Technology as an Authentic Learning Tool to Develop Speaking Skills of Engineering Students: A Case Study

Dr. Shabana Thayniath
Assoc-Prof & Co-ordinator of English Section
MJ College of Engineering and Technology
Hyderabad, Telanagana, India

Dr. Sher Mohammed Khan
Assistant.Professor
Dept.of English, MJ College of Engineering and Technology
Hyderabad, Telangana , India.
Corresponding author: Dr.Sher Mohammed Khan

Abstract:

In today's multi-disciplinary environment, engineers need to understand and communicate with different people. "Scientists study the world as it is, engineers create the world that has never been" (Theodore Von Karman). Engineers try to improve transport, communicate like problem solvers from computer chips or satellites to medical devices and renewable energy, technologies to make the world better. The profession delivers efficient applications for the society. They have a realistic approach, professional responsibility and competent understanding of the purpose of the task in hand. In accordance with this, technical education needs to inculcate in Engineering students a scientific and rational outlook. Majority of the students aims to study in foreign universities for further education and for this; they require good communication skills, on par with other nationals. The students have to appear for tests such as Test of English as a Foreign Language (TOFEL), Graduate Management Admission Test (GMAT), Graduate Record Examinations (GRE), International English Language Testing System (IELTS) which require excellent communication and vocabulary skills. Globalization and Industrialization require more efficient Engineers and this has put a greater demand on the engineers – they need good academic backgrounds. 21st century is marked by advancements in science and technology. Computers have become an inseparable aspect of day to day life in the present scenario. It is an essential part of ELT today. The usage of computers to assist students in their English language classroom has increased phenomenal over the past decade. In this paper the main emphasis is made to stress the importance of enhancing speaking skills in English and students' perception about integrating computers in English language classroom. Forty students who are enrolled in second year B.Tech students at MJ College of Engineering and Technology Hyderabad, Telangana, India are chosen and the difficulties that they face when speaking in English, particularly the problem of their fluency and accuracy. It is believed that ESL students get benefit for the improvement of speaking skills by utilizing such computer technology in ELT classroom. This paper includes methodology, results analysis, findings and pedagogical implications.

I. Introduction

The popularity of English language is rapidly increasing day by day. English language skills are considered as a life skills or survival skills in the twenty-first century. Learning English is very much essential to communicating and expressing one's ideas effectively. Speaking is a way to communicate ideas and a message orally. Students are needed to practice the language in real situations to communicate effectively in english. According to Gert and Hans (2008: 207), speaking is speech or utterances with the purpose of having intention to be recognized by speaker and the receiver processes the statements in order to recognize their intentions. Brown and Yule (1999: 14) have stated that speaking is being depended on the complexity of the information to be communicated. However, the speaker sometimes finds it difficult to clarify what he wants to say. Rebecca (2006:144) has stated that speaking is the first mode in which children acquire language, it is part of the daily involvement of the most people with language activities, and it is the prime task of language change. It also provides main data for understanding bilingualism and language contact. Students who have learned English intensively, they should be able to interact orally each other through English.

Students consider English as one of the subjects to just pass in the academic examination but not as a weapon for their successful career. Another reason is that they are under the impression that core subjects are more important than the second language. So majority of the undergraduate students may not put effort to learn to speak English. That is why communicating in English effectively is a great challenge for the undergraduate students in general and B. Tech students in particular. As a result, they do not give importance to learning English to get proficiency in it. Students who know English are able to get the job of their choice. English is inevitable in technology. It has become the language of the computer. For mastering a second language, effort, and more concentration is required.

Unfortunately, better employment opportunities demand entry level effective performance in English. The theme is to improve their speaking skills in terms of accent, vocabulary, fluency, and accuracy, etc. Generally, everyone who is learning English has problems like an influence of mother tongue, economical status, etc. Most of them feel inferior regarding the right pronunciation of the words or sentences. Teaching English language skills traditionally has become boring. The rapid development of technology can motivate the students to participate actively in English language classroom. As most of the students are from Telugu medium background, computer-based teaching and learning can be implemented to capture the attention of students for the enhancement of speaking skills.

Computer technology refers to the use of systems that rely on computer chips, digital applications, and networks in all of their forms. Electronic devices now-a-days include projectors, interactive whiteboards, etc. Mobile devices that employ a computer at their core (cell phones, personal digital assistants (PDAs), MP3 players, etc.) certainly have occupied a central role in the English language teaching and learning. Technology provides numerous opportunities to the learners to master the foreign language in general English as a second language in particular. For learning English, non-native speakers of English need not to go and live in a place where English is spoken, instead, numerous websites are available for communicating with native speakers of English through computer – mediated communication

on the Internet which offers opportunities for conversation with the native speakers of English. Computers offer abundant, realistic and contextualized conversations from various native speakers of English by means of videos on the computers that learner would play as many times as he wishes to watch and listen. They also provide self-paced, autonomous practice by inviting users to repeat utterances or to respond to certain prompts.

II.   Literature Review

Windeatt, Scott., Observing CALL in action (1986) has revealed that the exercise on the computer was slightly more enjoyable than the non – CALL exercise; This type of exercise is equally motivating, whichever medium it is presented in. further it is mentioned that the students themselves were highly motivated, and would be motivated by, and make the most of, whatever learning opportunity was presented to them. **Jaya Kumar, K., CALL Strategies and Online Services for Engineering Students (2001)** has revealed that Multimedia facilities make the software more effective and interesting. Online help facilities like in-built dictionaries / thesauruses make learning more interesting and informative. **Vijay Vardhan, J.J.B., English Language Lab Teaching Materials: An Assessment of and Recommendation for the Engineering Colleges in Andhra Pradesh, (2011) has revealed that** Students find an opportunity to interact and also repeat what he or she has learnt in the lab from the software; they can record themselves and examine their competency. Multimedia language labs learning software provides the students to have the exposure to the native accent. It provides an opportunity to the students to imitate and practice the same. The students who feel shy to ask questions and clarify their doubts from their respective

teachers, Multimedia language labs learning software helps to the students of this kind.

Objectives of the Research

* To improve the speaking skills of the second year B.Tech students at MJ College of Engineering and Technology Hyderabad, Telangana, India by using various computer-based authentic materials.
* To listen to the various pieces of phrases used in the conversations to understand and learn speaking skills.
* To listen to a great variety of authentic voices and accents, conversations in English.
* To make use of computers to understand the importance of stress, intonation, and speech.

III.   Methodology

The participants in this study are 40 second-year B.Tech students from MJ College of Engineering and Technology Hyderabad. They are included both the boy students and girl students. This is a heterogeneous group of students from various social, geographical, economic, and cultural backgrounds. It is aimed at examining students' positive attitudes towards integrating computers in the ELT classroom to understand and enhance their speaking skills. The instrument employed in this study is a questionnaire. A questionnaire of 15 items is used in this study in order to explore B.Tech students' opinions of using and developing speaking skills through computers. Participants are asked to rate each item of the Speaking skills. The three items Likert-scale is used as follows: 1 = Agree, 2 = Neutral, 3 = Disagree.

Students feel tedious to learn and practice speaking skills in a traditional classroom. Computer based situational conversations, phonetics, grammar and stress, rhythm and

intonation of the native speakers will be imitated and practiced for a summer semester. Multimedia, internet, and World Wide Web materials will be used the lessons and classroom experience more exciting. Technology added more activities into a lesson and give the learners more ways of exploring their thoughts and ideas. At the end of the semester a questionnaire will be distributed to the forty students and perception of students will be analyzed bar graphs.

Students' Questionnaire

S.No.	Statements on Enhancing Speaking Skill through Computers	Agree		Neutral		Disagree	
1	Computer-based learning is interesting to understand and learn communication skills in English.	30	75%	4	10%	6	15%
2	I am fond of utilizing computer-based materials to learn to speak English.	32	80%	3	8%	5	13%
3	Computers are useful to listen to authentic English.	34	85%	2	5%	4	10%
4	Video- based lessons are interesting to understand and learn to speak English.	35	88%	2	5%	3	18%
5	I have an opportunity to watch and listen to the dialogues on the computers simultaneously.	30	75%	3	8%	7	18%
6	Computers are useful to choose and play the difficult part in the conversations any number of times.	37	93%	1	3%	2	5%
7	I have an advantage of using recording tools for regular self-evaluation of my oral performance.	33	83%	2	5%	5	13%
8	Worldwide travel through the internet helps me to understand the culture of English speaking countries.	36	90%	1	3%	3	8%
9	The Computer Assisted Language Laboratory (CALL) laboratory helps to reduce my fear to speak.	35	88%	1	3%	4	10%
10	Computers provide enough activities on speaking skill to practice.	36	90%	-	-	4	10%
11	I have an advantage using Skype to interact with the native speakers of English to enhance my pronunciation, verbal expressions for speaking proficiency.	36	90%	2	5%	2	5%
12	Computers give good control over my learning	31	78%	5	13%	4	10%
13	Computers help me to express myself creatively.	30	75%	3	8%	7	18%
14	Computers help me to reduce the mother tongue interference while speaking in English.	33	83%	2	5%	5	13%
15	Computers help me to understand and learn falling and rising tones (intonation).	31	78%	3	8%	6	15%

Data Analysis and Findings

1. Computer-based learning is interesting to understand and learn communication skills in English.
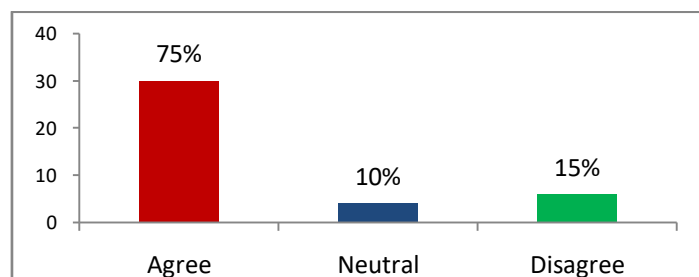
Figure – 1

The above graph shows that 75% of the B.Tech students agreed, 10% of them marked neutral, and 15% of them disagreed with the statement. It is found that computer-based material helps the ESL students to understand and learn the communication skills. The study conducted by Kubota (1999) revealed that World Wide Web has created excitement among the students and gained overall improvement in the English language skills.

Majority of the students believed that computer is an effective tool to be used to improve their speaking skill. It creates an environment which gives more varied communicative opportunities for the students to imitate and utilize their oral skills.

2. Video-based lessons are interesting to understand and learn to speak English.
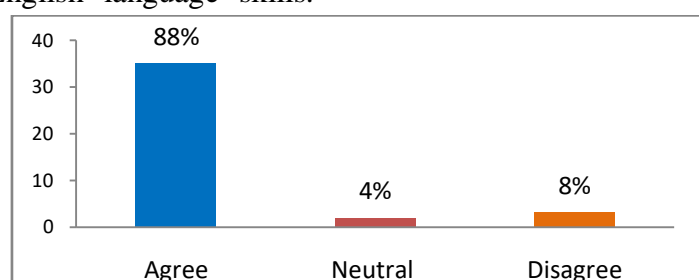

Figure – 2

The above graph shows that 88% of the B.Tech students agreed, 4% of them marked neutral, and 8% of them disagreed with the statement. The findings revealed that video-based learning helps the B.Tech students to understand and improve their speaking skills. The researchers Chun and Plass (1997) have suggested that audio and video text

comprehension. Quoting the researcher AbuSeileek (2007), Bahrani' (2012) in his study stated that exposing students to audiovisual technology would improve their speaking skill in English.

3. I have an opportunity to watch and listen to the dialogues on the computers simultaneously.
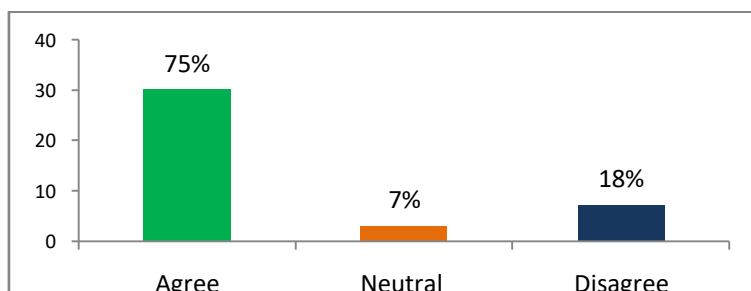

Figure – 3

The above graph shows that 75% of the B.TECH students agreed, 7% of them marked neutral, and 18% of them disagreed with the statement. Based on the results, it is found that the computer is the best teaching tool to learn English dialogues and conversation exercises authentically which is lacking in traditional teaching method. Students get an opportunity to watch and listen carefully the gestures or non ve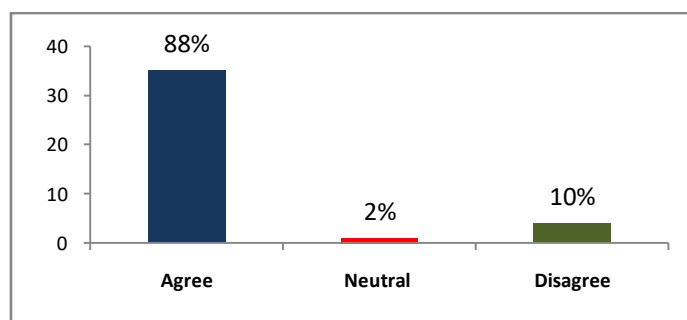rbal signals and intonation in their voice used by the native English people on the screen but normally Students don't concentrate such elements while listening to the lecture in the classroom. Poor background of the parental financial status is one of the reasons to disagree with the statement.

4.   The   Computer   Assisted   Language Learning (CALL) laboratory helps to reduce my fear to speak.

Figure – 4

The above graph shows that 88% of the B.Tech students agreed, 2% of them marked neutral, and 10% of them disagreed with the statement. English is considered as a second language in India. So the students are needed to learn the pronunciation of the words and the sentences in a proper way. While listening to the native speakers conversations in the CALL lab, students learn and speak the correct accent and pron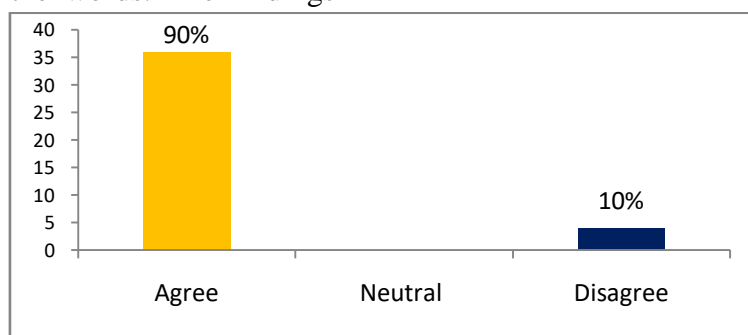unciation of the words. The findings revealed that CALL lab instil confidence and reduce their fear while speaking in English. It is also expressed that that the CALL laboratory is very helpful to them to improve their English pronunciation.

5. Computers provide enough activities on speaking skill to practice.

Figure – 5

The above graph shows that 90% of the B.Tech students agreed, and another 10% of them disagreed in the total sample of the students. It is found that computer provides unlimited activities to practice and enhance their speaking skill. The researcher Gonzalez- Edfelt (1990) has believed that computer-based activities increased collaborative interaction among

students. Thus, the computer technology offers ways of opportunities in which teachers can help students to improve their speaking skill.

Discussion

Computer is a sophisticated tool for the ESL students to understand and enhance their English language skills. The findings of this study reveal that students are quite positive towards the teaching and learning assisted by the computers compared to the traditional English language teaching methods. Watts (1997) in his work has emphasized the importance of technology enhanced student-centered activities. Computer-based materials, activities, and software programmes would enable them to speak and communicate in English effectively. Worldwide travel through the internet helps them to understand the culture of English speaking countries. According to Kern & Warschauer (2000), learning a language is a multifaceted social and cultural phenomenon. They have stated further as new technologies promote a variety of social interactions. They would pronounce the sounds of English letters and words correctly. They would speak sentences with proper stress, pause and intonation pattern. The study conducted by Hoopingarner, (2009) has found that students' pronunciation can be improved by interacting voice recognition on computer. They speak confidently.. Students can present their ideas in an appropriate vocabulary and structure. Hence, computers would offer a number of advantages that make the International Business Management students to understand easily and to improve their speaking skill.

Suggestions

➢ Computer facilitates learning; it does not teach. It works well for practice.
➢ Students should be felt that they can learn from mistakes.

➢ It is advised to consider scores and quantitative measures as secondary.
➢ Evaluate qualitatively.
➢ It is needed to observe whether the students really practicing or just going through the motions.
➢ Teacher need to have a clear idea of what they want to teach and achieve.
➢ It is advised that a variety of materials and speech recognition software are needed to use. So that students don't get bore using the same old stuff.

IV.   Conclusion

The results and discussions of the study reveal that the ESL students could improve their speaking skills and they had positive opinions about using computers in ELT classrooms. Thus, the advantages of the computer have been analyzed in this study. It can help the learning of sounds, vocabulary, syntax, gestures, and dialogue structures. The students will be able to understand quickly and respond appropriately to sentences directed at them. Voice synthesis, audio materials and highly interactive 3D environments make them to to learn, practice English pronunciation virtually. Undergraduate students can improve English speaking proficiency by integrating and using computer as a learning tool. It was found that majority of the participants enhanced their oral proficiency and gained self-confidence through the computers. This indicates that using a combination of electronic gadgets—namely Audio, Video, Computers, language laboratory, World Wide Web, and internet etc. gives ESL learners a positive learning experience which promotes self-confidence and autonomously develops their speaking skills.

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