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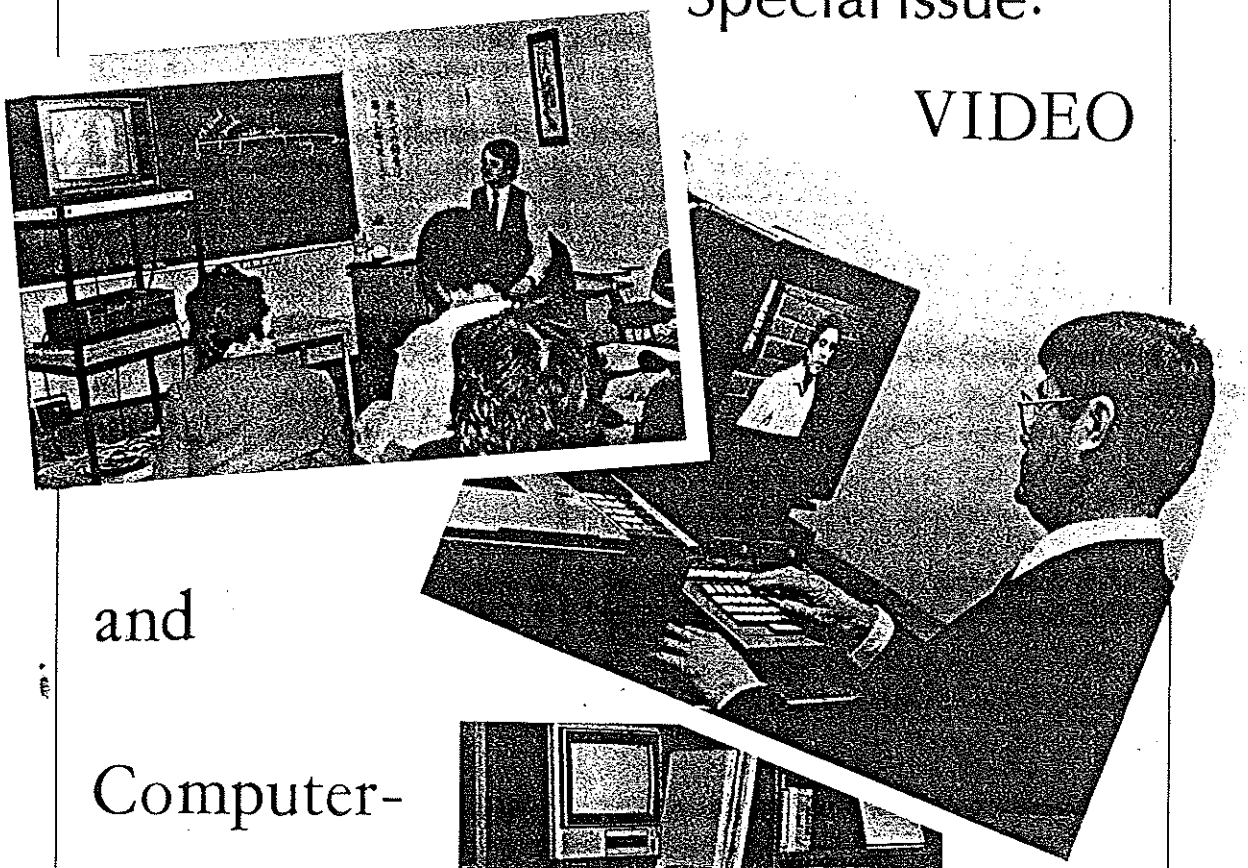

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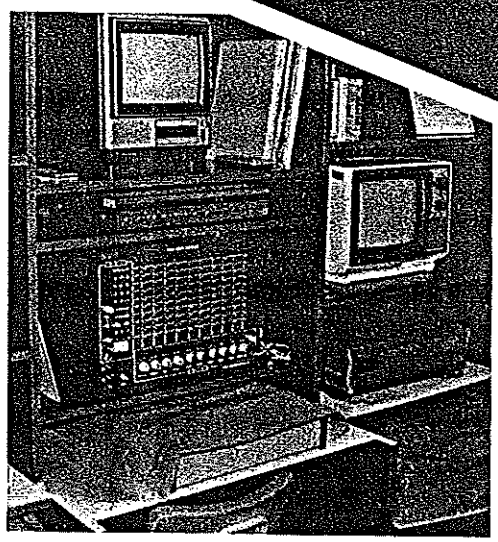

USING COMPUTERS WITH ADVANCED LANGUAGE LEARNERS: AN EXAMPLE

By Khurshid Ahmad, Greville Corbett and Margaret Rogers, University of Surrey, U.K.

1. Introduction

The boom in microcomputer sales which began in the late 1970's has enabled many language teachers to familiarise themselves with a new classroom resource in the form of computer assisted language learning (CALL). Work in CALL, dating back to the mid-1960's, concentrated on teaching the written language to beginning students and was carried out on very powerful computers (called 'mainframes').

While most currently available CALL material is of the tutorial kind, with the computer acting as "tutor": checking answers, "analysing" anticipated common errors, giving corrections, providing help, keeping score and providing information where required, packages of other kinds have more recently been developed. As an exploratory tool, one possibility is the problem-solving approach adopted by Johns (1983), who emphasises the active role of the learner as an intelligent guesser.

Another idea is to stimulate group discussion through the use of "simulation" programs, often designed for other disciplines, where the need to make decisions gives a meaningful context for a range of discourse functions (Harrison 1983). For a general overview of the possibilities offered by CALL see Ahmad, Corbett, Rogers & Sussex (1985).

2. Language Learning and Linguistics

Some ways in which students' interest in linguistics can be combined with language learning have recently been investigated at the University of Surrey, U.K. The work has its origins in concordance analysis, which was one of the earliest applications of computer technology to natural language (Wisbey 1962). The function of concordance analysis has generally been research-based, often in a literary context however.

For advanced learners, the borderline between language learning and linguistics is not at all clearly defined. Advanced learners have reached the stage where they realise that some rules are variable; one such phenomenon is the choice of semantic or grammatical agreement with certain nouns in English, e.g. *government*:

> The government (are/is) agreed that unemployment is a social problem. (It is/They are), however, unwilling to take the necessary action. (Its/Their) lack of political initiative has been heavily criticised by the opposition parties.

If students were able to search for examples themselves, this would not only save the teacher time, but would also place the initiative with the language learner, thus acknowledging the fact that natural language is not a mechanistic system where all rules are clear cut and easily available.

A further point to be considered is that advanced language learners are usually adults. It has been pointed out that adult learners may benefit more than younger ones from formal instruction in the target language, the essential ingredients of "formal" instruction being the isolation of rules and words in the target language, and the possibility of error detection and correction (Krashen and Seliger 1975).

3. Practicalities

We decided to give students direct access to a corpus (set of texts) with the means to search it for examples. To this end a package called SEARCHSTRING was developed, allowing a student sitting at a terminal to produce a concordance interactively. This requires both a corpus and a means of searching it.

From the computing point of view, the requirements of large amounts of storage and rapid search time mean that such packages are at present likely to be more successful on mainframes and minicomputers than on microcomputers.

There are several ways in which a corpus such as that on which SEARCHSTRING operates can be set up. Texts can be selected and then painstakingly typed in to the computer, or, providing the equipment is available, the material can be read in directly to the computer, using an Optical Character Reader. It is easier if one can simply acquire a copy of text (in machine-readable form, on a magnetic tape for instance) which has already been input, whether for research or commercial purposes. Such sources are becoming more common as an increasing number of newspapers and magazines use computer typesetting, so large quantities of text are input to computers on a regular basis. (English specialists are extremely favoured, since carefully assembled corpora of both British English and American English are already available at moderate cost from the International Computer Archive of Modern English, Norwegian Computing Centre for the Humanities, PO Box 53, University of Bergen, 5014 Bergen, Norway. The materials include transcripts of spoken English and a range of written English. Once obtained, by whatever means, the texts must be stored in a structured

way so that different parts of the corpus can be accessed easily.

Our second requirement is a means of searching through the corpus. As mentioned above, a great deal of the early use of computers by people in the humanities was precisely in this area. Literary critics and theologians used computers to produce concordances of literary works and of biblical texts (see Howard-Hill 1979 for the techniques involved). To facilitate this activity, special software has been developed, for example the Oxford Concordance Program (Hockey & Marriott 1980) and CLOC (Reed 1978). Such concordance packages offer the investigator a range of facilities: they can find every example of a given word and print it in context (of one line, for example); they can list every work which occurs in the corpus; and they can give the frequency of occurrence of specific words. A literary researcher might search for all the occurrences of the word *optimism* in the works of a particular author and from its frequency and context draw conclusions about the author's view of the future. The same data would be of value to the language teacher, but for different reasons. Dictionaries rarely give all the information one needs: how should one express, for example, a considerable degree of optimism? A set of real examples of the use of the word would reveal that *great optimism* is the appropriate phrase. There would also be instances of the prepositions which can follow it. Even this very straightforward example should give some idea of the ways in which such concordance packages can be of use to the teacher in the preparation of teaching materials (for fuller discussion see Skehan 1981).

One kind of information which a concordance cannot of course provide is negative information. In other words, if a student wishes to know if the combination *big optimism* is permissible, the non-appearance of such a collocation in the corpus does not prove conclusively that it is unacceptable (although, of course, it is incorrect). It is this kind of information which is often needed by L2 learners, but which cannot be provided by conventional reference sources, nor by scanning a corpus. A teacher, preferably a native speaker, is the only source here. Concordances can also provide information on syntactic problems. To show this, and at the same time to give a clearer impression of SEARCHSTRING, we will describe an example of its use (a demonstration run is provided as an appendix, using Australian English data). The student first types RUN SEARCHSTRING at a terminal and the computer then asks a short series of questions prior to producing the concordance; no computing knowledge is required of the student.

The first question concerns the language in which the student is interested. We have a corpus for English, German and Russian. As the texts are stored separately from SEARCHSTRING, it can scan any texts in any of the three languages at the student's request. New texts can be added to the existing corpora, and indeed new languages could be added without difficulty. The existing corpora run to several hundred thousand words in all. (An earlier use of an interactive concordance package is mentioned in Last [1984:17-19], though that used relatively short texts for stylistic analysis.) We will assume that our student is interested in the syntactic question of agreement with corporate nouns and so decides to look for examples of the noun *government*.

The next choice offered by the computer is whether to specify exactly that string, or whether to accept extensions of it (such as *governments, governmental*). Since only the singular noun gives rise to the agreement problem under consideration, only the exact string is of interest.

The computer then scans through the corpus of English texts, displaying on the screen every example of the word *government*, together with three lines of context. When ten examples have been found and displayed, the student has the option of continuing or finishing the search. The resulting examples can then be printed if required, together with some useful statistical information. Of course, not all the examples found will be of relevance to our student's problem: in some, the noun *government* will not appear in the subject position, for example. However, the student has had the spadework done and, though a final sort by hand is required, has a reasonable set of genuine examples on which to base conclusions about the syntactic question which is being investigated.

It should be noted that syntactic studies must be lexically based. Thus agreement can be investigated, as we have just seen, by searching for *government* and so on. Similarly, one could investigate concessive clauses by searching for *although*; alternatively, by using keywords such as *however, nevertheless, furthermore* or *moreover*, it is possible to look at textual cohesion (in the Hallidayan sense).

Computer programs can search for strings of letters ("words" to us) without any difficulty. As long as the machine is asked simply to match character-for-character (letter-by-letter) the string provided by the user with the data in its corpus, it will encounter no problems. What it cannot as yet do is search for an abstract concept such as "collective nouns" or "conditional clauses." Programs which analyse written natural language rather than just matching

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strings, are still at a relatively early stage of development.

In the meantime, however, a program such as SEARCHSTRING is still extremely valuable. It can do the time-consuming preliminary work of looking for real examples of whatever the student (or the teacher) wants to be illustrated. It encourages students to follow their own particular interest by enabling them to work individually with a large corpus of data. Group work is, of course, also possible. Finally, even if the search for a particular item proves fruitless, this is still valuable information since it indicates the low frequency of the item sought (provided the corpus is sufficiently large).

4. Conclusion

While CALL practitioners have naturally concentrated on providing material for beginners, CALL nevertheless offers exciting prospects for advanced learners. The area which lies on the border between language learning and linguistics appears to us to be particularly promising in this regard.

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Demonstration run of SEARCHSTRING

```
OK, RUN SEARCHSTRING                    [typed by student]

    This program is designed to enable you to search
    through a large amount of text to find examples
    of particular words in context. Material is available
    in the following languages;

(1). English
(2). Russian
(3). German
    Type 1 for English
  or Type 2 for Russian
  or Type 3 for German
1                                       [typed by student]
    Do you want to:
       (1) see the results of the search on the screen
           as the program runs
    or
       (2) wait to look at the results until the search
           is over
    Type 1 or 2
1                                       [typed by student]
    Do you want a printout of the results of the
    search? Type YES or NO
NO                                      [typed by student]
    Input character string
GOVERNMENT                              [typed by student]
    The string you asked for is:
            GOVERNMENT
    Providing this is the string you want, press
    RETURN. However, if you have made a typing
    mistake, type ERROR and press return, in order
    to correct it.
                                        [student presses return]
    Do you want the search to include inflected
    forms? Type YES or NO.
NO                                      [typed by student]

Scanning ENGLISH corpus for GOVERNMENT

    ----------------------------------------
    — Variety      : AUSTRALIAN —
    — Text type    : NEWSPAPER  —
    — Subject area : POLITICS   —
    — Filename     : AGE1       —
    ----------------------------------------

    Current file contains no examples of
    "GOVERNMENT"

  »»»»» Press RETURN to scan the next file «««««

Scanning ENGLISH corpus for GOVERNMENT

    ----------------------------------------
    — Variety      : AUSTRALIAN —
    — Text type    : NEWSPAPER  —
    — Subject area : POLITICS   —
    — Filename     : AGE2       —
    ----------------------------------------

    WASHINGTON PRESSED FOR THIS FACILITY
    OR WHETHER THE FRASER GOVERNMENT
    LOBBIED FOR THE REQUEST. DESPITE SOME
    FEARS THAT THE PRESENCE OF

    OF SHARED INTERESTS. BUT, AS IN THE
    1950S AND 60S, THE PRESENT COALITION
    GOVERNMENT SEEMS OVER-EAGER TO
    LOCK THIS COUNTRY INTO THE ROLE OF A

    GREATER INDEPENDENCE AND SELF-
    RELIANCE IN ITS DEFENCE PREPARATIONS,
    AND THE GOVERNMENT SHOULD
    EXPLAIN HOW ITS LATEST DECISIONS FIT
    WITH THIS

Scanning ENGLISH corpus for GOVERNMENT

    ----------------------------------------
    — Variety      : AUSTRALIAN —
    — Text type    : NEWSPAPER  —
    — Subject area : POLITICS   —
    — Filename     : AGE3       —
    ----------------------------------------

    OF PLACE OF TRUST EITHER CIVIL OR
    MILITARY" IN VICTORIA TODAY. THE
    STATE GOVERNMENT FEARS IT DOES. IF
    SO. AS THE PREMIER, MR HAMER, HAS

    PROHIBITION, IF IT STILL BINDS THE
    STATE, ARE QUITE INTOLERABLE. THE
    STATE GOVERNMENT HAS HAD ITS
    SUSPICIONS FOR SOME TIME, AND LAST
    YEAR ASKED

    SUSPICIONS FOR SOME TIME, AND LAST
    YEAR ASKED THE FEDERAL GOVERNMMENT
    TO LEGISLATE TO ALLOW THE STATES TO
    REPEAL OBSOLETE IMPERIAL LAWS

    IS THAT THE STATUTE OF WESTMINSTER
    OF 1983, WHICH ENABLES THE
    COMMONWEALTH GOVERNMENT TO
    REPEAL REPUGNANT BRITISH
    LEGISLATION, DOES NOT
```

AFFAIRS. DESPITE ITS APPREHENSION, THE VICTORIAN *GOVERNMENT* HAS ONLY RECENTLY DECIDED IT SHOULD ACT OVER THE ACT OF SETTLEMENT. THE CHAIRMAN

OR HER OTHER REALMS. THE STATE *GOVERNMENT* MUST URGENTLY ANSWER THE QUESTION WHETHER THE ACT OF

IMMEDIATE ACCESS TO THE REGISTER. OTHERS, INCLUDING *GOVERNMENT* BACKBENCHERS AND OPPOSITION MPS, WILL HAVE TO OBTAIN MINISTERIAL

»»»»» Press RETURN to continue «««««

10 examples of the string "GOVERNMENT" have now been found. Do you wish to continue with the search? Type YES (to continue) or NO (to stop).

[at this point the student can continue, select a new string, or finish using the package]

VIDEO LANGUAGE AS INPUT

By John Markson-Brown

I. Introduction

Video in language teaching is a new and expanding resource which brings the visual element of discourse into the classroom. Like other technical resources it may be felt by many to be only a fad. Yet as language teachers, it behoves us to look at the linguistic and pedagogical applications that such a versatile medium as video can produce. Television has a vast influence already on people's lives in both educational (Wood 1964) and leisure activities; it brings the world, for better or worse, into our home. It is hypothesized therefore, that video can, if well produced and in the hands of a competent teacher, provide far more understanding (comprehensible input) to the student than audio-cassettes and textbooks. However, video is not a replacement for these, but a supplement, providing vital linguistic information that tapes and texts by their very format are unable to provide.

Krashen's input hypothesis (Krashen 1984) suggests that we acquire when input is comprehensible. Video provides realism, gesture, setting and situation as well as language, in our classes, in ways which were never possible before, providing the students with the total situation of the linguistic act, which leads to a fuller comprehension of the spoken language (Lonergan 1984).

II. Comparison

Let us compare audio and video in terms of supplying understanding and how far one goes to present comprehensible input. A native speaker very rarely has to perceive and decode messages in abstract, except at such times as, when on the telephone, listening to the radio or if the speaker is out of sight. He always has some extra-linguistic input to help him decode the message and its meaning. It seems, therefore, a little unreasonable to deprive second language learners of non-linguistic input which native speakers take for granted. We are in fact making language harder for the second language learner than for the native speaker. As an example, if we take the function "giving instructions," for a general or ESP course. "First tap the dowels into the holes near the bottom edge of the front rails."

Without visual support of the above instruction, there will more than likely have to be teacher explanation of the following:

i) Lexical items: dowel, holes, edge, rail.
ii) Spatial relationships: location, size, pressure.
iii) Setting and situation: place, mood, reason.

With audio, even if the above is taught, students may not fully understand, or fail to acquire the concrete extra-linguistic markers necessary for comprehensible input. Much is still in abstract, left to the students' imagination.

If the same dialogue is accompanied by video, how much clearer become the three items above. Students can actually see what is happening. Although not referring solely to language teaching, a spokesman for the "Fund for the Advancement of Education" said, "Despite the newness of television as a medium of instruction, despite all sorts of technical difficulties. . .the results clearly showed that students who received part of their instruction over television in large classes did as well as, and in many cases significantly better than students who were taught by conventional methods in small classes." (Stevenson 1961) It is reasonable from this to assume that the learner gets a far greater input with video than without it.

All cultures have symbolic language, which as students progress they must acquire to help fluency and understanding. Emblematic language, a nod, a shake or gesture, are all part of the language act. Some stand alone without language; others supplement and make language clearer. They sometimes change in different areas of language and in different registers. It is only common sense that students, especially those who intend to visit the target language community, should have some understanding of these; it is very difficult to make students aware of symbolism without visual movement.

Language is also manipulative through tone, stress, intonation (paralinguistics) and these convey the desired effects of the actual linguistic utterance. Thus underlying meaning is "caught" on video as the receiver's actions, body movement, proximity to speaker are seen in a direct relationship to the utterance and the situation.

The variations of language (Finocchiaro 1983) which result from dialect, register, time, relationship of speakers, provide recognition points beyond language for the student to focus on. Video shows to the student the appropriateness of such language variations as regards:

i) the social positions of the participants.
ii) the place of transmission.
iii) the style of the utterance (Joos 1965).

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