CHAPTER TWO

REVIEW OF LITERATURE

2.0   Introduction

This chapter begins with a summary of the history of the use of computers in language teaching and language learning before proceeding to a discussion of the definition of the terms 'Internet' and 'World Wide Web'. This is followed by a discussion of the use of the Internet and the Web as an educational tool. Finally, the chapter concludes with an examination of previous studies conducted on the use of computer-based technology in the ESL context.

2.1   History of the Use of Computers in Language Learning and Teaching.

Computers have been used for the purpose of language teaching and learning since the 1960s. It started with Computer Assisted Language Learning (CALL) (Warschauer et al., 1998). It was used for tutorial drill and as a practice machine back then. From the 1980s to the 1990s, computer based instructional strategies underwent several changes. Graphic based systems were used and the first naturalist model software was produced. This software was developed to provide language skill practice (Towndrow & Vallance, 2002).

In the early 1990s, the introduction of the multimedia system resulted in hyperlinked material. This allows for the combination of pictures, sound, video and animation and has led to the production of games and simulation. These two products help to enhance learning. With the introduction of the Internet (i.e. a

network of computers) in 1969 and later the World Wide Web in 1989 as one of the useful features provided by the Internet, there is wider and greater use of computer technology in language learning and teaching (Narkhede, 2000).

2.2 The Internet

The word "internet" literally means "network of networks" and is defined as the Transmission Control Protocol/Internet Protocol (TCP/IP), (Hughes, 1994, cited in Seh Ling, 1997). Each computer on the Internet has a specific address that allows it to be contacted by all other members of connected networks. Therefore, it is possible to exchange electronic messages, participate in information forums (Newsgroup), send or receive mail, import files or explore the network with research systems such as the Gopher or the World Wide Web (Seh Ling, 1997).

Herring defines the Internet as "world-wide networks of computers, which all are linked together via telephone lines" (Herring, 1999: p.26). As for Jones (1998) and Chisholm (2000), they define the Internet as a network of computers all over the world which communicate with each other using common protocols. It began as a military network called Arpanet in 1969, which later expanded to universities, businesses and individuals. It has many distinct services such as e-mail, chat, file transfer and the World Wide Web.

Generally, the Internet is "a cooperatively-run collection of computer networks that span the globe" (December Communications, 1997, p.1) and refers to " the physical side of the global network (Hughes, 1994, cited in Seh Ling, 1997). The Internet does not only concern itself with data but it is also an international

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community of people who share information, interact and communicate and users view it as a vast collection of resources (Seh Ling, 1997).

2.2.1   The World Wide Web

The World Wide Web (WWW) is part of the Internet but the Internet and the Web are not the same thing (Jones, 1998). The Web refers to "a body of information – an abstract space of connected knowledge" (Jones, 1998). The World Wide Web is the fastest-growing Internet service (Chisholm, 2000). It is made up of many pages, and usually combines with text and graphics, connected together with hyperlinks (Chisholm, 2000). Another similar definition is by Sharp (1999) who states that the web consists of a collection of electronic documents called home pages or web sites, full of texts, pictures, sounds and videos.

Dudeney (2000) refers to the Web as a collection of screens of information (i.e. web pages) which reside on many thousands of computers around the world and all the computers are permanently connected to the Internet. These pages are all linked together or classified in various directories and search catalogues (Dudeney, 2001). Meanwhile, a simple definition of the World Wide Web by Herring is that "it is a collection of on-screen pages of information" (Herring, 1999: p.32).

Generally, the WWW can be defined as a collection of electronic documents that contains information that is usually combined with texts, pictures, sounds and videos.

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2.3   Learning via the Internet

Most of the literature on how people learn has been written by psychologists. Although, they may have learned a great deal but they are not always 'quite in tune with how the rest of the species actually learns (Race, 1993, cited in Tunku Mahani, 2003). According to Race (1993), successful learning requires four processes which are:

a) wanting to learn (or motivation)
b) doing; that is, learning by practice and by trial and error
c) feedback; that is finding out how it is going, and
d) digesting; that is making sense of what has been learned

Therefore, Race (1993) believes that learners will succeed if they really want to learn something or if they are motivated. 'If the "want" is missing, there is high probability of failure' (Race, 1993: p.19).

Based on the four processes required for successful learning, Quintana (2002) points out that:

> " The Internet has provided an opportunity to introduce new ways
> for supporting individual learning styles for students and created
> new paradigms for instruction"
>
> (Quintana, 2002 : p.4)

The Internet provides a source of motivation to learners. This is because it can create the 'want' factor as it comprises the latest technology that is used for teaching and learning. There is a variety of learning resources in the Internet that can arouse the students' interest. They are likely to be attracted to the learning activities and also the colourful graphics and pictures on the web pages. The students can locate the web pages easily and can move from page to page by manipulating the mouse. Zoraini Wati Abas and Tunku Mahani Tunku Mohtar (1996) discovered that

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students like the activities in the Internet because it is better than turning the pages in a book. Besides that, students cannot look at the answers to the questions or the problems posed until they have worked through them. They need to complete the whole exercise and only then can they check the answers. Thus, this new technology in learning is able to arouse the students' interest and curiosity in both, using the materials and using the computer.

By manipulating the computer to access the language learning resources available, the students can learn the skills in using the computer and also the necessary language skills. They might learn skills like reading and also grammar and vocabulary as they access one site after another. Hence, they learn the skills by 'doing' (Tunku Mahani, 2003). As the students are engaged in performing a skill (computer skills or language skills), they learn a lot more as most learning happens in an active "learning by doing" mode, as compared to a passive "being taught" mode (Race, 1993, cited in Tunku Mahani, 2003). Students' interest is sustained because of the large number of resources that appeal to them. They feel motivated to use these resources as these resources supply them with a variety of topics on the various language skills, grammar and vocabulary. In addition, these resources are from all over the world and are obtainable without any charge. The content of the web pages is stimulating and offers free materials for ESL learners, so the students are kept occupied with various activities.

In order to keep the students motivated, feedback on their performance needs to be provided. In the classroom, it is the teacher who gives feedback on students' performance. Similarly, there are resources in the Internet that enable the students to

receive feedback upon completion of certain activities. These activities are interactive activities that provide feedback to students after they have completed the activities. These activities include reading comprehension, grammar, vocabulary and writing exercises.

There is a variety of resources available in the Internet. This allows students to select materials which interest them. They will learn if the materials are interesting to them. They can reflect on the activities that they have accessed and used, and also evaluate the usefulness of these activities. In a study conducted by Zoraini Wati Abas and Tunku Mohani Tunku Mohtar (1996), it was discovered that students are able to evaluate the Internet materials that they use in terms of their usefulness in helping them to learn the English language. In this study, "the students reported that the activities they used were easy, enjoyable and exciting" (Zoraini Wati & Tunku Mahani, 1996). They indicated that the materials provided them new information, helped them understand English better, helped them to improve their language and also made them think. Thus, the students showed that they have digested or retained information relevant to them (Zoraini Wati & Tunku Mahani, 1996).

2.4   The Internet as a Powerful Teaching and Learning Tool

The Internet has an enormous amount of information stored from around the world. However, it is meaningless unless it is being accessed and used with proper planning and guidance by educators especially in the classroom. According to

Corbett (1997), the Internet can be used to enhance teaching and learning in the classroom in a number of ways:

1. It provides access to information which is not readily available to students using traditional methods. This includes visits to museums around the world or using materials produced by specialists such as the earthquake pages produced in Southern California.

2. It allows for exchange of information between fellow students around the world via web pages or e-mail, or asking an expert a direct question by e-mail.

3. The variety of resources that is available such as graphics, images, text, sound, and video, all help to make using the Internet a motivating experience for students.

4. The search and discovery approach not only assists students in widening their knowledge bases but also in building their confidence and self-esteem.

5. The Internet provides equality of opportunity for learning. It does not matter where a student lives in the world, their gender, ability or disability; everyone, once on-line, has equal opportunity to visit any site anywhere in the world and can access the information stored there.

6. Teacher credibility is increased in the eyes of students and reinforcement of work takes place when students visiting web sites find some of the information that has been presented earlier using traditional teaching methods.

7. Apart from learning about and becoming part of the so called 'information society', the Internet prepares students for an adult's life which will be very much based on information. They will need to make decisions about what to accept and reject, and what is accurate and what is not, and how the information presented to them from a variety of sources should be interpreted. (Corbett, 1997: p. 79).

Toliver et al. (1996) also discovered that Internet-based learning is advantageous for students. This is because, according to them, the hypertext links allow students to go from one link to another link. This helps the students find updated and new information. This kind of learning is exciting and is a great way to expand basic knowledge. As students learn to explore new areas of related ideas, their knowledge base expands (Toliver et al. 1996: p.18). In short, the Internet offers a myriad of learning opportunities for students.

Gates (1996) cited in Towndrow & Vallance (2002), describes the changes that happen in the classroom environment when using computer technology (via the Internet). According to Gates:

> "The classroom will expand its walls via the information and communication links to other parts of the community and world made possible by the Information Highway. Teachers will remain centrally important but will probably spend more time with small groups of students working together using a personal computer that is connected to the network. This form of interactive, engaging learning will mean students can access a wealth of information, proceed at their own pace and collaborate more with other students."
>
> (Gates, 1996:9)

With these changes in the classroom environment, students can explore the world and gain a lot of new information and knowledge.

Meloni (1998) views the Internet as a valuable tool and resource for ESL/EFL teachers and gives four reasons to support her view. The first reason is that it increases the students' motivation. This is because many students love using the computer, so they are very receptive to any learning activities that involve the computer. Thus, increased motivation leads to increased language use that results in improved proficiency. The next reason is the use of authentic language, especially in writing activities. For example, if the students are involved in e-mail projects, they need to 'communicate' with their friends, so they will need to write and use the language. Most of the information in the World Wide Web is written in English by native speakers. Thus, the Web is a rich source of authentic reading materials in English (Meloni, 1998). Another reason is it creates global awareness due to the availability of information which can be exchanged easily between people in the world. The fourth reason is it decreases the amount of paper used in the classroom that leads to a more environmental friendly world. Exercises can be done mostly on the computer and web sites can replace some printed materials. This can help to conserve natural resources.

Dudeney (2000) describes the Internet as an infinite resource file of texts, visual stimuli, listening material, vocabulary, information, video files, live television and radio, and newspapers from around the world. It is also a source of authentic material in English and contains information on all sorts of topics. Thus, he believes that language educators should take advantage of the materials and resources available in the Internet and utilize them creatively in their classroom teaching. Other researchers like Provenzo et al. (2001), Christine (1996) and Serim and Koch

(1996) also believe that the Internet is a potential teaching and learning tool. Provenzo et al. (2001) state that using the Internet frees humans from the mundane operations of information gathering and provides us with numerous diverse sources of information which can encourage us to be more creative and imaginative. Christine (1996) and Serim and Koch (1996) point out that the Internet has proven its educational value and many steps and strategies at the top level have been taken to ensure that it is used in the actual education system.

2.5   Using the Internet in the Teaching of English

Kitao et al (1997) list out how the Internet can be used in the context of teaching and learning English. English language teachers can make use of the Internet when preparing teaching materials. They can use the Internet to gather information on particular topics that they need to teach their students. They can make use of the various search engines and the information needed will be at their fingertips. Teachers can also make use of the Internet as a source of additional teaching and learning material. Since there is a vast amount of material for listening, reading, writing, grammar and vocabulary, they can select suitable material to cater to their students' interests and level of proficiency.

Kitao et al. (1997) also recommend the Internet as a professional resource for English language teachers. They can subscribe to mailing lists or electronic journals. There are many lists such as TESL-L which can help ESL teachers get information on conferences, new products, materials, etc. or which allow them to get involved in discussions or various projects such as finding key pals for their students. There are

a lot of web journals, such as the Internet TESLJ, English Teachers' Electronic Newsletter and Agora Newsletter which are very useful for ESL teachers. These web journals have their own resources and links to other sites. Teachers can read interesting and relevant articles that can help them in their profession and also help widen their knowledge in their field.

Kitao et. al (1997) describe in their article "Using the Internet for Teaching English" how the Internet can be used by English language learners. They can find key pals with whom they can exchange e-mail and through whom they can learn about other cultures. They can also conduct surveys for class projects. They can use the Internet for reference purposes as they can access many resources and also find additional learning materials to study English. They can also subscribe to student lists where they can participate in discussions on any topic that can help them improve their proficiency in the language. They can also read journals and newsletters which are a useful platform for reading activities and other fun activities. Finally, they can obtain news from various sources on the Internet through which they can get authentic material and up-to-date information.

2.6   The Web Site as an Educational Tool

Clovis (1998) views multimedia technology as an ideal teaching and learning tool because it provides the images, text and sound vital to different learning styles. She considers this technology, i.e. computer based technology a tool to improve students' learning and believes it can help to create a new and exciting classroom. She uses web sites to teach subjects like English, Science, Art, Foreign Languages

and Writing. For example, she uses the Purdue Web Site to teach her students matters related to the topic 'weather' which is included in her school ESL curriculum and Science curriculum. Utilizing the Purdue Web Site allows her the opportunity to create an exciting, inter-disciplinary lesson based upon real-time data. She believes that the Internet provides interesting pictures that can prompt a variety of lessons across the curriculum. Clovis (1998) finds that the Internet via web sites increases her students' learning abilities and leads to success in her classroom. She points out that this technology, i.e. the Internet via the web site, fosters her students' learning abilities and gives them greater access to the world. According to her, by using the Internet successfully, it has given her students "an enriched sense of esteem and accomplishment" (Clovis, 1998). This was proven by the reluctance of her students to leave the computer lab when the time was up as they were so engaged in learning.

Herring (1999) points out the advantages of using the web site to support the English curriculum as follows:

a) it can provide pupils access to resources that would not otherwise be available to them.

b) it allows pupils to study English in a different medium

c) it encourages pupils to evaluate the opinions of the authors of the web sites used

d) it provides teachers with a range of resources and ideas that can help to enrich their own teaching.

(Herring, 1999: p.68)

The views of these two researchers provide support for the contention that the web site is undoubtedly a useful tool in language learning.

2.7 Studies on the Use of Computer Based Technology in the ESL Context

A significant amount of literature explores the potential of computer based technology in teaching and learning languages effectively. For example, Dunkel (1990) asserts that using computer technology as a tool could increase language learners' self-esteem, vocational preparedness, language proficiency and overall academic skills. Other researchers such as Armstrong and Yetter-Vassot (1994), Ruschoff (1993) and Sussex (1991) explore the benefits of multimedia technology and the Internet.

Some educationists discuss the benefits of computer technology which include the exploration of hypermedia technology in specific language areas. Liu (1994) looks at the use of hypermedia technology with its linking and interactive capabilities as a tool to enhance vocabulary learning while Hult, Kalaja, Lassila and Lehtisalo (1990) explore the use of this technology in reading comprehension.

Blyth (1999) and Bradley and Lomicka (2000) conducted qualitative studies on college-level students' reaction to computer based technology. They examined college students' perceptions and experiences within a computer based technology learning environment. From the study, Blyth (1999) concludes that successful implementation of new pedagogical approaches in learning activities have to consider both, the learning context and the students' background. According to him, from the findings, students that come from a traditional book experience that

emphasizes on grammar with drill exercises would have difficulty adjusting to multimedia material that is culturally based. Meanwhile, Bradley and Lomicka discovered that by simply using the Internet to generate materials, whether they were authentic or not, was not good enough to ensure successful learning. The focus should be on the tasks and activities that involve the use of such materials because these two factors would determine successful learning. Another researcher, Chavez (1990) points out that computer based technology in combination with tasks that are based on meaningful interaction could be used to promote a positive second language learning environment.

Other researchers have conducted studies on the use of the web site in language learning. For example, Li (1995) looked at the use of the Web in providing linguistic exercise while Lixl-Purcell (1995) studied the possibilities of accessing authentic reading materials on the Web, Rosen (1995) used the Web to supply stimulating communicative exercises such as students' discussion of trips and vacations while Bowers (1995) explored the Web as a medium for student publishing. Warschauer (1997) conducted an ethnographic study where he examined how the Web could be used in a writing class. This study was conducted over the course of two years and involved four writing classes. The students in all the four classes published their writings and multimedia documents on the World Wide Web. From the findings, it was found that "the impact of the Web-based work rested in large part on the social and cultural relevance of that writing assignment" (Warschauer, 1997: p.10). When students perceive that they have contributed something of value to the public, they put great effort in the process and attention to

the product. Therefore, this leads to positive results in learning to write in a second language.

There have been a small number of researches done in Malaysia. Kang (1995) quoted in Mohd Shah (2000), conducted a case study on the effects of Internet sessions on ten students in her school. She discovered that her students have a more positive perception after they had undergone ten lessons using the Internet. Another study conducted by Zoraini Wati Abbas and Tunku Mohani (1996) revealed that students found doing the activities in the Internet interesting and they also found the materials useful in providing new information, thus, helping them understand English better and improving their language and also helping them to think critically. Another study was done by Teh (1998) on the perceptions of teachers and students on the use of the Internet as a teaching and learning tool in school. She discovered that the teachers and students found the Internet useful and effective and prefer to use it as a teaching and learning tool. A case study on a single respondent was done by Oii (2000) on writing with a different tool which focuses on the use of the word processor on the writing process and product. She concludes that the word processor can facilitate the writing of argumentative essays.

2.9 Summary

In summary, it is obvious that there has been very limited research conducted in the Malaysian setting regarding the use of web sites as learning and teaching tool. In view of the fact that using web sites can help to enhance language learning and teaching, the researcher have decided to investigate further its use in the ESL

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learning context in Malaysia. Hopefully, this study, will give valuable insights on the use of web sites in ESL learning, to both, language educators and language learners.