

## Analyzing Language Proficiency via Technological and Digital Platforms: A Case Study of Science Graduate Students

**Ankita Satapathy, Ph.D.**

Assistant Professor

Central University of Karnataka, Gulbarga

Email: [ankita.satapathy88@gmail.com](mailto:ankita.satapathy88@gmail.com)

---

---

### Abstract

This study aims to improve first year science students' speaking abilities via technology. The guidelines and practices intended to provide aspiring instructors with expertise, attitudes, behaviours, and skills required for successful performance in the classroom, school, and larger society are collectively referred to as teacher education. Speaking plays an important role when it comes to language uses and probably is the most primary medium. It includes the linguistic description of spoken language, the social and environmental features of speaking as an activity, and the dynamics of speaking as interaction. Verbal communication is, in fact, an essential part of human life. When listening to a speaker, people automatically concentrate on their vocal qualities. People make tentative, possibly unconscious judgments regarding the character and sentiments of the speaker, and other characteristics based on auditory data. They create a discourse texture that strengthens and amplifies their message by manipulating speed, pauses, and changes in pitch, loudness, and substance.

**Keywords:** Digital Platforms, Foreign language, Educational strategies, Learning a second language, language proficiency.

### 1. Introduction

The distinguishing characteristics of technology in education and its effects on communication and instruction are highlighted in this paper. After a given amount of listening time, students often feel exhausted. But machines don't get tired. The growing need for smart classrooms is explained in this article. Students are engaged in the classroom when PowerPoint

and whiteboards are used. Some types of technological uses to enhance the language proficiency of science graduates is discussed below.

Students can enhance their language proficiency through video tapes, scenes from well-known English movies may be shown without a script. After that, the students are told to recognize the words and writing. The scripts will then be shown on the screen while the scene is repeated. Students can learn English pronunciation, accent, and vocabulary in an entertaining way by watching both scripted and unscripted videotapes. They will be encouraged to freely repeat it at home with this tactic. Software for Communication Labs is available to improve LSRW abilities. Communication Labs Software allows for the integration of suitable software to improve LSRW abilities. Students will regularly interact with computers by using suitable software, which will improve their speaking, listening, reading, and writing abilities, all of which are critical in today's modern world. A person with listening skills can understand what someone else is saying. Effective communication of one's wants and thoughts to others requires proficient speaking abilities. To understand the information in the book, one must be proficient at reading. We can express our ideas through writing. Instead of creating boredom, the use of headphones in the lab increases student engagement with the material and promotes repeated practice. Students are given autonomy in the communication lab, which enables them to hone their skills apart from their teachers. Students can arrange the learning process to meet their needs and advance at their own pace. Students can watch technological developments in real time by integrating new software. Video Conferencing can also be used as a technique that allows a person to listen to the words of people who are in various parts of the world. It is a live broadcast of a show that is mainly used to watch a professor's lecture from a far off country. In conclusion, It is really beneficial for learners to comprehend world events and to actively participate in the speeches of notable individuals. The ability for students to ask questions and receive prompt answers is the most important feature of video conferencing. Students can also collect the recorded videos of the class. Students who miss interesting classes will benefit from this. Students will have access to documentation of the faculty's instruction. The videos are available to the students in their free time. This method enables students to repeat it as needed. English language learners have a plethora of possibilities on the Internet. The portmanteau "blog" is created by combining the concepts "web" and "log." Readers can leave comments and questions on the blog. The blog is particularly beneficial to new users because it facilitates their

membership. The students might become members of a particular blogging community. Users can add MP3 files and videos to some blogs. Blogs that are compatible with audio can incorporate spoken word contributions. Other blogs might be connected to this audio blogging. In essence, a blog is an online journal where students can share their ideas, opinions, and thoughts. When an instructor is not in the classroom, candidates can be trained through blogging. The students are allowed to submit their questions and comments when the instructor publishes his essay or directions. The teacher may respond to the question on his blog. Blogging seems to be widely used.

## **2. Critical Review of the Strategies Employed**

In language acquisition research, the teachability of oral communication strategies for less proficient learners remains a contested topic (Dornyei, 1995). Cohen, Weaver, and Li (1995) assert that "relatively few studies investigating the benefits of providing second language learners with formal training in the applications of strategies for speaking" (3-4). O'Malley and Chamot (1990) looked into how teaching strategies affected people's capacity to talk. Three groups were formed from high school students enrolled in English as a Second Language programs. Cognitive, metacognitive, and social/affective thought processes were taught to the initial group. Cognitive and social/affective abilities were taught to the following group. The last group, referred to as the control group, received no strategies. Before and after a break, two judges listened to audiotaped speaking exercises and scored them on a rating system with five points that included organization, accuracy, and delivery. The group that mastered all three strategies outperformed the other two groups, according to the data. The group that received instruction in two tactics outperformed the oversight group, which received no strategy instruction. An alternate experiment was carried out by Dadour and Robbins (1996) to investigate the effect of strategy education on improving speaking skills. Certain tactics were taught in an English-speaking course at an Egyptian university. While the control groups did not get strategy education, the groups participating in the experiment did. Both pre-tests and post-tests of role-playing speaking proficiency were given.

The findings indicated that the experimental groups employed a broader array of language acquisition methods and surpassed the control groups in the oral competency assessment. Consequently, these studies provide evidence that strategy education can enhance oral skills performance. Still, there aren't many empirical research. Ongoing research studies are crucial

to gaining valuable insights into how skilled language learners build speaking talents. Oral communication is still quite popular, although this emphasis is not new. Improving speaking proficiency in a target language has always been of utmost importance to academics, instructors, and students. At the beginning of the 20th century, linguistic study was associated with the development of oral competencies (Sweet, 1899). Speaking is more important than writing, according to audiolingualism (Fries, 1945), input-based education (Krashen and Terrel, 1983), interaction-based education (Long, 1983), and output-based theories (Swain, 1985). According to the communicative method (Widdowson, 1978; Brumfit and Johnson, 1979; Littlewood, 1981), the primary objective of language instruction is to improve oral abilities (Lazaraton, 2001). Oral skill development has always been important since "a substantial percentage of the world's language learners study English to attain proficiency in speaking" (Richards and Renandya, 2002: 201). However, it might be difficult to become proficient orally in a second language. When a student is not completely immersed in the target language context, it is likely to be very challenging for them to become proficient in the language. This is due to learners' limited exposure to the target language and culture, which is essential for comprehending nonlinguistic elements (such as gestures and body language), paralinguistic features (such as pitch, stress, and intonation), sociolinguistic traits (such as genre and speech styles), and cultural presuppositions in verbal communication (Shumin, 2002).

Proficient language learners employ a range of techniques to enhance their speaking skills, according to research from China, Japan, and the US. People who acquire great oral skills usually use techniques on a regular basis, regardless of cultural and educational contexts. Huang and van Naerssen (1987) investigated Chinese tertiary English students. Participants completed a learning strategy questionnaire in addition to an oral exam. The questionnaire covered formal practice, which included activities like pattern drills, improving pronunciation through listening, acquiring vocabulary or grammatical structures for spoken usage, reading aloud, imitating, telling stories, and remembering and reciting texts; functional practice, which included using language for communication, self-reflection, and using reading or listening as models for speaking; and monitoring, which involved observing linguistic forms and modifying language responses. The results showed that those who did well on the oral test utilized more functional practice than those in the middle tier, particularly when it came to

applying linguistic forms and altering language replies. The results demonstrated that top oral test takers participated in more functional practice compared to median and bad performance. Takeuchi (2003) conducted many research involving "expert" second language speakers in Japan. He questioned eighteen proficient English speakers, including academics, diplomats, and simultaneous interpreters, on their professional experiences acquiring the language. Using background information and visual aids to improve spoken vocabulary in the initial and intermediate stages, mastering phonological elements in the first stage, recalling formulaic words and example-based sentences through systematic practice in the preliminary stages, participating in intense, periodic, and perpetual self-study in the final beginning to second stages, and looking for possibilities for English discourse, such as naturalistic interactions with native speakers, self-dialogue, and simulated discussions with peers in the intermediate stage, were common responses.

Varela (1999) investigated how sixth, seventh, and eighth grade English language learners in the United States improved their oral presentation skills through grouping, selective attention, teamwork, taking notes, self-evaluation, and self-talk. 41 pupils were divided into two groups: the control group did not get strategy training, whereas the experimental group did. Oral presentations that were videotaped both before and after the test were assessed for organization, clarity, language choice, eye contact, loudness, and tempo. The use of strategy was examined through interviews. The findings demonstrated that the experimental group's oral presentations were much better than those of the control group. Presentation performance and strategy use were correlated, and the experimental group used strategies more frequently. The three studies demonstrate that competent language learners often employ a variety of techniques to enhance their speaking skills. Despite a lot of interest in the use of strategies and the development of oral competence, there aren't many lists of methods for improving speaking abilities in the literature. Nonetheless, two lists are designated as speaking strategies. Rubin and Thompson's (1994) initial list of nine potential challenges that could occur during speaking tasks includes pronunciation issues, persistent errors, correction management, practice opportunity creation, accuracy concerns, communication failures, conversational obstacles, comprehensibility, and interaction rules. The second list of speaking strategies was created by Weaver, Alcaya, Lybeck, and Mougél (1994). Strategies for usage prior to, during, and following a speech are included in this list. However, earlier studies on strategies indicate that

the linguistic tasks assigned to the speakers are a crucial decision in task design. In a preliminary analysis of discourse features, Brown and Yule (1983) identified four basic types of informative communication: description, instruction, narrative, and expression/justification of opinion. Their primary argument was that learners may enhance their language proficiency by refining these tactics via practice, and that each kind employs distinct methods for structuring information for better understanding.

### **3. Rethinking Language Proficiency for Science Graduates**

Although there are now methods for improving graduate students' English language skills, these methods must be updated to take use of new digital tools and technology. In order to improve scientific graduate students' language learning skills, the current research suggests several concepts and methods. Below is a discussion of the strategies.

#### **3.1. Debate sessions based on science subjects**

Because science discussions require students to communicate complicated concepts in English, they may undoubtedly improve their language abilities. This will assist them in learning both subject-specific language and general communication skills. It will enhance their grammar, vocabulary, and pronunciation, among other things. Speaking fear will decrease and confidence will increase. Additionally, they will be able to arrange the arguments in a methodical manner. Science students will learn academic English if this approach is used, which will undoubtedly benefit them.

#### **3.2. Podcast or Audio notes related to science**

Students can provide a brief description of their experiments in English for three to four minutes. To improve proficiency, weekly presentations are another option. They may then listen to their own recordings, which will enable them to recognize and correct their own errors.

#### **3.3. Storytelling activities through a scientific object**

Telling stories has always had an impact on language proficiency. We have faith in narratives. When students are challenged to create a tale from the perspective of a scientific item, scientific facts can be transformed into narratives. Even two cells conversing can be used to create a narrative. This exercise will increase language proficiency without making language acquisition challenging. Students' capacity for imagination will grow as a result.

### **3.4. AI based writing and speaking support**

Students can benefit greatly from AI models for language acquisition as they become more widely available. Pupils are able to compose a paragraph independently. AI can then recommend a different version to them. They may compare it and discover the methods AI use to improve it. It is possible to write the same paragraph in a variety of ways, such as official, casual, friendly, scholarly, etc. This will enhance one's ability to write in many genres and registers.

### **3.5. Online collaboration tools with the peers**

One of the most effective learning techniques is peer learning. Through online platforms like Google Meet, Zoom, Microsoft Team, and others, students may work together with their classmates worldwide to improve their learning skills. They may complete collaborative projects, edit each other's work, and provide feedback.

### **3.6. Infrastructural support to students based on socioeconomic background**

Institutional support, such as free computers, a monthly internet subscription, and longer hours of digital assistance in colleges or universities, can help students. Additionally, open source, free digital learning tools can be introduced to students. The gap to fair access can be closed with well-designed inclusive curricula that do not burden pupils from low socioeconomic backgrounds.

## **4. Conclusion**

It has been noted that students find these innovative approaches to enhancing speaking skills in second language acquisition to be remarkable, suggesting that technology may eventually replace instructors in the classroom. The resources available today improve the contributions instructors make in the classroom. The magic is evident since it effectively supports learner's language learning. The impact of speech rate on second-language comprehension is not well studied. Stanley observed that the fastest-paced portions were the most difficult for listeners to comprehend common speech (1978: 287). He argues that "when speech was accelerated, language learners consistently struggled to recognize individual phonemes and, consequently, words with which they were already acquainted" (1978: 289). Griffiths (1992) examined the effects of three distinct speech speeds (127, 188, and 250 wpm)

on the understanding of second-language speakers. He discovered that understanding declined at higher rates and improved significantly at the slowest pace. These are the methods that may be used in educational institutions to improve L2 language competency.

### References:

Damir, Rakesh. 2010. The use of technology in teaching language. In Jayashree Prabhakar (ed.), *Learning to learn: Way to language mastery*, Proceedings of the 5th International and 41st Annual ELTAI Conference, 5–7 August 2010. Anna Adarsh College for Women.

Heinze, Aleksej & Chris Procter. 2010. The significance of the reflective practitioner in blended learning. *International Journal of Mobile and Blended Learning* 2(2). 18–29.

Indumathi, M. R. 2010. New trends in exploring the unexplored in ELT: A study. In K. Anbazhagan (ed.), *Enhancement and excellence in English for employability and empowerment*, Proceedings of the Fifth National Conference, 24–25 March 2010, 102. SRM University, Department of English and Foreign Languages.

Lata, Pushp & Sanjay Kumar. 2010. Technology-enabled teaching of professional communication courses: Problems and perspectives. *The Journal of English Language Teaching (India)* 48(3). 29–34.

Majeed, Misbah & Fatima Rehan Dar. 2022. Investigating the efficacy of blended learning in ESL classrooms. *Cogent Education* 9(1).

Sankar, G. 2014a. English language teaching is an assessment and natural approaches to the language learners with theory and practice. *International Journal of English Literature and Culture* 2(9). 211–213.

Sankar, G. 2016b. Learning English for employability. *Arts and Social Sciences Journal* 2(7). 34–35.

Sharma, Pete. 2010. Blended learning. *ELT Journal* 64(4). 456–458.

Sokolik, Maggie. 2001. Computers in language learning. In Marianne Celce-Murcia (ed.), *Teaching English as a second or foreign language*, 477–489. Boston, MA: Heinle & Heinle.

Urbaite, G. 2024. The role of technology in modern language education. *EuroGlobal Journal of Linguistics and Language Education* 1(1). 3–10.

Vijayalakshmi, S. 2009. Podcasting: An effective tool for language learning. In Manish Vyas & Yogesh Patel (eds.), *Teaching English as a second language*. New Delhi: PHI.