A RESEARCH ON THE EFFECTIVENESS OF THE "ENGLISH CLASS TEACHER" SOFTWARE FOR IMPROVING THE STANDARDS OF ENGLISH AMONGST FIRST AND SECOND YEAR ELECTRICAL ENGINEERING STUDENTS AT KOLEJ UNIVERSITI TEKNOLOGI TUN HUSSEIN ONN.

CLARENCE GOH KOK LEON

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PERPUSTAKAAN TUNKU TUN AMINAH

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For my beloved Parents

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ABSTRACT

The purpose of this research is to discover the characteristics of effective English Language teaching software amongst first and second year Electrical Engineering degree undergraduates in KUiTTHO. "The English Language Teacher Software" was written for this purpose and distributed among 25 samples consisting of first and second year undergraduates in KUiTTHO. The results were obtained and analyzed using 3 techniques, namely the Questionnaire Distribution Technique, The Oral Interview Technique and the Personal Observation Technique. The usage of three different techniques of analysis fulfills the requirement for the triangulation technique, a statistically valid technique or qualitative sampling and observation. This research is a Descriptive Univariate research. Therefore the questionnaires created utilized the Likert scale, which is also a discrete scale for valid statistical analysis. Using the Questionnaire Distribution Technique, 57 questions were prepared. The data collected from the Questionnaire distribution method were analyzed using the central tendency criterion and the results were compared with other research techniques used in this project, namely the Personal Observation Analysis Method and the Oral Interview Method. Through the process of triangulation, the data common to all three techniques were analyzed and noted down. These data pinpoint the weaknesses and strengths of the "English Language Teacher Software" and highlighted the important key elements that could be used for further research in the next version of the software.

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ABSTRAK

Objektif kajian ini adalah untuk menentukan kriteria-kriteria utama dalam pembelajaran dan pengajaran Bahasa Inggeris di kalangan mahasiswa dan mahasiswi Sarjana Muda Kejuruteraan Elektrik Tahun 1 dan Tahun 2 di KUiTTHO. Perisian "The English Teacher Software" telah ditulis untuk tujuan ini dan telah diedarkan di kalangan 25 sampel pelajar di KUiTTHO. Keputusan telah diambil dan dianalisis dengan menggunakan tiga teknik, iaitu, Kaedah Pemerhatian, Kaedah Menemubual, dan Kaedah Pengedaan Soal Selidik. Penggunaan ketiga-tiga cara ini memenuhi sysrat untuk kaedah "Teknik Tiga Penjuru", yakni salah satu teknik utama yang sah bagi tujuan pemerhatian dan analisis kualitatif. Kajian ini ialah sebuah kajian diskriptif yang melibatkan satu pembolehubah bagi setiap satu persoalan kajian. Oleh yang demikian, soalan-soalan yang telah dibentuk bagi tujuan pengedaran soal selidik adalah berdasarkan Skala Likert, yakni satu pengskalaan diskrit. Data-data yang dikumpul setelah kajian dibuat telah dianalisa dengan menggunakan "Kaedah Keutamaan Frekuensi" dan keputusannya telah dibandingkan dengan kaedah-kaedah kajian yang lain, iaitu Kaedah Pemerhatian dan Kaedah Menemuramah. Dengan menggunakan Proses Segitiga, persamaan antara ketiga-tiga kaedah kajian yang utama telah dibuat dan telah dicatatkan. Ini termasuklah keburukan dan kebaikan perisian "English Language Teacher Software" yang telah dicipta. Maklumat ini dapat digunakan sebagai asas bagi kajian seterusnya pada masa hadapan.

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LIST OF TEMINOLOGY USED IN THIS TEXT

AI	-	Artificial Intelligence
CMC	-	Computer-mediated Communication
DB	-	Database
GUI	-	Graphical User Interface
OLE	-	Object Linking and Embedding
OCX	-	Active X Controls
OOP	-	Object-oriented Programming
SQL	-	Structured Query Language
VB	-	Visual Basic

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CHAPTER I

INTRODUCTION

Not only can technology improve the teaching and learning process, it also helps parents monitor their children's performance through the usage of Internet Communication Technology (ICT) equipment. Examples of ICT equipment include the e-mail system, the internet and the various computer peripherals that support it including WAP mobile phones and portable computers. (CHIPS Magazine, January 2002)

ICT, as defined by computer consultant, Vincent Charles (1995) in CHIPS January 2002, is "utilizing technology to benefit mankind and to improve his lifestyle". Therefore, having the technology and not using it will be a waste. Only full beneficial utilization of the technology shall give mankind to competitive edge in today's scenario. From the statement made by Vincent (1995) above, it can clearly be seen that ICT does play an important role in the development of the society.

In recognizing the importance of the usage of ICT equipment and knowledge in our daily lives, the government has introduced the Employees Provident Fund (EPF) scheme to promote the usage of computers in all households. This statement has been further iterated by Datuk Chan Kong Choy (STAR Newspaper, 21st July 2002), deputy finance minister. According to him, one computer per house is indeed a good start in promoting and creating more computer literate citizens.

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It is therefore paramount for every society who wishes to progress be well-equipped with the sufficient knowledge to progress into the 21st century. However, this is not the case in Malaysia. Most teachers would rather remain complacent than to change for the better (Harun Arrasyid, 1977; Roharty Nohd Majzub et al, 1990). Although it is apparent that the benefits of technology far outweigh its cons, many teachers and students alike refuse to accept this changes and would rather be complacent (Roharty Nohd Majzub et al, 1990). This attitude of general malaise, as opposed to any changes in current standing, can be attributed to "a feeling of being afraid of sudden change-for afraid of being left out" character (Roharty Nohd Majzub et al, 1990).

"The English Language Teacher" is a software specially developed to counter the problems faced by teachers and students. This system is an ideal system for course-dependent Web-based delivery and software-based educational, training and assessment materials. The system generates customized content (e.g., assessments, feedback) for each individual student and tracks the student through a course while enforcing course-specific rules and policies.

The system is designed to be scalable to handle large numbers of English courses and students, and provides sharing of educational content across multiple English courses. However, the current development only incorporates English for second semester degree students (English I and II). It includes appropriate network security and authentication. On the client side, the student only needs a Web browser and an Internet connection for the latest update and patches available. This ensures that the users (teachers and students) are able to obtain the latest software patches and keep themselves abreast of the latest change in syllabus and course content.

In addition, new features are planned to be employed into the software from time to time, enabling users to explore the limitations of today's technology and using them to improve their mastery of the English Language. A voice-recognition engine and a TTS (Text-To-Speech) software greatly improves the feasibility and usability of this software in teaching a mass population of various degree of mastery in terms of the English Language simultaneously with minimal teacher intervention.

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Course descriptive elements and student records are stored in a database. Individualized content is dynamically computed and delivered to the student via the Web. Course content is represented in a formal model of the elements of a course (e.g., instructional modules, exams, tutorials, assignments). The model of content is augmented with information on how courses are taught and their operational rules and policies (e.g., prerequisites, grading criteria). The entire system is data driven; only basic course-independent modeling concepts are represented directly. All content and course operations are declarative information in the model, processed by the system engine. The complete system includes elements for Web-based course delivery and student tracking, staff and administrative controls, course and system operations, and course content generation and authoring.

Based on the assumption that multimedia content is more appealing, engaging and effective towards the improvement of English in the teaching and learning process, this software is developed to test the current trend and perception towards multimedia learning. This study is a qualitative and quantitative study intending to clarify the criteria required for an effective English Language Teacher software aimed at improving the mastery of English among students. The results expected from this study include the knowledge of constructing an effective English Language teaching software with respect to these criteria:

1.) User-friendliness
2.) Colour schemes used
3.) Content Organization and Development
4.) Engaging Content Presentation
5.) Effective evaluation criteria
6.) Program stability and computer compatibility

The variables involved in this study include:

1.) The time spent with the software
2.) The number of students participating in this study.
3.) Answers received upon evaluation of software.

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This research shall also employ statistical methods in determining the effectiveness of the software. Hence, the purpose of this software is to study the feasibility of implementing a full-fledge software in aiding the teaching and learning of the English Language in an institution of higher learning.

To increase the overall scope and accuracy of this project, the system has been developed in a CD-version. This will ensure a larger sample for the purposes of testing and greatly increase the accuracy. Students who do not have access to the Internet can install the software via the CD, and vice versa.

The purpose of this research is to determine the effectiveness of the English Class Teacher Software and characteristics necessary in improving the viability and enhancement of the learning process by making the teaching and learning of English more engaging among first and second year electrical Engineering students in KUiTTHO. Research was carried out in the span of six weeks by dividing the class into 2 groups. Further elaboration is given in the research methodology.

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1.2 Problem Statement

Theories of adult learning are highly relevant to computer training for adults. For example, Andragogy (Knowles, 1995) is a general theory for adult learning that emphasizes the importance of experience as well as self-direction and intrinsic motivation. It also emphasizes the role of problem-solving and immediate value in learning activities. All of these qualities have been shown to be critical in computer learning tasks (Heerman, 1986, Zemke, 1984).

Most students, however, get easily bored because they lack self-motivation and intrinsic motivation. (Harun Arrasyid, 1977). Many a time, students are bored by intensive

lectures and conventional teaching methods. Traditional teaching methods are tedious, boring and arduous, both to the teacher, and to his students. (Mohd Sarif Abd Manap & Ahmad Jaffni H.M. Hassan, 1996). Teachers bore themselves by teaching similar things repeatedly. Their skills do not improve because nothing new is being learnt. The teacher's own level of English may degrade too. Students remain complacent as answers to assignments and evaluations performed could be easily obtained from their seniors. Therefore, it is an imperative that new teaching methods harnessing the latest technology be used in facilitating the education process. Otherwise, the whole education facility shall come to a stall.

To verify the statements above, an interview has been conducted among ex-polytechnic students in Kolej Universiti Teknologi Tun Hussein Onn. The purpose of this interview was to determine the leading problems faced during their previous studies at the polytechnic. Among the findings obtained from KUITTHO (KUiTTHO, 2001 in Cheng 2001) were:

1.) Most students feel shy to express their opinions during class.
2.) Some students feel that traditional teaching methods are not sufficient to fully convey information in a conducive manner.
3.) Traditional teaching methods consumes unnecessary time.
4.) Internet facilities are not sufficient.
5.) Extra costs are incurred on the printing and binding of assignments.
6.) Extra reading materials are difficult to obtain because there are insufficient reference books in the library to cope with the ever-increasing number of students in the campus vicinity.

This research serves to evaluate the effectiveness of "The English Class Teacher" in improving the standards of English among first semester and second semester Electrical Engineering students in KUITTHO. The software, as its name implies, is a form of multimedia instrument utilizing technology to bridge the gap between conventional teaching methods and technology-based teaching methods. The effectiveness of this software in improving the performance of English among the samples chosen, is an indirect indicator of the software's ability to bridge the gap between these 2 teaching techniques.

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Alternatively, this software can be viewed as a substitute to the conventional teacher by providing everything that a conventional teacher can provide in addition to bringing the latest developments in multimedia technology to the desktop and making learning much more fun and engaging.

In discussing the many problems faced by students, it is also essential that sufficient concentration be allotted to similar software already in the market today that intends to achieve similar objectives as the "English Class Teacher". There are numerous problems faced by the systems today that befalls students who utilize computers to learn the English Language. Among them are:

1.) The software being created does not support multiple operating systems. This results in data produced by one computer is not able to be read by another computer.
2.) English Language taught in the conventional way is boring. (KUiTTHO,2001 in Cheng 2001)
3.) Insufficient multimedia content being presented to students to illustrate an important point.
4.) Poor mastery in terms of pronunciation and communication as the syllabus today does not emphasize these important aspects as stated above (points 1, 2 and 3). This results in impaired communication skills.
5.) Bad vocabulary and grammar.
6.) Bad software usability.
7.) Expensive software cannot be afforded by students or educational institutions.

1.3 Objectives:

The objectives of the research are:

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1. To determine the criteria and software elements necessary for an effective software in aiding the teaching and learning of the English Language.

2. To develop and to pilot-test the software solution proposed and to obtain feedback on the effectiveness and suitability of the software.

3. To identify the key elements necessary to build an interactive software for use at various institutions of higher learning to teach English.

4. To identify the advantages in using multimedia teaching and specialized software.

The purpose of this project is to develop an application to teach English to students. This software shall not entirely replace the conventional teacher, but shall, however, be able to compliment the existing conventional lectures. Students shall be able to benefit in the following ways:

a.) vocabulary
b.) grammar
c.) pronunciation
d.) spelling

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1.4 Research Questions:

The research questions are:

1. How engaging is multimedia presentation software in enhancing the learning process of the English Language?

2. How effective is the deployment of multimedia content in teaching English?

3. What are the key criteria necessary for an effective English Learning Software tool?

4. What present key software elements are necessary for the effective deployment of the English Language Teacher Software in the teaching and learning environment?

5. What are the missing necessary software elements necessary to create engaging multimedia software to teach English?

6. Are users properly equipped with the necessary pre-knowledge to operate the software?

7. Is the software stable and easily adaptable to various systems and hardware configurations?

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1.5 Importance of the Research

This research is important as it has the potential to benefit students and lecturers alike in the long run. The teaching and learning process could be greatly accelerated should multimedia be an integral component in the English Language curriculum today. This shall

resolve many numerous problems. The research aims to pinpoint the feasibility of incorporating multimedia teaching and learning equipment into the teaching and learning process of the English Language by taking the first and second year Electrical Engineering students as samples in this research by looking mainly at user ratings for important and necessary key software elements that must be present to make The English Language Teacher Software an effective piece of software for teaching English. Should the outcome of this research indicate that multimedia content, and hence, key software elements proposed; is indeed of benefit to students in the teaching and learning of English, a new curriculum incorporating these elements could be introduced.

1.) The software might benefit students

Students shall not face a problem of time management ever again. Students shall have the freedom to work wherever they want and whenever they want. Inconsistencies in the marking scheme due to human errors and biasness shall be non-existent.

2.) The software might benefit lecturers

The lecturers might be able to employ multimedia in teaching English as a creative approach towards making the subject more interesting. They too, shall not be required to spend long, menial hours preparing notes and examination questions for the perusal of his students. The teacher acts more like a facilitator rather than a source for knowledge. Hence, the teacher can focus on the content of delivery as opposed to the technique of delivery. This method could greatly improve the cognitive ability of students.

1.6 Scope of the software and research being developed

The scopes of The English Language Teacher Software are listed below:

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