CHAPTER - 1

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We are living in the age of globalization and everything is changing very fast. The world has shrunk with technology. The English classroom is not exception to it and it has drastically been changed. The traditional way of teaching methods are not motivating students much because technology has greatly influenced life in all level. Students are smart enough in using technologies due to the exposure to those technologies. In this new digital learning environment, teachers cannot interest students with the same traditional methods and they need to have emerging technologies to energize students in ESL classroom.

English Language teaching in engineering colleges does not motivate students much in learning English. The reason for it is teachers’ teaching methods. Though the engineering colleges have equipped with technologies, teachers are reluctant to use those technologies due to lack of training and teachers are not able to adopt themselves to the new changing environment in ESL classroom.

Students in engineering colleges spend more than seven hours in learning and they are easily bored by chalk and talk methods. Moreover, the curriculum incorporates a lot of grammar which students generally don’t not like. On the other hand, technology enhanced classroom foster meaningful learning and they are not as delivery vehicle. It is considered as change from technology-as-teacher to technology-as-partner in the learning process. Technologies can support productive thinking and meaningful learning. How technologies can energize English learners? We assume the following:
Technology is more than hardware. Technology consists of the designs and the environments that engage learners. Technology can also consist of any reliable technique or method for engaging learning, such as cognitive learning strategies and critical thinking skills.

Learning technologies can be any environment or definable set of activities that engage learners in active, constructive, intentional, authentic, and cooperative learning.

Technologies are not conveyors or communicators of meaning. Nor should they prescribe and control all of the learner interactions.

Technologies support meaningful learning when they fulfill a learning need—when interactions with technologies are learner initiated and learner controlled and when interactions with the technologies are conceptually and intellectually engaging.

Technologies should function as intellectual tool kits that enable learners to build more meaningful personal interpretations and representations of the world. These tool kits must support the intellectual functions that are required by a course of study.

Learners and technologies should be intellectual partners, where the cognitive responsibility for performance is distributed by the part of the partnership that performs it better.

1.1. RATIONALE FOR THE RESEARCH

This research work aims to address major concern on using technology for teaching English. The influence of technology today, particularly in education, has greatly enhanced the quality of teaching and learning process. This new trend and
change have become a challenge to teachers who don’t have exposure to educational technologies. Therefore, the research work tries to investigate the competency level of teachers on using technology for teaching and the competency level of learners on using technology for learning English.

The technological advancement and the new internet applications have tremendously changed ESL classroom and the learners are not exception to it. Today, students are coming to college with their sophisticated devices like i-phone, I-pod, smart phone, tablet pc and laptop. Knowingly or unknowingly, they spend most of their time on using those devices. Integrating those devices into ESL classrooms will be a great motivation to learners. On the other hand, colleges are often showcasing their facilities to attract students. The attractive facilities are LCD projectors, smart board, language software, language lab and Wi-Fi connectivity. The teachers who are going to work in technology enhanced classroom need to be trained on using the technologies. When the classrooms are influenced by technology, preparing teachers to the environment is essential. Further, the research tries to find the technical knowledge of the language teacher in engineering colleges of Tamilnadu, India. Anna University Chennai creates curriculum for affiliated engineering colleges. The curriculum aims to engage students in learning the four skills of the language. Students learn technical English in first year and then again they learn English communication skills in the third year with the help of language lab. However, students remain struggling to communicate as they lack of real exposure to the language environment. The teachers who teach the language often fail to provide real language learning environment. In general, students are not given opportunity to practice their language. Students are mostly asked to learn vocabulary and grammar.
The books used in the classes are commercial one which sometimes fails to give usage of language in real context. Students do not have real exposure to language and they have only teachers who are the model for their learning. Bringing technology into ESL classroom will definitely provide real English learning atmosphere. The advent of internet has accelerated the use of English and it provides real opportunity to have exposure on the target language. Internet has enhanced the way to communicate and its use in education field is unlimited. Students enjoy spending most of their time in browsing and even their mobile has the option of internet connection. The Internet provides real world of English learning context. As Anna University insists on Language lab in engineering colleges, the teachers like it or not must be in the language lab to use technology. The research also focuses on studying the effective internet application for teaching English.

1.2. THE PURPOSE OF THE RESEARCH

The research aims to investigate the technological competence of teachers as well as learners in order to make teaching and learning process more enjoyable. Technology has become essential part of our life and their utilities are manyfold. In particular, learners have good exposure to technology and they are good at using those devices but the teachers need support and training to use them more effectively. Therefore the research work tries to strengthen teachers’ technical skills in teaching. Teaching English to engineering students are mainly considered in the work and current learning atmosphere is not much conducive to learn as the teachers give more importance to lecture and focus on result. In this context, the researcher aims to find ways in which technology can be used to energize learner in the learning process.
The technology and internet play an important role in teaching and learning process and the special focus on how technology is used for teaching English in engineering colleges is aimed. The free internet tools and their use in education, particularly for teaching and learning English, are prime concern throughout the research. The latest educational technologies are listed and their advantage is discussed. The research further explores learner’s learning style, in particular their competency level in using the technology. Above all it will bridge the technical skill gap between teachers and learners.

**Hypotheses**

- It is hypothesized that there may be significant effects on students ‘learning style because of technology usage.
- It is hypothesized that using emerging technologies may increase students’ productivity in ESL classroom and energize English learners.
- It is hypothesized that bridging technical gap between students and teachers may energize English language teaching.

**Objectives of the Study**

- To find out ways to strengthen teachers’ technical skills in order to make teaching effective
- To match teachers’ teaching style with students’ learning style
- To energize English language teaching with selected technologies
- To make students independent in learning English
- To identify opt technologies and internet tools for energizing English learners
1.3. THE RESEARCH QUESTIONNAIRE

1. What is the competence level of language teachers on using technology for teaching English?

1.1. What are teachers’ current teaching practices in engineering colleges?

1.2. What is the competency level of students using technology?

1.3. What factors support or limit the use of technology in teaching and learning process?

2. What is the advantage of technologies in teaching English?

2.1. What principles need to be considered in ESL program which incorporates extensive use of technology?

2.2. What are the technologies useful for teaching English?

2.3. What are the internet tools useful for teaching as well as learning?

Over all research approach and design

The overall research aims to investigate teacher’s knowledge on using technologies in ESL Classroom. It is essential to know because the technology enhanced ESL classrooms are rapidly increasing today. On the other hand, students are coming to classroom with sophisticated communicative devices and they are spending most of their time on them. In this context, supporting Language teachers to use technologies effectively in the ESL Classroom is need of the hour. The research has mainly focused on teachers in Engineering colleges and their technical skills on using technologies for teaching English. Further it has also tried to measure student’s technical skills for learning English. Thus the research has been undertaken in two stages.
Stage one has aimed to measure teacher’s knowledge on technologies used for teaching English. It has also aimed to highlight students’ technical knowledge in comparison to language teachers. In the stage one, two questionnaires have been set. First, the questionnaire for teachers aims at fifty teachers from engineering colleges in Tamilnadu. The questionnaire has focused on four main areas, teacher’s technological possession, their knowledge on computer usage, knowledge on internet browsing and their familiarity on educational technologies. Secondly, the questionnaire for learners aims at hundred pre final year students in engineering colleges. The main focus of the questionnaire is to study their technological possession, their knowledge on computer usage, knowledge on internet browsing and selection of internet tools for learning English. These data are analyzed to find out the technical competency of teachers as well as learners. The findings from the stage one survey are to be taken for the next level research on experimenting selected technologies.

The stage two has been aimed at testing some selected technologies with ELT approach. The selected technologies are free internet tools, software, computers and LCD projectors. The lessons are set and they are taught with the help of listed technologies in the language lab. The researcher plans to conduct pre-test before teaching the lesson to students in the language lab and post test after the course. Both test marks are taken as samples and the result is analyzed. Students’ feedback and views are recorded. In the stage two, the interesting technologies for ESL classroom are identified. The list of technology used in the stage two is:

- Glogster
- Diigo
- Video
- Spider scribe
To answer the research questions in section 1, the study has been aimed to understand teacher’s current teaching practices and also tried to find out current knowledge of teachers on technologies which are used for teaching English. The qualitative approach has been followed in the stage one to find teachers’ attitude and behavior towards technologies with the help of a questionnaire. Further, it has also aimed to measure students’ knowledge on educational technologies and their approach to internet applications. The limitation and constraints using the technology in the perspective of teachers and learners are focused to study.

1.4. DATA COLLECTION AND ANALYSIS

Data in research stage one are collected from teachers who are working in engineering colleges and the students who are studying pre final year in engineering colleges. These data are compared to find the competency level of teachers as well as
learners on using the technologies. In research stage two, some technologies are selected and based on those, the researcher has taught the lesson to pre final year engineering students who are selected for the research. The pre test marks and post test marks are taken for analysis. The feedbacks from the students are analyzed to discover the technology interesting to the students.

1.5. SIGNIFICANCE AND CONTRIBUTION OF THE RESEARCH

The research offers three possible contributions to English language teaching. First, it provides deep insights to improve researcher’s ELT practices. Secondly, it supports language teachers on using technologies more practically and tried to outline interesting technologies for energizing English language teaching. Thirdly, it will bridge the technical skill gap between teachers and students.

1.6. ORGANIZATION OF THESIS

The first chapter introduction introduces the rationale for the research and overall research design and approach. It also includes the research question, the stages of research and significance and contribution of the research. Finally, it incorporates extensive review of literature related to the study.

The second Chapter outlines the English language teaching in general and selected technologies to energize English language teaching. It also focuses on integration of technology into ESL classroom. The problem and challenges using technologies is discussed in the chapter.

The third Chapter reviews research methodology related to the study explaining the research tools involved in it. The profile of the participants and the mode of data collection are discussed. Moreover, it focuses on research approach and design with ethical issue.
The fourth Chapter explains outcomes from stage one. It consists of students' technical skills and teachers’ technical skills in terms of using technologies. The problem and challenges in using technologies are discussed. It finally draws out implication for the development of stage two. Finally, stage two data are also analyzed based on students’ feedback. The support and limitation of technology in ESL classroom is discussed.

Fifth chapter summarizes the major outcomes from both stages of the research. It also discusses the significance and contribution of the research.

1.7. REVIEW OF LITERATURE

Over the past 20 years, technology has transformed society and changed many aspects of daily life. The proliferation of technology has led to a growing consensus among educators and the general public that it should play a more integral role in students’ education (Culp et al., 2003; CEO Forum on Education and Technology, 2001; Fouts, 2000; Johnson, 2000). Schools’ use of educational technology has continued to steadily increase over the years, as educators introduce a variety of efforts to integrate technology into the curriculum. In 2006, the America’s Digital Schools report estimated that over 19 percent of all student devices were mobile and predicted that this percent would increase to 52 percent by 2011 (The Greaves Group, 2006). Educational technology is not restricted to individual computer use. It can involve other equipment and applications, such as videoconferencing, digital television (allowing students to interact with programs at their own pace), electronic whiteboards, and digital cameras (Jackson, 2008; Education Week, 2007; McCampbell, 2002; Marshall, 2002). Educators have struggled with decisions regarding what types of technology to use and how to use them (Culp et al., 2003).
The introduction of technology into the classroom doesn’t automatically translate into better instructional outcomes. Research has demonstrated that the manner in which technology programs are implemented is equally, if not more, important than the type of technology used. Studies have found that the least effective technology programs were those that simply placed hardware in classrooms, with little or no regard for the integration of the technology into the curriculum, issues of equity, or the provision of teacher support (Valdez, 2005; Barrios et al., 2004; Marshall, 2002; Fouts, 2000; Sivin-Kachala & Bialo, 2000). Many factors influence the level of a program’s effectiveness, such as the extent to which teachers are trained and prepared to implement the program, the level of student access to the technology, and the provision of adequate technical support.

Planning

Administrators may feel compelled to provide students with access to the latest technology and adopt initiatives without careful planning. It has been documented repeatedly, however, that detailed planning is a prerequisite for effective implementation of technology programs (Honey et al., 2005; Gahala, 2001; November et al., 1998; Cradler, 1996). Planners should align the program with the goals of the educational institutions and determine how the technology plan will relate to, support, and integrate with other educational plans. Teacher and student training required to integrate technology into the curriculum, as well as the technical support needed to maintain the technology, should be specified (Alberta Education, 2006; Protheroe, 2005; Zucker, 2005; Cradler, 1996; Hopey & Knuth, 1996). Planners should conduct a thorough evaluation of program costs, including: hardware and software; related equipment (printers, scanners, and computer furniture); replacement of obsolete equipment; technical support; and other associated expenses (connectivity,
wireless networking, security, insurance, and digital content). Experts recommend that anywhere from 20 to 33 percent of technology budgets be allocated for teachers’ professional development.

**Involving teachers in the planning and implementation of technology programs**

Experts agree that when teachers have input into planning and purchasing decisions, they are more likely to perceive the selected technology as useful and integrate the technology into their classrooms. The researchers found that teachers were involved in developing the program’s learning goals and determining what part technology would play in meeting those goals. Teachers selected the equipment and technology-supported activities that would be used in their classrooms.

**Providing all students and teachers with the appropriate tools**

Successful technology programs provide students and teachers with access to updated software and well-functioning equipment (Alberta Education, 2006; Chaika, 2006; Zucker, 2005). Technology programs rarely have a positive impact on students when there is one computer for every 30 students or when available computers are out of date (Rivero, 2006; Cooley, 2001). The Teachers Talk Tech 2005 survey found that over 61 percent of teachers nationwide believed there were too few computers in their classrooms (CDW-G 2005). Experts suggest that one computer is needed for every two to five students (Cooley, 2001; Stratham & Torell, 1999).

The National Education Association (2008) recommended that the technology available to students and teachers be compatible with the technology in general use outside of schools. Researchers have suggested that software be age appropriate, engaging, flexible enough to be applied to many settings, relevant to the content areas being studied, and able to be easily integrated into existing curricula (Waddoups, 2004; Culp et al., 2003).
Integrating technology into the curriculum

Experts agree that technology should not be treated as a separate subject or an occasional project, but as a tool to promote student learning on a daily basis. Educators must consider how technology will be used to support the curriculum and how integrating technology into instruction will support the instructional goals (Valdez, 2005; Starr, 2002; Cooley, 2001; Stratham & Torell, 1999; Hopey & Knuth, 1996). Chaika (2006) reported that successful technology programs selected applications that supplemented classroom instruction and used them to reinforce, enhance, and elaborate on existing instructional practices.

Providing teachers with professional development

Research clearly indicates that the single most important factor in the successful use of technology is teachers’ ability to integrate technology into the curriculum (National Education Association, 2008; Chaika, 2006; The Greaves Group, 2006; Valdez, 2005; Jackson, 2004; Culp et al., 2003; Rodriguez & Knuth, 2000; Sivin-Kachala & Bialo, 2000; Kimble, 1999).

Before professional development is designed, each teacher’s current level of technological skills should be determined (Bonifaz & Zucker, 2004; Gahala, 2001). A study conducted by Zhang (2005) found that a needs-based survey, administered prior to professional development sessions, helped design training that matched teachers’ learning goals. Although research has not identified any one best model of effective professional development, approaches that have been found to be effective include

- Providing training in the skills needed to use the technology, in addition to strategies for its successful integration (Apple Computer, 2005; National Center for Education Statistics, 2003; McNabb, 1999). Teachers have consistently reported “lack of time to become acquainted with technology and how to use it” as one of the most significant barriers to its effective classroom use.
- Providing hands-on experiences using new skills and developing units in realistic settings with authentic learning tasks (O’Bannon & Judge, 2004; Rodriguez & Knuth, 2000).
- Instruction through case studies, allowing teachers to adapt and apply others’ experiences to their own classrooms (Johnston, 2000).
- Linking professional development to the specific lessons currently being taught and to the skills students are in the process of mastering.
- Training on how to individualize technology applications to support different student learning styles.
- Providing a variety of formats, teachers have reported they value both formal training activities, such as workshops, and informal opportunities, such as team meetings, co-teaching opportunities, and demonstration lessons (Bonifaz & Zucker, 2004).

**Technology’s Effect on Teachers**

Studies have concluded that teachers’ attitudes and beliefs toward technology’s role in the classroom, as well as their technological skill levels, influence the types of activities they use technology for and how often they integrate technology into the curriculum. Overall, the introduction of technology into the classroom has been found to have an effect on both teaching styles and the quality of student-teacher interactions. Frequently cited obstacles to technology integration include lack of preparation and practice time, equipment problems, and insufficient professional development.
Studies have found that teachers use technology less often when they do not perceive it to be closely aligned with the curriculum. Teachers who were concerned students would use their laptops for unauthorized purposes also tended to use technology less often. Teachers who felt confident about their own technological abilities and their subject matter expertise were more likely to use technology in the classroom. Those who believed students were capable of completing complex assignments with technology or who viewed technology as a tool with a wide variety of applications were also more likely to integrate it into their lesson plans (Penuel, 2006; Apple Computer, 2005).

Dunleavy, Dexter, and Heinecke’s (2007) review of the literature concluded that the integration of technology into the classroom led to changes in teaching practices. Teachers reported designing more constructivist and student-centered lessons, using more inquiry-based activities, and acting more as facilitators than lecturers.

Teachers participating in the Apple Classrooms of Tomorrow project reported that they enjoyed their work more and had more success with their students. They also reported that they interacted differently with their students, functioning more as guides and mentors and less as lecturers (Apple Computer, 1995).

Evaluations of Microsoft Corporation’s Anytime Anywhere Learning Project found that, following program implementation, teachers reported higher levels of confidence using technology in their lesson plans and felt a greater sense of control over their responsibilities for instruction and learning. Teachers indicated computers enabled them to use a more constructivist approach to teaching and rely less heavily on traditional teaching methods, such as lecturing and seatwork (Gulek & Demirtas, 2005; Microsoft, 2000; Rockman et al., 2006).
The Technology Immersion Pilot (TIP) study conducted in US found that teachers collaborated more with other teachers and perceived themselves to be more technologically proficient than control teachers. TIP teachers used computers significantly more often than control teachers to integrate technology into their classrooms, for management purposes, and to support professional practices. It should be noted, however, that although TIP teachers used technology more often, they did not provide students with significantly more challenging lessons than control teachers. Students taught by both groups of teachers typically used laptops to perform the same types of activities they had previously completed with paper and pencil (Texas Center for Educational Research, 2006).

Teachers in the Maine Learning Technology Initiative program reported that laptops helped them more effectively meet their curricular goals and individualize their curriculum to meet their students’ needs. They also indicated that the program improved their interactions with students, especially those classified as at-risk or low-achieving. Teachers with more advanced technology skills and those who had attended four or more professional development activities were more likely to integrate technology into the curriculum (e-School News, 2004; Silvernail & Lane, 2004).

Teachers in Henrico County Public Schools’ Teaching and Learning Initiative program reported that the use of laptops provided them with more instructional flexibility and that their professional productivity and peer collaboration increased. They also reported having difficulty monitoring students’ use of the laptops and finding time to learn and practice new instructional approaches (Zucker et al., 2005).
An evaluation of Pennsylvania’s Classrooms for the Future found that teachers spent significantly less time on whole-class lectures and significantly more time working with small groups or individual students. The content taught moved away from basic skills and toward higher-order thinking skills and assignments focused more on activities and hands-on projects. The biggest obstacles teachers reported were insufficient professional development, followed by computer failures and network downtime (Jobe & Peck, 2008).

Lee (2007) found that California teachers who assigned computer activities most frequently were those who had established classroom management routines for ensuring that students had sufficient time to access the computers. Teachers who assigned computer activities most frequently and those who assigned tasks involving higher-order thinking skills believed allowing students to use technology provided unique learning opportunities. High-frequency teachers also spent more of their own preparation time on computers and reported a greater comfort level with technology. Teachers who assigned computer activities less frequently were more likely to believe other class work took priority over computer activities. Regardless of the frequency with which they assigned computer activities or the complexity of the activities they assigned, the majority of teachers cited limited time and problems with the equipment as barriers to program implementation. Teachers least likely to assign computer activities and those assigning low-level activities were more likely to report that the district used outdated software and took too long to respond to technical problems. However, the district supplied the same software and provided the same technical support to all teachers in the study. This finding led Lee to conclude that, although actual implementation barriers were similar for all teachers, the importance teachers placed on these barriers influenced the integration of technology into the curriculum.
First research has found that using the internet in the second language classroom can increase student’s motivation. For example, Warschauer (1996) found that students think computers can help them learn better, faster, write more creatively and more independently. He also found that communicating with others could enhance motivation and personal power, overcome isolation and make communication less threatening.

Second, Godwin-Jones (2003) and Salaberry (2001) argue that the internet offers the potential for a huge increase in learner-learner and learner-teacher interactions.

Third, the collaborative nature of learning is increasingly important in education and the internet provides rich opportunity for interaction with other people, reciprocal exchange of support and ideas. Joint work on the development of performances and products, and co-constructions of understandings through comparing alternative ideas and interpretations (Lock and Redmond, 2006). Online collaboration can enhance learners understanding and keep students more engaged (Suh, 2005), help develop critical thinking skills by exposing individuals to different perspectives (Lock & Redmond, 2006) and provide a fertile environment for interactively through games and quizzes. (Bork-2001). Furthermore, the internet is a massive source of authentic materials (Brandl, 2002. Gonzalez-Lloret, 2003)

Moreover, students can use the internet to acquire information from a large number of sources for a variety of purposes (Shetzer and Warschauer, 2000: Hill et al, 2005, Warcschauer, 2000: Singhal, 1997), knowing how to navigate internet sources, search for information and critically evaluate and interpret the results, represent crucial skills of electronic literacy. Searching the internet enhances higher thinking
abilities an enables judgment to be made about the source, validity, reliability and accuracy of information. Using skills such as skimming, scanning and high –order thinking skills, transforms reading online into critical literacy, because those who cannot make critical transferring evaluations cannot possibly find what they need to read (Shetzer and Warschuer, 2000). Indeed, unsupervised and indiscriminate use of internet-sourced material can lead to plagiarism.

Finally, technology is a strong catalyst for educational innovation, especially when the internet is involved (Venezky, 2004) Coppola (2004) argues that technology is vital to the educational reform process (retrieved from Al-Adi, 2007).

CALL stands for the acronym of Computer Assisted Language Learning. Levy (1997) defines CALL as "The search for and study of applications of the computer in language learning and teaching” with dramatic development of information technologies, computers are widely used in various area, including language teaching and learning. The aim of CALL is not to provide language with novelty, but is to improve the quality of language teaching integrating technology, particularly CALL makes language teaching and learning more flexible. Useful videos, colorful pictures and graphs make learners exciting and not bored of it.

Computer mediated Communication (CMC) typically involves two dimension: time and modality (textual or spoken). (Hubbard, 2004; Warschana, 2001). The text based CMC involves e-mail, online Chat rooms, online discussion forum and other text on the internet where as the spoken form includes voicemail and e-mail with attached voice recordings. Research has shown that CMC motivates learners to engage in meaningful communication in the target language. It shifts approach learning from a teacher-centered toward learner centered approach, allowing learner to take control of learning content and learning process.
The podcasting of lecture has promised to provide flexible and personalized learning support in higher education. Podcasting is the term used to describe the provision of auto and video files for downloading through the internet. Podcasting allows face to face lectures to be recorded and make available in addition to live delivery.

Levy (1997) defines CALL as “the research for and study of applications of the computer in language teaching and learning. More recent approaches to CALL have favored a learner –centered, explorative approach rather than a teacher-centered, drill base approach to CALL. A feature of many multimedia CALL programs is the role play activity in which the learner can record his/her own voice and play it back as part of a continuous dialogue with a native speaker.

The web offers enormous potential in language learning and teaching. Felix (2001) advises adopting hybrid approaches to CALL, integrating CD-ROMs and the web and running audio conferencing in conjunction with web activities.

CALL authoring programs offer a do-it-yourself approach to CALL. Modern CALL authoring programs are designed to be used by language teachers. Authoring packages are also available, e.g. Hot Potatoes software: http://web.uvic.ca/hrd/halfbaked. Learner –centered web based environments have been reported to be effective because they promote active learning and offer a setting where students can conduct learning at any time using computers.

Mohammad (2003) states that –the internet is a powerful means of communication which has become an abundant and ever growing resource for English language teachers and learners. She states further that, in recent years, using the internet in language classrooms has gained popularity as more teachers and learners embracing it. The practice is expected to experience an unprecedented growth as the internet holds potential as a tool for developing language as well as critical thinking skills.