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A Microcomputer in Individualized Language Teaching, English Reading Comprehension (ESP.)

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Reading comprehension is a complex interactive process in which there are a number of factors which intertwine to determine a reader's attention on a particular text. The important factors are: the reader's purpose, his interest, and his motivation. In a class, students studying English as a foreign language possess widely divergent reading abilities and preferences. Thus, reading lends itself naturally to individualization. Much has been tried and written concerning the way in which students differ from one another and the importance of the teacher's recognition and respect for these individual differences in order to effectively meet the reading needs of his students. In response to this kind of situation, some teachers use a partially individualized approach, such as the SRA Reading Laboratories (Parker 1963). On the other hand, since there are many problems involved in individualizing a reading program, individualization has not been adopted on a large scale in foreign language instruction. Nowadays, however, in the light of advances in the field of computers, individualized reading instruction can be reconsidered as part of the language teaching curriculum. Such reading materials as SRA could potentially be rendered far more effective by taking the logical step of turning them into computer-based reading programs.

At present, reading is one of the great strong points of computers as computers involve the use of written language. A properly programmed microcomputer can be used effectively and more efficiently than other means, enabling the individual to carry out tasks on his own, to select relevant topics in his own time and most important at his own pace. A progressive medium such as this makes a surprisingly satisfactory reading tutor. That is to say the console facilitates individual attention to the learner and responds on a tutorial basis. It assesses the learner's performance immediately, points out mistakes, gives reinforcement, and reviews the same points for as long as is necessary. Moreover, microcomputers are versatile. The potential for increased impact and effectiveness through computerization is very large. They can be programmed to record the progress of the learner, facilitating

the calculation of a student's level of performance at any point. In other words, as soon as he has finished the text a student may be stimulated by seeing the levels of his own achievement as displayed on the screen. Besides, it removes many difficulties for teachers in keeping records, so that they can assess their students' progress very quickly.

In this paper I will first describe the programming of the computer and then briefly summarize the results of my research into the feasibility of the use of microcomputers in the teaching of reading. Based on the above mentioned principle of individualizing reading instruction, and the advancement of microcomputers as an educational aid, the computer program and the research itself are designed to find out the feasibility of its usage as a medium in teaching reading compared with a traditional teaching approach which employs the same material. The texts were prepared for an Intensive Course for reading taught to Thai graduates specializing in such different fields of study as Political Science, Commerce and Accountancy, and Engineering. First, for the purpose of programming, the software system was divided into 3 relevant parts: an authoring program, a delivery program, and a scoring program.

An authoring program

This is the program for keying in data (the LISTING is in the Appendix). There are 2 separate parts (and a 'quit') within the program and the user chooses from the 'menu' displayed at the outset.

MAIN MENU

1. INPUT PASSAGE
2. REVIEW PASSAGE
3. 2 SEPARATE PARTS
4. QUIT

CHOOSE 1 - → 3

The 'Input Passage' is for keying in data and the 'Review Passage' for revision and correction. The part for keying in data consists of 3 entries of subroutines :

1. The passage for reading of not more than 500 lines.
2. The questions which can be of 3 types: multiple choice, true-false, and questions requiring a one-word answer.
3. The answer key against which the learner answers is checked. When students answer correctly, they are given words of encouragement, for example 'Excellent'; 'Go on'; 'Your answer is correct' etc. If students answer incorrectly something like 'I'm sorry'; 'You're wrong'; 'Try again' etc. appears. This reinforcement can be added into the program if a teacher wants to make a microcomputer 'user-friendly'.

In the case of the wrong keying in of data, the passage and the questions can be reviewed and checked through the 'Review Passage' part. The revision can be done through both the printer and monitor simultaneously. However, the correction is done through the program, line by line, and can be done by means of deletion, addition, or correction. The 'Review Passage' of the 'Main Menu' looks like this:

REVIEW MENU

OPTIONS AVAILABLE:

1. PRINT OUT PASSAGE
2. CORRECT PASSAGE
3. QUIT

YOUR CHOICE IS(1 to 3 -->)

A delivery program

This is the program for studying First the program will ask the learner to record his/her name and registration number. Then it will display the catalogue which contains the title and the length of each text. In the teaching program that I set up there are 18 texts altogether. When the learner chooses the text by printing the name, the program will be executed and the text will be displayed on either the screen and the printer or both as desired. The screen will reveal no more than 11 lines and 40 characters to each line at any one time. The twelfth line is the learner's next choice of command i.e. the learner presses the 'N' key for the next page, the 'L' key for the last (i.e. the previous) page, and the 'A' key for the answer. Then it will 'count', 'sum', and record what the learner has done.

For example, a sub-text entitled 'About Systems' may begin like this:

ABOUT SYSTEMS

We are going to discuss systems and systems analysis, especially as they are applied to business. To begin, we must first ask the question, what is a system? For our purposes, a system is:

- (1) a collection of interrelated objects
- (2) a set of rules governing their interrelationship, and

N = NEXT L = LAST A = ANSWER

The student should then press the 'N' key for the next part of this text.

A scoring program

This is a program for the teacher to assess the learner's progress as he works through the program of study by measuring his performance on each text worked on.

The 'empirical' procedure employed set up two sample groups of graduates: a 'control group' and an 'experimental group' which each contained 15 students. The 'control group' studied with a teacher who was a native speaker and was taught using traditional methods. The texts that they worked with fell into the broad topic areas of business, politics and science. There were 20 teaching hours in class plus some assignments for self-study. At the end of the course the participants all took an achievement test.

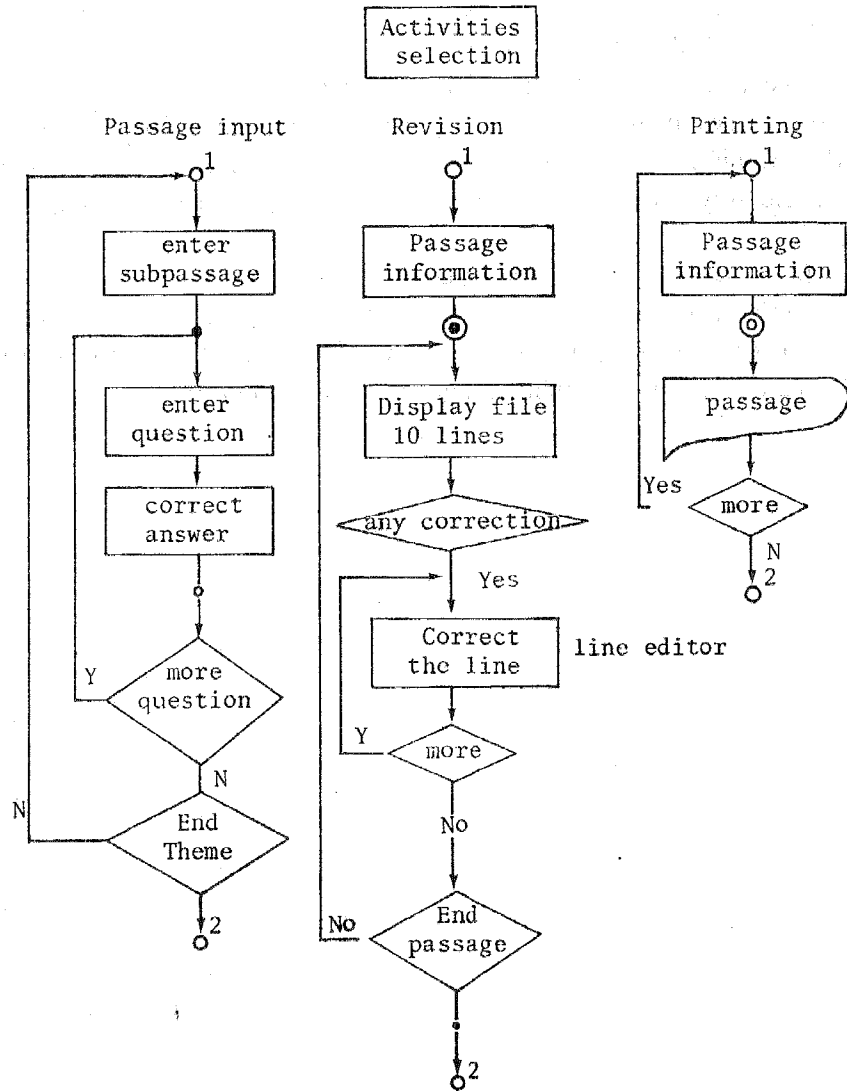
The 'experimental group' worked with exactly the same texts as the 'control group', and was taught by myself. To begin with, the 15 members of this group were given an orientation session to familiarise them with microcomputers and their operation. Each student was then allowed to work on texts of his/her own choice from within the 18 employed in the program. Participants were free to switch from business to politics to science as they so desired.

At regular intervals throughout the course the students came to the teacher--either individually or in groups--in order to discuss the texts that they had been reading and working on. They brought the scoring diskettes with them so

that the teacher could retrieve data on their performances on demand from a data base prepared on the diskettes. These discussions lasted 10 hours in all. Then this group took exactly the same achievement test as the one taken by the 'control group', and the results were compared.

The research yielded the following findings, namely: that the differences between the achievements of the subjects in the two different programs were statistically significant at the level of .05. The students using a microcomputer scored significantly higher than the students taught using traditional methods of teaching.

In conclusion, the aim of the research was merely to test the feasibility of using a microcomputer program in language teaching in Thailand and is not conclusive. Therefore, more research and work is called for to assess the long term value of microcomputers teaching language in this country.



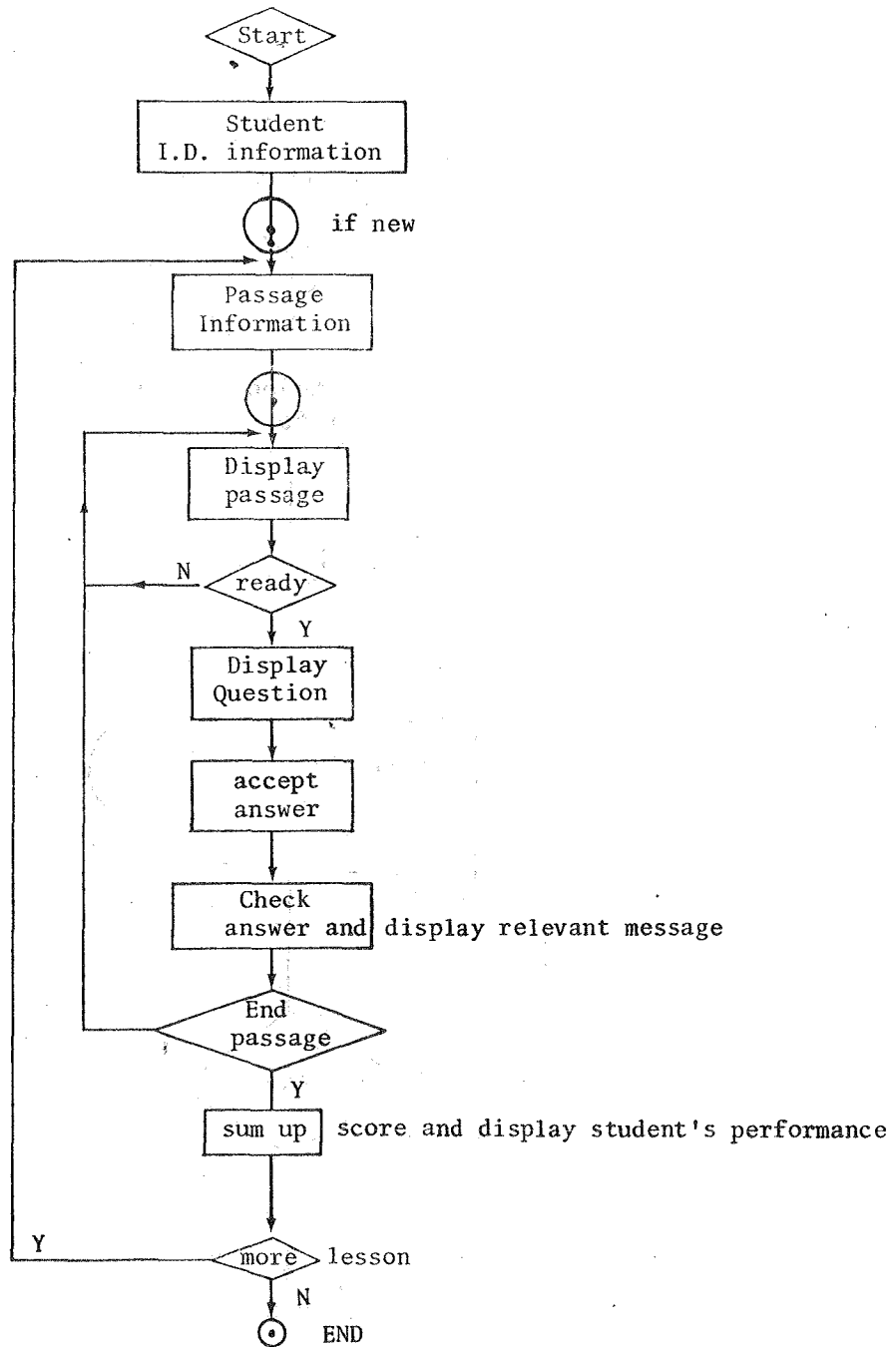
o¹ branching from authoring menu

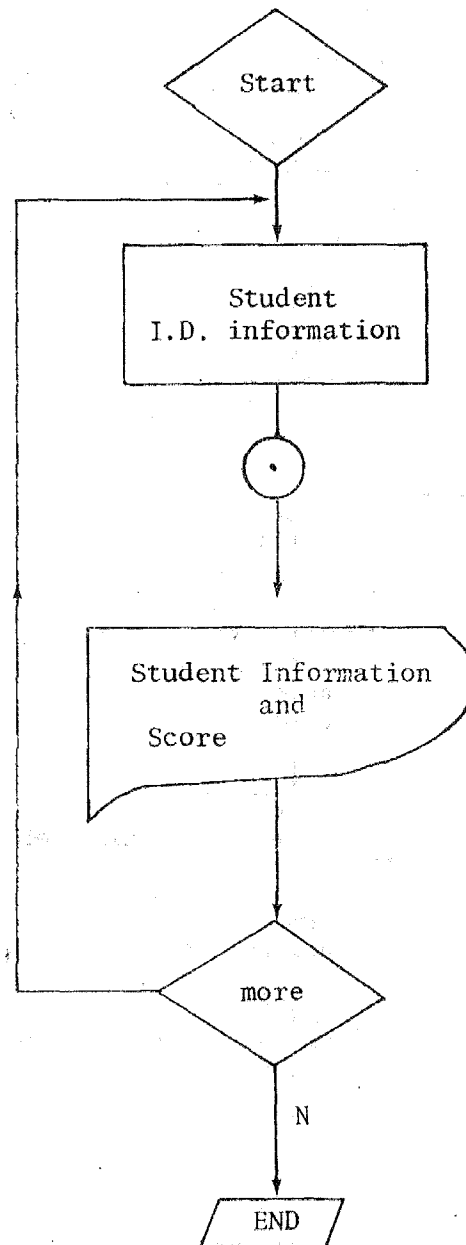
o² back to authoring menu

o disk output

⊙ disk input

Continuous display concept

Delivery Program

Scoring Program

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