UNIVERSITI PUTRA MALAYSIA

**COMPUTER-BASED CONCORDANCING COURSEWARE
FOR DEVELOPING VOCABULARY SKILLS
IN THE ESL CLASS**

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COMPUTER-BASED CONCORDANCING COURSEWARE
FOR DEVELOPING VOCABULARY SKILLS
IN THE ESL CLASS

By

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The analysis of natural texts provides the basis in which words used in different contexts can be studied. A computer-based concordancing courseware makes the task of analysing natural texts not only viable but also fast. Texts taken from primary sources such as the newspapers, magazines, books, and letters, can be scanned into computer storage devices for analysis later. The study of such a corpus has the advantage of not only providing the student with authentic, natural occurring texts, but also coming out with a list of possible contexts in which the particular word may occur.

Forty eight TESL matriculation students in a first semester ESL class studying at Universiti Pertanian Malaysia, Serdang, were randomly assigned to two groups - the experimental group and the control group. Treatment consisted of two stages. In the first stage, the experimental group received the computer concordancing courseware treatment while the control group was taught vocabulary the conventional classroom way. In the second stage, the groups were switched, with the experimental becoming the control group and vice versa. During the treatment period, a set of instructional objectives were adhered to and the learning outcomes pertaining to vocabulary development ensured.

The data collected revealed a significant difference in the performance between the control and the experimental groups at the end of stage I. All subjects indicated a positive attitude towards the computer concordancing courseware. Much information was also gleaned on appropriate instructional strategies for integrating computer concordancing into vocabulary teaching..

Abstrak tesis yang dikemukakan kepada Senat Universiti Pertanian Malaysia sebagai memenuhi sebahagian daripada keperluan untuk ijazah Master Sains.

PERISIAN SUKATAN PELAJARAN KONKORDANCING KOMPUTER UNTUK MEMBINAKAN KEMAHIRAN PERBENDAHARAAN KATA DI DALAM KELAS ESL

oleh

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Mei, 1994

Pengerusi: Dr.Gan Siowck Lee

Fakulti: Pengajian Pendidikan

Analisis teks biasa boleh dijadikan asas untuk kajian perkataan yang terdapat di dalam konteks yang berlainan. Analisis teks dari sumber utama melalui perisian sukatan pelajaran konkordancing komputer merupakan satu cara yang praktikal dan cepat. Ini adalah kerana teks yang dipetik dari sumber utama seperti surat khabar, majalah, buku-buku dan surat-surat boleh dimasukkan ke dalam cakera keras komputer untuk dikaji kemudian. Dengan menggunakan 'korpus' seperti ini, seseorang pelajar dapat mempelajari sesuatu perkataan yang digunakan dalam banyak konteks dengan menggunakan teks sumber utama.

Empat puluh lapan orang pelajar sessi pertama dari program matrikulasi TESL di Universiti Pertanian Malaysia telah digunakan sebagai sampel kajian. Mereka telah dibahagikan kepada dua kumpulan: eksperimen dan kawalan melalui cara pembahagian rawak. Kajian ini telah dibahagikan kepada dua peringkat. Dalam peringkat pertama, kumpulan eksperimen didedahkan kepada perisian konkordanser komputer, manakala kumpulan kawalan mempelajari perbendahaan kata mengikut cara biasa di dalam kelas. Pada peringkat kedua, kumpulan eksperimen mendapat rawatan biasa dan kumpulan kawalan didedahkan kepada perisian konkordanser komputer. Dalam kedua-dua peringkat ini, satu senarai

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objektif pembelajaran yang patut dicapai diikuti dengan tegasnya oleh kumpulan yang didedahkan kepada perisian konkordanser komputer.

Data yang dikumpulkan menunjukkan bahawa perbezaan pencapaian di antara kumpulan eksperimen dan kumpulan kawalan adalah signifikan. Tambahan pula, kesemua subjek menunjukkan sikap yang positif terhadap penggunaan perisian konkordanser komputer. Banyak maklumat juga dapat dikumpulkan tentang strategi pengajaran yang mengintegrasikan perisian konkordanser komputer ke dalam pengajaran perbendaharaan kata.

CHAPTER I

INTRODUCTION

Background

The teaching of vocabulary in the English proficiency class has invariably followed the path where unfamiliar lexical items are either pre-taught by the teacher, or the students have been asked to *consult* their dictionary. In both cases, the emphasis has been on word recognition skills. It also follows that sometimes a dichotomy arises between the denotation (dictionary meaning) of a word and its connotation (implied meaning). Knowledge of the literal or denotative meaning of a word does not always guarantee that the student can use the word accurately or appropriately in new or different contexts. This is because most words have attitudinal or emotive dimensions to them when used in different contexts or situations. To further compound the problem for the learner, especially when the target language is a second or foreign language, are such factors as style, register and dialect (**Gairns** and **Redman**, 1986). It is usually through many encounters with the *new* word in different contexts that the student ultimately increases his ability to use the word correctly.

In the light of this situation, the analysis of natural texts provides the basis in which words used in different contexts can be studied. Computer-based concordancing courseware makes the task of analysing natural texts speedy and expedient. Texts taken from newspapers, magazines, books, letters, and other first hand sources can be easily scanned into computer storage devices for analysis later. The study of such a corpus has the advantage of not only providing the student with authentic, natural occurring texts, but also coming out with a list of possible contexts in which the particular word may occur.

In the classroom the computer can serve as a supplement to the teaching/learning process. The use of audio cassette players and recorders, video cassette recorders, overhead projectors are common media for imparting knowledge and raising the level of comprehension and critical thinking when suitably used. Their use also heralds in more interesting ways of motivating the learners. The computer and suitable courseware represent a more recent addition to the teaching paraphernalia. Like all other teaching aids, maximum effect can result from proper and planned use, as well as careful matching of courseware with curriculum objectives and learning outcomes. Improper use, as in the case of a teacher who uses the computer for the sake of using it, would eventually relegate the computer to the role of a baby-sitter devoid of any educational goals or purpose.

Statement of Problem

In view of the recent emphasis on integrating the computer into the classroom, ways must be found to utilise the available computer technology to maximise learning. It is the intention of this study to investigate how the teaching and learning of more effective vocabulary skills can be made more interesting and beneficial for students studying English. It is also felt that a variable that may influence learning is the attitude of the learner. Studies carried out on attitudes and computer-assisted instructions (CAI) (**Heywood** and **Norman,** 1988; **Johnston,** 1987; **Chen,** 1986; **Moore,** 1985; **Cavin, Cavin** and **Lagowski,** 1981; **Loyd** and **Gressard,** 1984; **Askar, Yavuz,** and **Koksal,** 1991) concur that students' attitudes towards CAI is crucial for the success of computers as an educational technology. These studies have revealed that students also hold either positive or negative attitudes towards computers, and their attitudes may affect attempts to integrate computers in education. Another variable that concerns this study is the students' ability to cope with English language learning, and specifically, with vocabulary. It can be agreed in general that students learning English encounter difficulties in the following areas:

1.   Learning and using words in contexts.

2.   Disparity between *knowing* and *using* words.

The traditional and contemporary ways of tackling these issues have been teacher-centered in approach. Comprehension of passages usually involves the teacher deciding what words are difficult for the students and how exercises can be given to improve their vocabulary skills. Another usual way is getting the students to consult the dictionary whenever an unfamiliar word is encountered. A *good* dictionary may provide a few possible meanings and one or two examples of the word used in context. But it does not tell the learner whether the word to be used is socially appropriate or not. The social register of a language dictates that words must be carefully chosen according to the situation and whether the social interaction is between a superior and a subordinate, or among equals. For instance, an employer may *demand* the attention of his subordinates but has to politely *request* his client's attention. Similarly, parents may *chide* their children but not their employers. Though the dictionary defines the meaning of *demand*, *request*, and *chide*, it does not really suggest the appropriate social situations in which these words may be used without producing a wrong impression. In such a situation, a dichotomy develops between word recognition and usage. This gap between being able to recognise a word through reading and using it in writing can be narrowed down by providing many opportunities for the student to come across the word in different contexts.

Recent developments in computer courseware design are making this multi-contextual situation for studying words possible. Computer-based concordancing provides both the speed and the memory power to search whole text for the multi-dimensional occurrence of words. This computer-based **keyword in context** (KWIC) approach may prove to be more effective than conventional vocabulary teaching strategies. In the conventional approach, the strategy of teaching vocabulary makes use of a particular text and the dictionary to extract the meaning of unfamiliar words. This technique may be supplemented by the study of root words and affixes in isolation, followed by either getting the student to use the newly learned words in sentences of their own or with some guidance. Such a strategy is less than effective because it does not provide enough examples for the student to be aware of the different nuances in meaning of the word in different contexts. A case in point is the word *fast* which can mean *quick, abstinence, remaining permanent in colour, steadfast*, or even *unduly particular*. In addition, the different forms of the word with its different meanings, may add to the confusion the student has to go through in his journey of self discovery.

Objectives of the Study

With the availalibity of such a powerful tool as the computer, it is now up to educators to develop courseware that can tap its vast potential. A well-designed courseware can make the learning-by-self-discovery strategy interesting and useful for the student. This study has the two-pronged objectives of developing a

computer-based concordancing courseware for students to improve their vocabulary skills as well as getting feedback from the users regarding its problems, benefits or effects.

It is usually acknowledged that four components must be present for learning to take place. They are **the teacher**, the **students, instructional materials** and **instructional/learning strategies**. In this study, instructional materials refer to the computer corpus and the concordancer concerned. Instructional/learning strategies refer to the tasks set for the subjects (either in groups, pairs or individually) and how they are to respond to or interact with the computer in finding answers to the tasks/problems. Do these components of the teaching/learning process affect how the subjects learn and how well they learn? Is the novelty of using the computer contributing to greater learning or less learning? Are the attitudes of the subjects affecting how learning takes place? These questions and the answers to be obtained represent the general objectives for the study: finding out the extent to which a computer-based concordancing courseware can help develop the students' vocabulary skills, and whether attitude towards the concordancing courseware is a correlate of students' performance.

The following are research questions for this study:

1.   Is the use of the computer concordancing approach more effective than the conventional classroom instruction in the teaching of vocabulary skills?

2.   To what extent can the specified instructional objectives be achieved through the use of the computer concordancing approach?

3.   What is the students' attitude towards the computer concordancing approach in the development of vocabulary skills?

4.   Is there any relationship between the students' attitude towards the computer concordancing approach and their vocabulary skill performance?

5.   Which method is perceived by the students as effective in the learning of vocabulary skills?

6.   What are the considerations for the effective use of computer concordancing approach in vocabulary skill development?

For research questions (1) and (4), the following null hypotheses will be tested:

1)   There is no significant difference in the vocabulary skill performance between the students using the computer concordancing courseware and the students subjected to the conventional classroom instructional method.

2)   There is no significant relationship between students' attitude towards the computer concordancing approach and their vocabulary skill performance.

Significance of the Study

This study is significant because it seeks to confirm whether there is a need to reorientate the way vocabulary is currently taught. Unlike the usual conventional strategy of teacher-directed vocabulary exercises where the learning outcomes are already predetermined, a concordancing courseware can redirect the focus to the student's own ability to discover certain features of the English language through teacher-assigned tasks. In the discovery process, the student achieves better retention and understanding of such salient features as are found in the language. Concordancing enables the student to discover not only the meaning but also reveal all sorts of other information about the keyword: grammatical features, common collocations, different meanings, idiomatic and metaphorical uses, stylistic features, and/or connotations (**Tribble** and **Jones**, 1989).

Through this strategy of studying a corpus of thematically related texts taken from original sources, the student is no longer spoon-fed. In this situation, the teacher is free to take on the role of facilitator of learning. This form of active learning by the student frees the teacher of the task of teaching the rules and forms of the language: he now mainly confirms or clarifies points raised. The student does most of the research work and learns faster and better by doing so. Such teaching/learning strategy is at the moment lacking in most schools and higher educational institutions. Concordancing challenges the way a student learns.

It is hoped that the findings of this study will persuade teachers to explore the possibility of adding another dimension to their vocabulary teaching strategies.

The unsimplified reader threshold (where students can expect to encounter more difficult words beyond what is considered the commonest 2,000 words in the English language level) (**West, 1953**), can be more effectively tackled through arming students with the skills of guessing the meaning of word in context. There is no way the teacher can predict the list of difficult words that is likely to be encountered by the student while reading new texts. The sheer memorization of word meanings only works to a certain extent. Beyond the 2,000 word threshold level, the student must be armed with word-in-context reading skills to survive in the real world.

Educational policy planners and syllabus designers must be aware of the potential of computer-assisted language learning (CALL) and have it incorporated into the syllabus if they are to take advantage of the computer technology available now. In designing the curriculum, they must know how effective and useful such computer courseware is to the students. Some courseware, carelessly recommended, may stifle learning, instead of enhancing it. The use of computer concordancing courseware, carefully designed and managed, may prove a worthwhile effort. There is a need for policy makers and planners to exercise caution in coming up with suggestions for incorporating courseware when revamping syllabuses. Change for the sake of change should not be used as a pretext for accepting whatever courseware that comes along.

Teachers and students should not be asked to carry the brunt of bureaucratic blunders. Neither should the computer become educational white elephants. The outcome of this study will be significant in providing some

indications as to whether the computer concordancing approach can be integrated into the teaching and learning of English, particularly in the students' vocabulary development.

Limitations of the Study

There are some limitations to this study. Firstly, the study is confined to the TESL matriculation students studying at Universiti Pertanian Malaysia. The students in the other language programmes at the school and university levels are not involved because of constraints of resources and time. The duration of the programme is confined to one semester. In addition, it is difficult to ascertain whether improvement in vocabulary skill is due to the positive attitude of the students or whether it is the courseware that leads to positive attitude.

Another constraint of this study is that it is very difficult to ascertain whether improvements in vocabulary skills actually lead to a corresponding improvement in the writing skills. Does an improvement in the receptive skill of inferencing meaning from context help the student concerned to write better because of the increased knowledge of lexical items? This is one question that is beyond the scope of this study.

The major constraint is the size of the corpus in the courseware. Ideally, the larger the corpus size, the more representative is the language under study. In a corpus size of 50,000 words (which is the maximum that the **Longman Mini Concordancer** software is capable of processing at any given time), the frequency

of occurrence of a word may vary according to how common it is. For example, the definite article *the* is the most common word in the English language and occurs twice as frequently as the next two common words *of* and *and*. (Sinclair, 1991). A specialized word like *oxymoron* may not even occur at all in this 50,000-word corpus unless one of the texts is taken from a chapter in **CRAZY ENGLISH by Richard Lederer** (1989). Likewise, specialised medical or scientific words will not appear unless medical and scientific writings are also part of the corpus. A wide range of texts covering as many areas, topics and/or subjects may ensure that the language to be studied is representative or balanced, but then again the size would be too unwieldy to be handled by a personal computer.

Definition of Terms

Vocabulary Skills

The skills needed to recognise and use words correctly and appropriately in a variety of social contexts. The student has to be familiar with not only the meaning of the word but the many forms it may take. In the context of this study, the vocabulary skill is measured by the score obtained by the subject in the pretest and posttest.

Lexical Item

The smallest unit in the meaning system of a language that can be distinguished from other similar units. A lexeme is an abstract unit. It can occur

in many different forms in actual spoken or written sentences, and is regarded as the same lexeme even when inflected.

For example, in English, all inflected forms such as *give, gives, given, giving, gave,* would belong to one lexeme *give.*

Courseware

Courseware refers to software that has instructional applications. The software that will be used for this study is known as the **Longman Mini Concordancer**, which is supplemented by the corpus of instructional materials.

Attitude

A state of readiness, a tendency to act or react in a certain manner when confronted with certain stimuli (**Oppenheim**, 1966). The attitude to be measured in this study refers to the attitude of the subjects towards the computer concordancing approach in developing their vocabulary skills.

Proficiency Level

For this study, the proficiency level will be based on the **grade** obtained by the subjects for English in the Sijil Pelajaran Malaysia examination. Subjects with distinctions in English at SPM and at least a credit for the 1119 Paper levels will be considered as **proficient** while the rest will be considered **less proficient**.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

The use of computer concordancing software to study vocabulary and to develop inferencing skills among students is relatively unexplored. In the context of this study, there has been very little literature available on the application of computer-based concordancing courseware in the classroom. This chapter explains the concept of concordancing in relation to research done on the compilation and analysis of corpora. Textual analysis studies are pertinent to this research because they provide an insight into early attempts to examine a living language like English under a microscope and to see what actually makes it tick, so to speak. What better way to study English than to compile as many primary source texts as possible in the hope of extracting the spirit of the language instead of defining or describing rules of grammar and syntax? The review then moves on to a discussion of the theoretical concept of words and the assumptions behind the development of vocabulary skills in the student. Attitudinal studies concerning Computer Assisted Language Learning round off this literature review.