This looks like it came from a student whose first language is a romantic language, perhaps a Spanish student 'cause they would oftentimes would say a
> a person's name and then "he" immediately thereafter.
> So, we can get rid of the noun, I'm sorry, the pronoun referral 'he'
> and then we have to deal with a tense problem - 'Terry Fox had ran across Canada.'
> So I think this is a simple problem of verb tense and all we need is a simple past. 'Terry Fox ran across Canada.'
>
> Number 1. 'I could learn various things from nature.
> For example, "Why do leaves change color in the fall?"
> Wow. 'I could learn various things from nature. For example, "Why do leaves change color in the fall?"
> If that's an ESL student's sentence, that's a very high level ESL learner
> and I'm not sure I can correct it. I probably wouldn't try to correct it because I think, especially considering the theory that the intent is what is important, the student's certainly gets his message across in this particular sentence.
> 'I could learn various things from ... For example,'
> Well, one suggestion- yeah there is maybe a possible problem, but I think it's being really picky, and that is that
> the first part-
> one, the second part of the sentence probably would best be (uh)
> made into one full sentence. Instead of having (uh) one sentences (uh) two sentences, it would be better to have one full sentence, separated by a semicolon after nature.
> But, more importantly, there is a problem of (um) of balance. The

first sentence is a sentence of declaration,
> declarative sentence and the second sentence is (uh)
> interrogative. A question.
> And I think, for (uh) balance, they should both be declarative,
> so it could best be said "I could learn various things from nature-semicolon- for example, why leaves change color in the fall."
> Just omit the 'do' and you (uh) get away from the problem of the
> (uh)
> interrogative sentence.
> Okay, that sounded confusing to me.
> 'When she said the names of the singer I didn't know them.'
[8]
> 'When she said the names of the singer I didn't know them.'
> Well the thing that immediately stands out is that (uh) there is a number problem with the nouns.
> You have plural 'names' and singular 'singer'.
> So that should be changed either to both being singular, "name of the singer", or plural, "names of the singers".
> Then looking on, the end of the sentence, the pronoun 'them' is used so I think that is an indication that there were more than one, there was more than one name. So would best be said (uh) "names of the singers", making both "names" and "singers" plural.
So it's a matter of balance of
> (uh) the numbers of nouns.
>
> There's something else. It just seems awkward
> a bit. Maybe
> maybe because the intent is very important and the intent here is very important and the intent here is intent of fact, not of (uh) time. Why is 'when' even used here? I think it makes the sentence awkward and it's probably unnecessary.
> It might be corrected by saying " She said the names of the singers, <u>but</u> I didn't know them," because there is a thematic contrast involved here.
> Yeah.
>
> Someone, I (uh) might even wanna say she "mentioned" the names of the singers. Maybe that's a diction problem. "Mentions" is a little bit too sophisticated at this level, but we'd probably say "she mentioned" rather than 'she said.'
> Number 9. 'The first day I made our room and made somethings for dinner."
> Well 'somethings' is a problem. (um) Again we are dealing, I guess
> with intent
> 'Somethings.' Does the speaker mean several dishes?
> (um) And if she does, it's a diction problem. She shouldn't say 'somethings,' she should say,"several dishes."
> But I think what she means <u>is</u> several dishes but she wants to use the word 'something' so what we have here is the correct use of an uncountable
> noun.
>

> Yeah. So I think it would be best to change it to "The first day I cleaned our room and made something for dinner."
>
> Number seven. 'There were some kinds of transportations for travel in different part.'
> 'There were some kinds of transportations for travel in different part.'
> Just as in the preceding sentence, there's a problem of uncountable noun. 'Transportation' would obviously be, or should be an uncountable noun, so we could change it there. "There were some kinds of transportation for travel in different part.' "Some kinds."
> "Some kinds."
> I think this is a vocabulary - some - it's a vocabulary, or diction problem - some kinds?
> (uh) There were several kinds, or there were some DIFFerent kinds
> of transportation.
> There were various kinds.
> So, I think there you have, with 'some', a diction
> problem, just the student's level doesn't allow for a matter of choice.
> And then, 'in different part,' I think it should be "in different parts," and I think that still is unclear, so for the sake of clarity, it would be best to say, "There were several kinds of transportation for travel
> in different parts of the country." So I think the sentence is incomplete and you need a preposition of place there, "of the country."

>
> Number 10. 'He was dead at June 28, 1981.'
> Definitely should be "on June 28". "He was dead on...."
> I, well, again, it's a tense - here is a tense problem - simple past, "He died on June 28, 1981."
> I think that's it. "He died on June 28, 1981."
> So, and the 'at' should be "on", but I don't think that's a prepositional problem. I think that's just a vocabulary problem > and the best way to correct it is just by usage.
> It's interesting going back to inTENT though.
> He could, someone could ask "Was (uh), did (uh) Napoleon run in (uh) the
> recent Boston Marathon?"
> "No, because he was dead on September 18, 1987."
> I doubt that was the intent of the sentence, but there might be a circumstance in which he was dead
> implying the answer to a question or the negation of a fact
> might allow for 'he was dead', but I'm sure the student was intending, "he died",
> and it should be simple past. "He died on June 28, 1981."
> Number 4.
> 'I got a pamphlet for school when I went downtown and found out this course of classes.'

>'I got a pamphlet for school when I went downtown and found out this course of classes.'
> Well, it's awkward. It sounds really, sport of a little painful to the ear, and
> that's sort of the hint that it's awkward.
> There's this problem of, I think there's a real problem of structural sequence.
> The sentence should probably begin, "When I went downtown, I got a pamphletfrom the school..." rather than 'for the school'. I guess either is okay but I think (uh) it's information received
> so it should be "from the school", "I got a pamphlet from the school",
> and 'found out this course'- found out about," because we are dealing with (uh)
> general information, rather than specific detail, so it should be, "found out about this course of classes."
> Here I think it is a diction problem, 'this course of classes,' doesn't sound
> correct.
> I'm not sure - oh - 'and found out' about the 'classes' - the 'classes' for this course. I think again it's a matter of inTENT and I think the meaning inTENded is that 'this course'- English 100 - has several different classes, meaning several different sections: A,B,D,F or whatever.
> So I think it should be, again, the (uh) (uh) there's (uh) improper word order here. It should be this,
> 'classes for this course.'
> So let's try that again. A corrected sentence might read, " .IG ****WS2000 command not converted is [ITALIC]****
When I went downtown, I got a pamphlet from the school and found out aBOUT the classes for this course."
> Meaning it could be this specific course, English, or this course of study, (uh)
> history in general.
> And again, I, that's, there's, that's a structurally awkward sentence, but it's fairly sophisticated for an ESL learner.
> Number 3. 'I relaxed there each summer time.'
> 'I relaxed there each summer time.'
> You don't need 'time'
> and I think, again, it's a matter of intent. I think the speaker's probably trying to say that (uh)
> every summer he or she goes to a certain place just to relax.
> So, I don't think we want the past tense, I think we want the present continuous or present progressive.
> 'I relaxed there
> each summer time.'
> And now I'm struggling a little bit with 'each','I relaxed ther each summer'. I want to change it to, "I relaxed there every summer.'
> Yeah, and the reason for that is that "every" implies continuity
> and if you're using a present continuous verb, "every" probably reinforces that sense better than 'each' does,
> 'cause 'each' suggests independent,

> (uh) an independent situation or theme - "every" suggests collective.
> But I can't really put my words to - I'm not sure what that would be called.
> But, I would read it (uh), "I relaxed there every summer."
> Number 6. 'I had heard that she will take care of the children and me.' 'I had heard that she will take care of the children and me.'
> That doesn't even sound like it was stated, certainly not orally, by a second language learner.
> The question I have is could that have been in writing and the student thought it out and I have to figure out if there is a problem 'cause it looks fairly good to me.
> Yeah, it doesn't seem like a student would, a second language learner would spontaneously say that in a conversation. So it seems to me like it might be a sentence which was used in a composition, or something. And that's fine. It's just a matter that I have to figure out if there is even a problem with it.
> 'I had heard that she will take care of the children and me.'
> 'I had heard that she will take care of the children and me.'
> If there is an error it is a native speaker's error and the error could be the intent or the meaning.
> If there was a definite,
> (uh) if there was the intent of volunteering to do something in the future,
> then I think it should read " I heard that she will take care of the children and me.", not 'I had heard.' But as soon as you use the word 'had'
> there's an
> there's an implication that she might have changed her mind about
> caring for the children
> and me.
> So I would read it, "I heard that she will take care of the children and me,"if it's a definite,
> a definite promise to volunteer to do something in the future.
> And if it was a promise that was reneged upon, I would say,
> "I had heard that she would take care of the children and me."
> So there's that problem, the (uh) definite promise to volunteer,
> reneging of the promise.
> And the other problem is, I don't know why but 'the children and me' is grammatically correct, I think, but it doesn't sound
> flowing or natural, but I think that's because say things orally that aren't grammatically correct.
> "I had heard that she would take care of us." "I had heard that she would take care of
> the family."
> But I think (uh) 'the children and me' is fine grammatically,
> So I think there, it's a matter, and that's really confusing, I think there it's a matter of (uh) whether she definitely will volunteer to do this in the future or whether she had volunteered in the future and in the interim has decided against it.
> If that's the case then it should read, ""I had heard that she would take care of the children and me."

[Elapsed time for task one: 18:55]

> Now, I'm supposed to put these in some sequence in terms of how I would teach them.
> Well, let's see.
> Well, one thing is that
> considering that language learning is a sequential and (uh)
> a cumulative process,
> in terms of knowledge, understanding and fluency,
> I think it's probably best to identify
> which errors are most basic and fundamental
> and (uh) correct those first
> and then continue on according to the level of sophistication of the mistakes.
> So, the basic errors should be dealt with in the earlier stages > of this
> (uh) spontaneous syllabus
> and the more complex errors
> (uh) could be dealt with at the end.
> A number of sentences have more than one error so I think it's really gonna be complicated to try to
> (uh) categorize these according to
> (uh) to identify and categorize these according to the sophistication of the mistake made
> unless we just concentrate on the major error in each
> (uh) sentence or in each case.
> So, why don't we, I'll do that, yeah.
> I gotta split up my cards here
> okay.
> (uh) Definitely,
> I'm always definite about eliminating things
> so definitely number 1, about nature
> and number 6, that last one that I just dealt with, 'I had heard that she will take care of the children and me,' are vbery very sophisticated so they should be at the end
> because an early ESL learner just wouldn't be dealing with that kind of mistake -
> wouldn't have the ability to make that kind of mistake, I don't think.
> So we did have a couple of verb tense problems.
> (uh)
> Let's see which ones. Number 10. 'He was dead at June 28, 1981.'
> I would start, because it's basic English we're dealing with here I would start with verb tenses
> and so number 10, we could work on verb tenses, dealing with number 10.
> 'Terry Fox, he had ran across Canada.' [2] We can work on verb tense there because (uh)
> <u>both</u> are dealing with the simple past.
> "He died" and "he ran."
> So, I would put number 10 and number 2 at the beginning of our

syllabus.
> (uh) You have other problems here. You have a pronoun referral in number 2 so that can be dealt with, but the primary concern here is verb tense,
> so number 10, number 2 at the beginning.
> (uh).
>
> Is, well, no that's more difficult, that's another type of tense, that's present continuous.
>
> (uh) The next one I would deal with is number agreement of the nouns.
> Number 8. 'When she said the names of the singer I didn't nknow them.' So the student is having a problem with numbers here, singular and plural, and that's fairly basic, too. I have two sister, I have two sisters. So I would put that next on the list.
> Singular, plural nouns.
> And because we're talking about nouns, we can go from that
> singular nouns, plural nouns to uncountable nouns
> and we had non uncountable nouns in (uh) 'transportations' number 7.
> Number 7 and (uh)
> thought there was another one here somewhere.
> Oh, in number 9.
> 'Something' in number nine and 'transportation' in number 7.
> So, I would work, after working with singular and plural nouns, I would work with uncountable nouns using, as examples, cards number 7 and number 9.
> Now they're getting a little more sophisticated, I think here. >
(um) We could go on to, this is going back to tenses again, but number 3 is the present continuous tense
> (um) "I relaxed there every summer."
> or "I relaxed there each summer." (uh)
> That would be okay, 'cause I think that once students understand the concept behind present continuous it becomes quite simple because it's just a present tense used in a different vein.
> So we'll go with that one next.
> How we doin' here?
>
> So we just have one,
> two.
> (uh) Probably the next one should be number 5. 'I had to go to the driving school over than a month.'
> It should read (uh)
> "for more than a month",
> and so we're having a diction problem here, a vocabulary problem
> (uh)
> so that could be worked at at any stage, but we could put in there, I guess. Okay?
> And I think that should do it except for the last -
> I have that one.
> Which one am I missing here?
> Oh yeah, I wanna save these two, number 1 and number 6 to the last,

so the last one I have here is number 4. 'I got a pamphlet for school when I went downtown and found out this course of classes.' And I changed it to
> what did I change it to? When I went downtown I got a pamphlet from school and found out about the classes for this course.
> And so we have a structural sequence problem, I think that's the primary problem, structural sequence.
> So we'll put that there and that's certainly a much more sophisticated problem, especially for instance, for Japanese students
> because their structure is so different than our own, their language structure.
> (uh) Much more complicated problem than either verb tense or
> noun numbers.
> And then 1 and 6 would go at the end. (um)
> I (uh), they're equally complex and sophisticated so they should both go at the end, I don't know.
> In fact, I would say that the language mistakes of the first eight examples are
> at least a year, if not two years behind the sophistication evident in the language mistakes of numbers 1 and number 6. These students are quite fluent and competent in their English.
> So that would be, I think that would be my sequence.
> Just a quick overview, if I can remember it. Verb tense
> noun numbers,
> uncountable nouns,
> verb tense, present continuous- maybe I'd put that back up with the (uh) verb tense,
> (uh) basic past, because you're at least dealing with tenses.
> Then I think there was a diction problem with (uh)
> 'ovewr a month', so diction.
> Then the structural sequence
> of getting courses and things like that.
> And then finally (uh)
> that one on number 1, I talked about, remember talking something about a declarative statement and interrogative
> phrase, in that I think they should be balanced and both be declarative, so I think that's the problem and
> I've never had to deal with anything that complex before.
> And the same thing with number 6.' I had heard that she will take care of the children and me.'
> Positive, volunteer of future action or reneging on a promise past.
> So, those are difficult. Those would definitely be neare the end and I might not even correct them because I think the best kind of English is communicative English and
> (uh) especially in number 1, I understand what the student, the speaker is trying to say. Number 6, there could be some (uh)
> vagueness in the meaning.
> I'il guess that's it.
> I guess that's it. Well, I'll close off for now with a final mark this that
> (uh) the questions given and the answers received are subject to change without notice.

> (uh) This diagnosis was done under the influence of Chinese food.
> Sai jen. Sayonara.

[Elapsed time for task two: 9:00]
[Total elapsed time: 29:55]

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