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ICT-Based Teaching Aids to Enhance English Language Proficiency of Indian Engineering Students

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***Abstract*—Technology has provided access to a wide variety of teaching tools, including digital tools like Google Classroom, Quizlet, Zoom, Kahoot, and Nearpod, as well as older technology like radio, television, video, and computers for those who are both teaching and learning the English language. Even before personal computers first became a common household item in the 1990s, many people believed they would revolutionize education, and using computer-based instruction and learning for the study of languages was no exception. Nevertheless, ICT-based English language learning has only recently become available in India. Technology is currently used in many educational institutions to teach subjects like languages. Consequently, technology in general and information and communication technology (ICT) in particular have made it possible for everyone around the globe to learn for themselves. Therefore, the focus of the researchers nowadays is on utilizing particular ICT-based instructional materials to improve the English language skills of engineering students from rural backgrounds. In the modern day, obtaining a job no longer solely depends on subject-matter expertise. Without a doubt, Rural Background Engineering (RBE) students must be skilled communicators in English these days in order to find employment. This paper focuses on the effective use of technology to enhance Indian RBE students English language instruction within a result-focused context. Therefore, integrating technology into language instruction offers clear benefits that pertain to both language education and preparing pupils for today's information culture.**

***Index Terms*—digital technology, digital tools, ICT, English language learning, communication and information**

I. Introduction

Undoubtedly, the ability to communicate through language is necessary. It is a crucial and universal part of every society's cultural framework. These days, English has become the language of global society due to the sheer volume and geographic diversity of its speakers, as well as the significant number of non-native speakers who use it for at least some of their international communication. As such, it is the most widely used form of international communication.

The emphasis of the current research is on the crucial function that instructional materials play in the teaching of English. The effectiveness of some contemporary teaching tools is discussed, as well as how they might be used to teach and learn languages.

A teacher's use of teaching aids can make it easier for him or her to help students understand a concept. The utilization of hearing and sight are components of teaching aids. Through their research, scientists have estimated that 86% of a person's learning process depends on their senses, which begins right after birth when a baby initially seeks to learn things through his or her senses. He or she first recognizes his or her mother and other family members through the sense of sight. The newborn gradually gains the ability to hear sounds and learn how to respond to them, which eventually aids the baby in speaking simple words. Following that, the child's perception is influenced by their senses, and most scientists believe that sense-based learning lasts longer than mechanical learning.

The student's hearing and vision will be used in conjunction with audio-visual aids for the aim of learning English through modern technology. This will guarantee efficient and speedy learning. For instance, pupils believe that a social studies teacher's lessons will be more engaging and realistic if he or she adopts a lobe model that allows them to more successfully study things like the Earth's many features, including its shape and its latitudes, longitudes, and poles. The teacher's time is saved while delivering the lesson, and the students' learning is strengthened and sustained. As another example, when explaining the human digestive system to students, a biology teacher may do so by sketching a diagram of it on the board.

By bringing vivid reality into the classroom, these technological aids will help to open new doors to learning. When teaching biology class, for instance, the students were shown specimens of diverse animals and plants kept in sealed bottles. This sparked their interest and passion and increased the depth and breadth of their learning. When learning is done practically, it is easier for slow learners or people with attention issues to retain information. Observing a scientist use equipment independently to conduct experiments, create charts and models, and so on gives participants firsthand experience. Teaching is made more engaging by using audio-visual tools. They help teachers conserve their time and energy.

II. Teaching Aids

The use of ICT-based teaching aids in English language learning is the most suitable teaching tool to enhance language skills. Recently, technology has provided education with a vast range of teaching aids in the process of learning a language, such as tape recordings, film strips, film projectors, radios, televisions, videos, and computers. In the 1990s, personal computers became household items, and people thought that computers would eventually revolutionize education, and language learning was no exception. Though in India this came into fruition a little later than the rest of the world, it is not too late to adopt technology-based language learning, and specifically ICT-based English language learning and teaching. Several educational institutions have adopted technology for imparting knowledge, including languages. Hence, technology in general and information and communication technology (ICT) in particular have enabled self-learning in all areas of the world.

A. Video-Based Instruction

Technology has created numerous opportunities for both teachers and students to benefit from access to the internet, computers, and proper guidance. The integration of video teleconferencing in classrooms has been particularly advantageous for students. This allows for synchronized collaboration, where multiple desktop computers in the same location are connected to a system, enabling group participation. All desktops have internet connectivity, allowing an instructor to communicate with a “classroom” of students, each working from their own workstation with an internet connection. A significant advantage of this setup is that students no longer need to be physically present in the same room; they can interact with teachers and peers from various locations. The instructor can control the students' computers, guiding them through exercises, information searches, or collaborative projects with remotely located students. The instructor can deliver both pre-prepared and new information to the students, whether by typing, using voice, or through real-time digital video. This networked environment introduces a new dimension to teaching and learning, where access to web-based information is crucial for both teachers and students to remain competitive in their academic and professional pursuits. According to the United Nations Development Program's Human Development Report, information and communication technology (ICT) plays a vital role in human activities, breaking barriers to knowledge, participation, and economic opportunities. Indeed, the rapid advancements in ICT have introduced new ways of managing, distributing, and utilizing information, and the UN report notes that “ICT is closely linked with globalization, creating a new paradigm known as the network age. In this context, school counselors are increasingly using computer technology to help eliminate institutional and environmental barriers that hinder students' academic success” (Ocampo, 2002, p. 23).

B. Information and Communication Technology (ICT) Literacy

ICT literacy emphasizes the importance of students developing skills that enable them to think critically, analyze information, communicate, collaborate, and solve problems, all of which are crucial in today's knowledge-based society. Technology plays a key role in fostering these learning skills, and the “six critical areas of proficiency are necessary for students to fully integrate ICT into counseling programs, which are essential for success in the workplace” (Tinio, 2002, p. 47).

1. Students must be able to express themselves not only through traditional means like paper and pencil but also using audio, video, animation, and design software.

2. Students need the ability to analyze and interpret large sets of data.
3. Students should grasp the capabilities, limitations, and underlying assumptions of various data representation systems, such as computational models and simulations, which are increasingly influential across many disciplines.
4. Students must efficiently manage multitasking, make informed choices, and prioritize tasks across different technological applications, allowing them to seamlessly navigate teams, assignments, and communities of practice.
5. Students need to apply their knowledge and skills to new situations effectively.
6. Students must be aware of and able to implement strategies to recognize, identify, and manage 21st-century risks.

For teachers implementing technology in the classroom, four key principles can guide the process: first, teachers must understand the distinct roles that they and the technology they use play in the learning process. Second, when adopting new technologies, it is important to move beyond the initial excitement and consider the pedagogical reasons for their use. Third, educators must choose technology that supplements and enhances what the teacher is already doing and not be used as a replacement for teachers. Finally, it is important to remember that, as noted before, "the effectiveness of tools like interactive whiteboards depends on how they are used, not just on the technology itself" (Jonxes, 1986, p. 171).

Incorporating technology in teaching language learners offers unique advantages that extend beyond language education to preparing students for modern information society. Computer technologies and the internet are powerful aids in language teaching, as web technology is deeply integrated into today's social fabric. This allows language learners to enhance their skills through activities like writing emails and conducting online research.

C. E-Learning

E-learning suggests that "effectively utilizing the Internet to gather relevant information requires an understanding of how information is organized, along with critical thinking skills that help users make informed decisions" (Masagca & Londerio, 2009, p. 12). It also necessitates a practical knowledge of Internet notations. Essential skills for this process include searching for information, scanning and skimming content, and employing strategies like planning, monitoring, and evaluating during the search. As a result, the Internet has become a vast repository of valuable information in education. Therefore, it is crucial to teach students a broad range of internet literacy skills, from verifying the authenticity of online content to using various search strategies and techniques. This approach ensures that the Internet's full potential as a learning tool is harnessed to enhance teaching practices in schools.

D. Learning in An Outcome Alert Environment

To create a successful teaching and learning program in an outcome-focused environment that integrates technology in English, it is essential to:

- Encourage innovative and student-centered learning approaches.
- Expand both individual and group learning programs by acknowledging the diverse needs and learning styles of students.
- Develop a balanced mix of open-ended tasks.
- Incorporate the use of technology into student learning outcomes.
- Provide opportunities for integrated learning or cross-curricular connections.
- Ensure that technology enhances the teaching and learning program, increasing its overall effectiveness.
- Adopt an inquiry-based and problem-solving approach to learning.
- Offer students the chance to evaluate and shape technological advancements.

Additionally, the traditional employer-centered workplace with predefined jobs and career paths has evolved into a worker-designed environment, where individuals create their own assignments and seamlessly integrate technical skills with a broad intellectual toolkit, enriched by experience, roles, team-building, and knowledge.

E. Multi-Media-Based Approach

The emergence of multimedia computer technology has significantly increased the potential for career interventions, especially for at-risk youth. Interactive, computer-mediated environments enable students to explore better ways to address challenges related to learning, reading, and other skills. This approach is grounded in three main premises: (1) individuals act based on the meanings that things and people hold for them; (2) these meanings are derived from or emerge through social interactions; and (3) these meanings are employed in an interpretive process when individuals engage with things and others. In the context of school counseling, ICT is applied in several ways: through storing, encoding, and preparing materials and documents related to counseling; through retrieving, distributing, and utilizing data and information specifically related to counseling; and through supporting entertainment, leisure, and recreational activities.

Currently, it notes that the traditional language lab, which historically focused on audio, has evolved to incorporate new technologies, thereby addressing the needs of modern teachers and learners. Additionally, language departments are now exploring even more computer-based alternatives to traditional multimedia delivery methods. For example, starting in the mid-1990s, audio and video have been digitized and stored on video-capable file servers, allowing for more versatile access (Scinicariello, 1997, p. 185).

The language lab was originally designed to provide both in-class and independent access to analog audio, typically in the form of audiocassettes. A notable enhancement to this traditional setup is the ability to "bookmark" challenging segments of a tape, allowing students to revisit them later. Additionally, response analyzers can automatically generate student test scores upon the completion of an exercise or test. Some systems even enable simultaneous access to tracks of an audio tape for practicing interpretation, where multiple users can access different segments of a video or audio clip from their computers simultaneously. Another advantage is that a single computer station no longer needs a dedicated videodisc player or other peripherals; students at any networked station in the lab can directly access multimedia resources from the server. This server-based arrangement allows teachers and learners in remote locations with network access to use instructional materials. Smart classrooms, equipped to display videos, videodiscs, and computer outputs to a room full of students, enable faculty to integrate networked lab resources into their regular instruction.

While these technological advancements offer numerous pedagogical benefits, educators must also be aware of potential limitations when using technology as a teaching tool. Understanding the challenges of conducting internet-based lessons allows teachers to plan effectively, ensuring a meaningful and engaging learning experience for students. One issue is that students often head straight to the web without waiting for guidance from a teacher or librarian, leading to difficulties in navigating the web and finding relevant information for their homework tasks. This can be time-consuming, and students may struggle to distinguish between credible websites and those that appear credible but offer biased or inaccurate information. As a result, institutions face the challenge of teaching students not only the value of having vast amounts of information readily available on the internet but also the critical evaluation skills needed to assess that information.

In addition to understanding the strengths and weaknesses of internet-based lessons, teachers must also contend with practical constraints that may hinder the effective implementation of these lessons. One significant barrier is time, as students may not have sufficient access to computers with internet connectivity to dedicate a specific block of time to online activities. In today's knowledge-based economies, the ability to search for and retrieve information from the web is crucial. Successfully locating appropriate information on the internet requires a variety of skills, including the ability to use internet tools like search engines, knowledge of search techniques such as browsing through information trees, and the capability to execute effective searches.

In technological institutions affiliated with Jawaharlal Technological University, in addition to theoretical instruction, three periods are allotted weekly for the practical course English Language Communication Skills Lab for each branch of the university, where students are exposed to various topics related to learning the English language through computer systems. All technological colleges provide practical knowledge using specialized English software. The English Language and Communication Skills Lab monitors and guides students in enhancing their skills through this software. Students listen to recorded lessons and can even record their own voices in return. The lab is equipped with facilities that allow teachers to listen to individual students and communicate with them as needed. Teachers offer guidance from a console, and students have the opportunity to assess their own performance. If a student is not satisfied with their progress, they can repeat the exercise or listen to the examples again.

III. Different Learning Styles of Teaching Aids

The benefits of using audio-visual aids in instruction are as follows:

- They make the classroom atmosphere dynamic and allow students to interact directly with objects.
- They lessen reliance on a second language excessively.
- They assist in avoiding overly verbose, pointless, and ineffective language use when teaching English.
- By stimulating all of the learner's senses, they aid in improving memory.
- They make the topic matter clear.
- They inspire a desire to study new things.

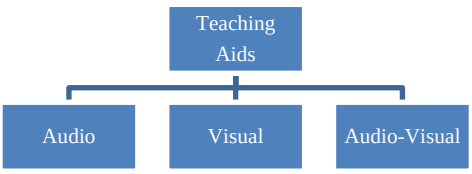

Figure 1. Teaching Aids

A. Visual Aids

Visual aids include teaching tools such as charts, models, mind maps, photographs, textbooks, software, and mobile phones and apps, among others, like those listed below in more detail:

(a). Blackboard

Research shows that the blackboard is the most popular teaching tool used by teachers to write significant points, illustrate concepts, solve issues, etc. In fact, the blackboard is the oldest and most popular teaching tool. It serves several purposes and is also the finest teaching companion. Its applications are countless and grow as the teacher's creativity grows. The more creative one is, the more they use the blackboard. Words, word groups, phrases, substitution tables, grammar rules, comprehension problems, and almost everything else can be done with a stick of chalk and the imagination. Everything should be carefully written on the chalkboard. However, to use the blackboard effectively, the English teacher should keep a couple of things in mind: first, the main points on the blackboard must be written in readable, clean handwriting; moreover, overcrowding of material on the blackboard must be avoided.

(b). Bulletin Board

A bulletin board is a display board with educational materials on it about a certain subject. Generally speaking, it is the size of a blackboard; yet, depending on the amount of wall space available, it may even be larger. Usually, it takes the shape of a corkboard, soft board, straw board, or rubber sheets that are framed. Such notice boards may be designated for particular departments or even for particular subjects, and they may also be used to showcase students' greatest work.

(c). Flannel Board

Sometimes referred to as a felt board or a flannelgraph, a flannel board is made of cardboard, wood, or strawboard that has been coated with wool or colored flannel. Used for displaying materials like cutouts, images, drawings, and light items that momentarily attach to, flannel board is one of the most cutting-edge tools for teaching science and language.

(d). Flash Cards

As their name implies, flash cards are used to quickly display numerous bits of information to children. Thick cards used for flash cards typically have images printed or drawn on them, though there might be a name for the image underneath it. Depending on how the flash card will be used, it may be necessary to write the picture's name or not. Words, phrases, sentences, and vocabulary items may also be included on flash cards. Students must read the text on the cards very quickly while the teacher briefly flashes them in front of the class. The motivation and interest of the student in learning the language are increased by these cards.

B. Audio Aids

(a). Old-Model Audio Aids

Radios, gramophones, and tape recorders are considered hackneyed audio aids used by teachers. However, many of the broadcasts on All India Radio are geared towards school-aged children or are discussions on educational issues or English-related themes and are very beneficial for both students and English teachers. Short speeches on fascinating subjects given by renowned poets, authors, and so on are great teaching resources that are available to English teachers. These lectures inspire the students and can be recorded and utilized repeatedly. Of course, there are also hundreds of pre-recorded audiocassettes available for this use. What is more, students can listen to the recordings and use the tape recorder to replicate proper English pronunciation. Rhymes, poetry, and other significant items can be recorded at home and played in class by the English teacher. Teachers can also read a text at the desired speed and record it on a cassette tape in order to increase the speed at which students read. Bring it to class and instruct the students to listen to the cassette while they read the passage. Additionally, they discover when to stop reading.

(b). Modern Audio Tools

These days, old-school audio tools have been replaced by modern audio tools like Vocaroo, UJAM, Incredibox, Chirbit, Online-ConVert, Jing, Voki, iTalk, and others. Teachers can give homework, and through these audio tools they can listen and assess their students' answers. These state-of-the-art technical tools are certainly helpful to the teachers, and students get interested while using these aids in their lessons and homework.

C. Audio-Visual Aids

Once upon a time, televisions, projectors, overhead projectors, and so on were used as audio-visual aids by educators. Today, however, millennial students consider them old and obsolete. In their place, ultra-modern audio-visual aids like Padlet, Edpuzzle, Nearpod, Seesaw, and Jamboard have come along and garnered the attention of learners. Some of these, as shown in Figure 2, are explained in more detail below:

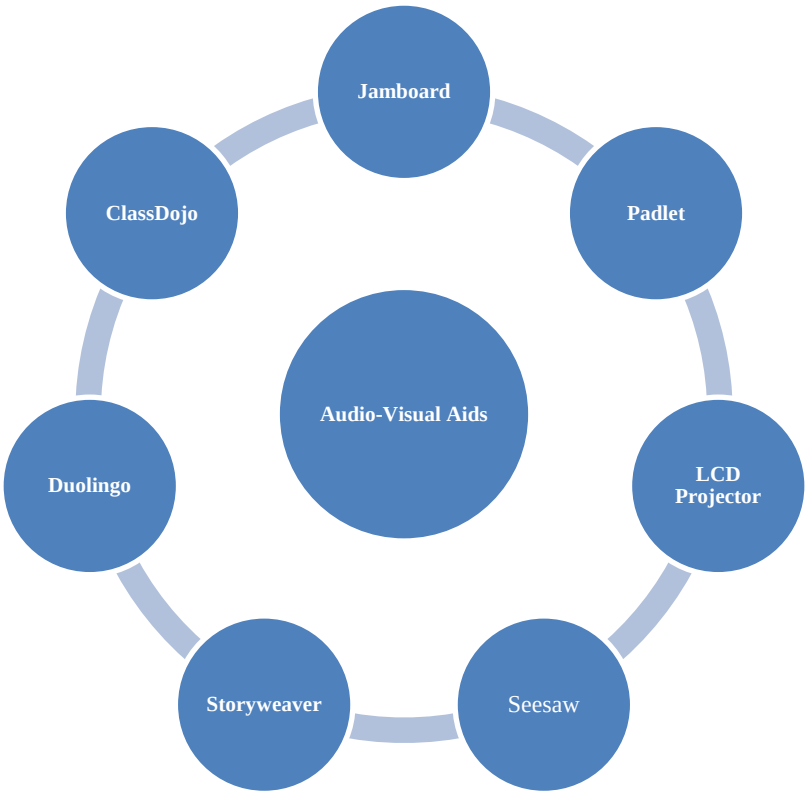

Figure 2. Audio-Visual Aids

(a). Padlet

Padlet is a great tool for students to use when working on group assignments, as the timing of discussions and assignment creation is up to them. Padlet's Substitution, Augmentation, Modification, and Redefinition (SAMR) model is very well-liked in Padlet, and instructors like using the program Edpuzzle to produce engaging video lessons.

(b). Nearpod

Using this program, teachers can share interactive movies, games, and other activities while conducting interactive classes on a single platform.

(c). Seesaw

Seesaw helps teachers communicate with parents, and as a result, parents can become their partners in education. Teachers can add photographs, web pages, drawings, and movies to a jamboard and can even resize the images or videos as needed.

(d). Storyweaver

The title speaks for itself since both teachers and students can create stories with different endings or conclusions with this teaching and learning tool.

(e). ClassDojo

ClassDojo allows teachers to create a collection of class photos, videos, messages, conversations, and so on that can be presented for learning and for making memories that will last a lifetime.

(f). Microsoft Teams

Used by many in academia throughout the COVID-19 pandemic, Microsoft Teams is a team collaboration application offering workspace chat and video conferencing, file storage, and integration of third-party applications and services.

(g). Duolingo

Duolingo and other language apps are great for supplemental learning of languages.

(h). Short Films and Film Clips

Students can watch short films and film clips and share their opinions and reviews about what they have learned.

(i). Cartoons

Another much-loved instructional tool among students is cartoons. These animated series pique the curiosity of many children who use them to quickly pick up new languages.

(j). Telegram

The Telegram app is ideal for distance learning and instruction. Teachers who were working under difficult circumstances during the pandemic benefited greatly from this tool since it was free, mobile-friendly, quick, and safe. Moreover, it offered them cloud-based texting, voice recording, and video calling.

IV. Experimentation and Results

Rural Background Engineering (RBE) students who are proficient in English are able to use English to ask questions, comprehend lectures, appraise materials and test ideas, and confront what is being asked in the classroom. This methodology includes seven audio-visual teaching aids. In this study, two groups were selected to assess the effectiveness of using audio-visual aids. Since it may be impractical to train a larger group, a total of 120 engineering students with rural backgrounds from V.R. Siddhartha Engineering College, Andhra Pradesh, India, were chosen. These students were mechanical engineering students, who were divided into two groups: Test Group 1 and Test Group 2, with 60 students in each. To ensure that both groups were comparable in their English proficiency, a pre-test was conducted. Following this, Test Group 2 received exposure to audio-visual aids, while Test Group 1 did not. The list of audio-visual aids by Test Group 2 is shown in the following figure:

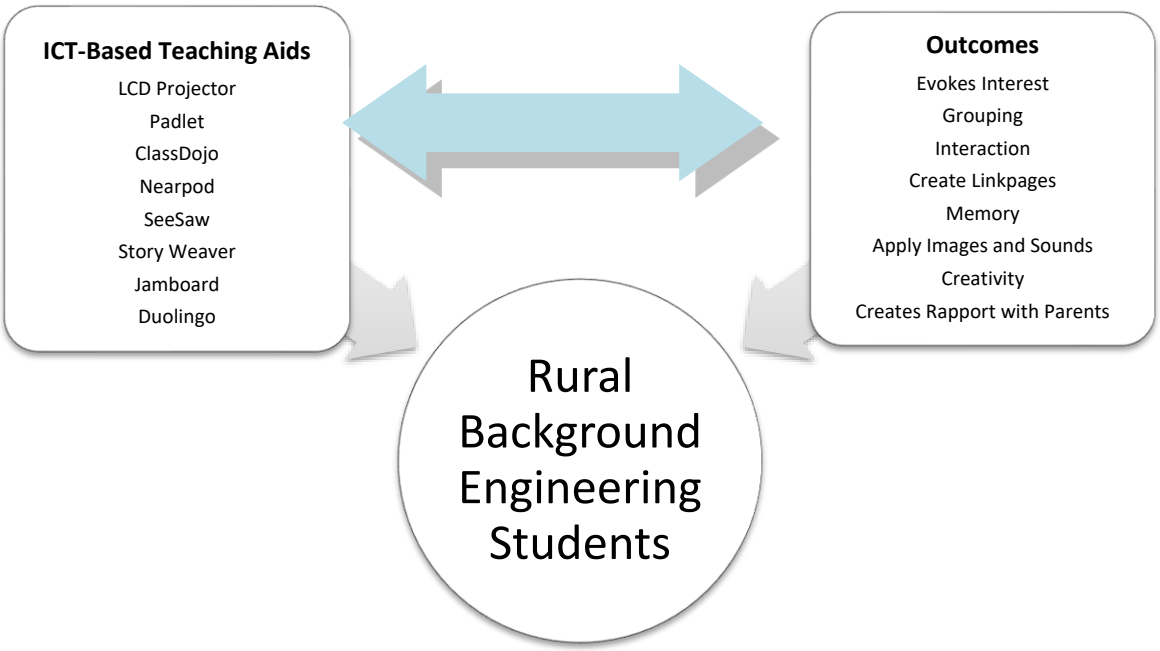

Figure 3. List of Used Audio-Visual Aids and Their Outcomes for Rural Background Engineering Students

Primarily, a pre-test was administered among the two groups, and the scores were recorded and compared. This presented the English language competency among the RBE students. Later, Test Group 2 was taught by using ICT-based audio-visual aids, while Test Group 1 was taught the same material without any aids, audio-visual or otherwise. Afterwards, a post-test was administered among the groups, and the results were analyzed.

A. Pattern of Pre-Test

Language ability is a key component in the requirements for all entrance examinations that assess English language proficiency in reading, listening, speaking, and writing. Therefore, the researcher designed a pre-test to evaluate the four language skills of ESL students. The pre-test covers various aspects of language skills that are typically included in placement and entrance exams. These include pronunciation, sentence correction, sentence improvement, sentence formation, completing statements, ordering words and sentences, analogies, reading comprehension, antonyms, synonyms, idioms and phrases, one-word substitutes, voice and speech changes, listening comprehension, error identification, critical reasoning, argument analysis, and paragraph formation. Hence, the pre-test is based on language skills and vocabulary components of the English language—synonyms, reading comprehension, word order, sentence formation, phonetics, and presentation.

Marks for different sections along with the time allotted for each section are given below:

TABLE 1
MARKS AND TIME ALLOTTED FOR EACH SECTION

Topics	Marks	Duration
Reading Comprehension	5	10m
Synonyms & Antonyms	10	10m
Word Order & Sentence Formation	10	10m
Phonetics	10	10m
Presentations	10	20m
Total	45	60m

B. Pre-Test

The pre-test encompassed all four essential English language skills: listening, speaking, reading, and writing. This trial was conducted by the researcher to gauge the language proficiency levels of Test Group 1 and Test Group 2. The table below presents the marks scored by the two groups in the pre-test, followed by a concise summary of the findings.

TABLE 2
PRE-TEST SCORES OF TEST GROUP 1 AND TEST GROUP 2

Sources	Competency Level	Test Group 1		Test Group 2	
		No	%	No	%
55 and Above	10 Points	Nil	-	Nil	-
41-55	8-9 Points	5	11%	10	23%
26-40	5-7 Points	36	80%	35	77%
25 and Under	Less than 5 Points	4	9%	0	-
Total		30	100%	45	100%

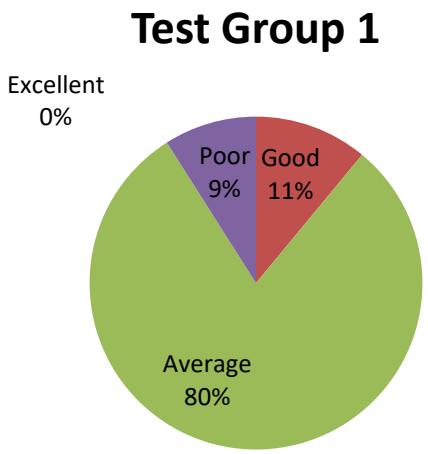

Figure 4. Pre-Test Performance of Test Group 1

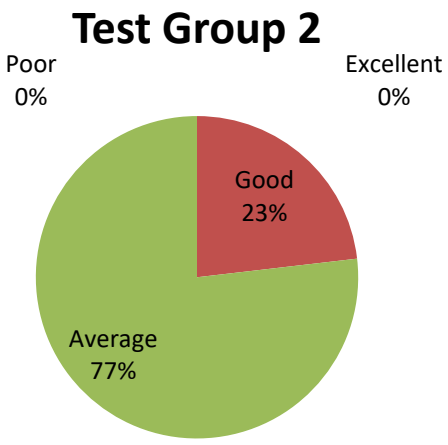

Figure 5. Pre-Test Performance of Test Group 2

The pre-test results for the control and experimental groups showed that only a few of the rural background engineering (RBE) students had a strong command of the language. These results were discussed among the students in the groups. Following this discussion, the researcher decided to implement ICT-based audio-visual aids for the experimental group. Five activities were designed to train the experimental group in five key language elements, with a total of four training sessions, each lasting 60 minutes.

C. Post-Test

After the researcher utilized audio-visual aids during four training sessions with the RBE students, a post-test was administered to Test Group 1 and Test Group 2. The purpose of this post-test was to assess the effectiveness of the training. The following topics were selected as the basis for the post-test:

TABLE 3
MARKS AND TIME ALLOTTED FOR EACH SECTION

Topics	Marks	Duration
Pronunciation & Intonation	10	10m
Prefixes & Suffixes	5	10m
Reading Comprehension	10	10m
Vocabulary	10	10m
Group Discussion	10	20m
Total	45	60m

D. Analysis of Marks Scored by Two Groups in Post-Test

The below table reveals the marks scored by the Test Group 1 and Test Group 2 in the post-test.

TABLE 4
POST-TEST SCORES OF TEST GROUP 1 AND TEST GROUP 2

Sources	Competency Level	Test Group 1		Test Group 2	
		No	%	No	%
55 and Above	10 Points	Nil	-	27	61%
41-55	8-9 points	5	11%	13	28%
26-40	5-7 points	32	72%	5	11%
25 and Under	Less than 5 points	8	17%	--	--
Total		45	100%	45	100%

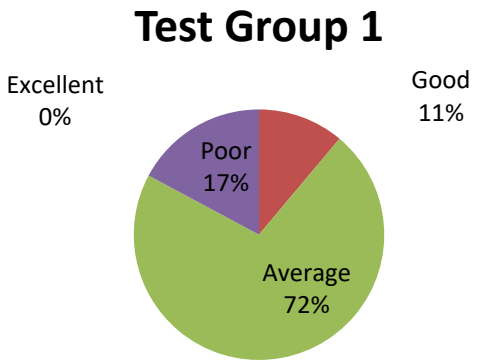

Figure 6. Post-Test Performance of Test Group 1

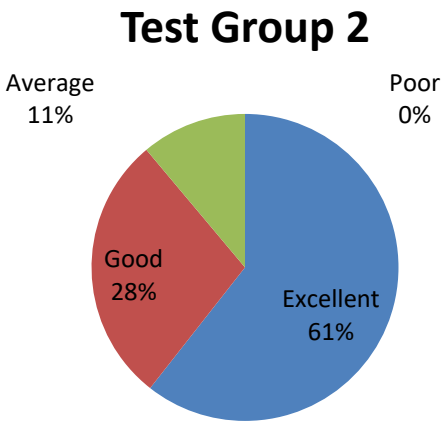

Figure 7. Post-Test Performance of Test Group 1

E. Observations

The researchers first observed that this new classroom instruction created by the researcher will lessen the hurdles faced by the RBE students in learning English. Moreover, this approach creates a dynamic classroom atmosphere and allows students to interact directly with objects. It also lessens their excessive reliance on their first language (L1) and greatly improves their second language (L2) abilities. Furthermore, using information and communications technology (ICT) helps English language students avoid using overly verbose, pointless, and ineffective language, while also stimulating all of the learner's senses and aiding in improving memory. Additionally, by adopting teaching aids in the classroom, RBE students can make their topic matter clear and present it effectively. It also creates a desire in RBE students to study new things. Finally, this study demonstrated that using ICT-based teaching aids in English language learning are the most suitable teaching tools for enhancing the English language skills of RBE students.

V. Limitations in Using Teaching Aids

While ICT-based teaching aids offer numerous advantages in enhancing English language proficiency, they also come with certain limitations. For instance, many schools are unable to purchase certain technological teaching and learning aids because they are expensive. Implementing ICT tools and maintaining them can be expensive, requiring significant investment in infrastructure, software, and training. High costs can be a barrier for educational institutions, particularly those in resource-constrained environments.

Furthermore, many teachers lack the technical expertise needed to use them and must educate themselves on how to better use them. Without proper training, teachers may not use these tools to their full potential, reducing the effectiveness of ICT-based teaching aids. Conversely, some teachers utilize them excessively, giving them a less powerful, impersonal influence. Students can also occasionally know more than teachers do. ICT-based learning can also sometimes lead to reduced student-teacher interaction and peer engagement, especially in asynchronous learning environments. This can negatively affect motivation, collaborative learning, and the development of social skills.

Because so many pupils rely on technology, their creativity is declining. Additionally, excessive dependence on ICT tools can diminish the role of traditional teaching methods, which are also crucial for language learning. Over-reliance on technology might also result in students missing out on critical thinking, interpersonal communication, and other soft skills that are better developed through face-to-face interaction. Even worse, prolonged use of ICT tools can lead to health issues, such as eye strain, poor posture, and reduced physical activity. These health concerns can affect students' overall well-being and academic performance.

Not all students have equal access to the necessary technology, such as computers, smartphones, and stable internet connections. This disparity can lead to unequal learning opportunities and outcomes. Moreover, students from rural or economically disadvantaged backgrounds may struggle to participate fully in ICT-based learning, exacerbating educational inequalities. What is more, technical problems, such as software glitches, hardware failures, or connectivity issues, can disrupt the learning process. Frequent interruptions can frustrate students and teachers, leading to a loss of engagement and continuity in learning.

The quality and relevance of content available on ICT platforms can vary widely. Some resources may not align with the curriculum or the specific needs of the students. Poor-quality content can lead to misinformation or inadequate learning, while irrelevant material can waste valuable study time. Furthermore, the use of ICT in education involves the collection and storage of large amounts of student data, which can raise concerns about privacy and security. Inadequate data protection measures can lead to breaches, compromising the safety and privacy of students.

ICT tools, especially those involving internet access, can be distracting for students. They may be tempted to browse unrelated content or engage in non-educational activities. This can reduce the effectiveness of learning and lead to time being wasted on non-educational tasks. Moreover, some ICT tools may not provide personalized feedback or adapt to individual student needs, especially in larger classrooms or with less sophisticated software. Students might not receive the tailored guidance they need to improve, potentially slowing their progress. ICT tools are also often designed with a global audience in mind and may not always consider the cultural and linguistic contexts of Indian students. This can lead to misunderstandings or a lack of relevance, making it harder for students to engage with the material.

While ICT-based teaching aids offer substantial benefits, these limitations need to be carefully managed to ensure that they enhance rather than hinder the learning process. A balanced approach that combines ICT tools with traditional teaching methods, adequate teacher training, and strategies to address the digital divide can help mitigate these challenges.

VI. Conclusion

In conclusion, ICT-based teaching aids hold significant potential to enhance the English language proficiency of Indian engineering students. These tools offer interactive, personalized, and engaging learning experiences that can address the diverse linguistic needs of students. By leveraging technologies such as language learning software, online language labs, video-based learning, and gaming platforms, students can improve their vocabulary, grammar, pronunciation, and overall communication skills in a more efficient and enjoyable manner. However, to fully realize the benefits of ICT in language education, it is crucial to address the accompanying challenges, such as the digital divide, technical issues, and the need for teacher training. A balanced approach that integrates ICT with traditional teaching methods while being mindful of these limitations can create a more inclusive and effective learning environment. By doing so, Indian engineering students can develop the language skills necessary for academic success and global competitiveness.

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