An Analytical Study on Developing Language Skills among L2 Learners Through Digital Teaching and Learning

Francis Joice Guvin Felcida
Noorul Islam Center for Higher Education – India
felcidasaju@gmail.com
ID: 0009-0007-9684-7191

Deepa Parameswaran
Noorul Islam Center for Higher Education – India
deepam_nice@rediffmail.com
ID: 0000-0002-4697-9811

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Corresponding author: Francis Joice Guvin Felcida
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Abstract

Technology integration has fundamentally transformed education, particularly in the field of second language (L2) acquisition. This experimental study explores the effectiveness of various digital tools and media—including online courses, educational applications, and multimedia resources—in enhancing English language skills among L2 learners. By leveraging technology, language learning becomes more flexible, personalised, and engaging, fostering active participation through virtual classrooms and real-time feedback mechanisms. This approach, which is called adaptive learning, cultivates a stimulating environment that encourages student engagement and motivation. Despite the advantages of digital tools, speaking anxiety remains a significant barrier for many L2 learners. This study posits that digital teaching methods can mitigate this challenge by facilitating dynamic and flexible communication; thereby, enhancing overall language proficiency in the digital age. The research involved a sample of 120 first-year B.A. English Literature students from eight Arts and Science Colleges in Kanyakumari District, Tamil Nadu, India. Descriptive and inferential statistical analyses were conducted on the data collected from the participating institutions. Descriptive analyses highlighted students' experiences and preferences for tools such as PowerPoint presentations, multimedia content, Padlet, and Edmodo. Inferential analysis, employing t-tests, revealed significant improvements in students' language skills attributable to digital teaching interventions. The findings reveal substantial enhancements in both productive and receptive language skills among EFL learners, underlining the positive outcomes of digital interventions. This study underscores the transformative potential of digital tools in L2 education, advocating for a shift towards a more technologically enriched educational landscape that prepares learners for the demands of the modern world. It contributes valuable insights into leveraging digital technologies to advance language education, advocating for their integration across diverse academic disciplines in literature, arts, and humanities.
1. Introduction

People often feel comfortable expressing their thoughts in their native languages. However, communicating in a second language can be challenging for both speakers and listeners. Foreign Language Speaking Anxiety (FLSA) can be alleviated through Automatic Speech Recognition (ASR), which allows learners to improve their speaking skills in a supportive environment provided by Web-Based Language Learning (WBL) (Bashori et al., 2020).

The Bible emphasizes the significance of words and language, stating, “In the beginning was the word, and the word was with God, and the word was God” (Houghton, 2023). This verse underscores the necessity of using words accurately for effective communication. Similarly, research indicates that tourism English serves as a valuable resource for EFL learners, fostering innovative approaches to language learning (Parchananth, 2022). According to Bilal Mohd Zakarneh's studies, e-learning platforms significantly enhance the English language skills of non-native speakers (Zakarneh, 2018).
EFL (English as a Foreign Language) learners come from diverse linguistic backgrounds, including Spanish, German, and French, while L2 learners specifically refer to individuals learning English as a second language. Previous studies have shown that Extramural English (EE) activities, such as watching TV and playing games, enhance the communication skills of L2 learners (Uztosun). Furthermore, research on technology in education indicates that Mobile-Assisted Language Learning (MALL) fosters communication between teachers and students through mobile apps like Duolingo (Shortt et al., 2023).

The COVID-19 pandemic highlighted the importance of e-learning, and with the aid of Learning Management Systems (LMS), it facilitated flexible learning environments for content sharing, thereby creating active virtual learning spaces (Mohammed et al., 2023). Additionally, studies demonstrate that bilingualism promotes active learning and enhances verbal fluency among L2 learners compared to monolingual teaching methods (Brandeker et al., 2023).

The current research examines the experiences of 120 students who studied English during their school years and are now facing communication challenges in their undergraduate studies at Arts and Science Colleges in Kanyakumari District, Tamil Nadu, India. The researcher incorporates four key areas of Digital Learning Virtual Tools: PowerPoint Presentation, Multimedia, Padlet, and Edmodo.

These digital tools support L2 learners whose mother tongue is not English, helping them develop their four essential language skills: listening, speaking, reading, and writing. By creating an active, learner-centered environment, these tools facilitate language acquisition.

- PowerPoint Presentations are effective for sharing images, recorded audio, videos, and movie clips, allowing learners to save and share PPT files for future reference.
- Multimedia enhances learning through audio-visual content that captures learners' attention and fosters interactive engagement.
- Padlet promotes collaborative learning among L2 learners, acting as an online virtual bulletin board where teachers and students can easily interact by posting and sharing study materials and participating in interactive activities.
- Edmodo serves as a virtual teaching tool that enables educators to share assignments, documents, videos, and other resources, encouraging active self-directed learning.

Collectively, these virtual tools enhance EFL learners' abilities to improve their language skills without anxiety. Table 1 illustrates the importance of these virtual tools in L2 learning.
Table 1.
The Importance of Virtual Tools in Digital Teaching Learning

<table>
<thead>
<tr>
<th>S. No</th>
<th>Virtual Tools</th>
<th>Benefits of Virtual Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>PowerPoint Presentation</td>
<td>Connects Online and Offline classes together</td>
</tr>
<tr>
<td>2.</td>
<td>Multimedia</td>
<td>Listening and learning through Audio and Visual images</td>
</tr>
<tr>
<td>3.</td>
<td>Pad Let</td>
<td>Assists in sharing learners ideas and improves learners’ perception</td>
</tr>
<tr>
<td>4.</td>
<td>Edmodo</td>
<td>Assists in sharing videos, Access Assignments, Grades and Documents.</td>
</tr>
</tbody>
</table>

2. Literature Review

In recent years, research has delved into the significant and groundbreaking advancements occurring in education. The rapid progress of computer technologies and the internet has revolutionized English language learning, making it more active and effectively supporting second language (L2) learners (Erarlsan et al., 2019). Studies have also shown that the use of learning management systems, such as Moodle, WIKS, and Blackboard, sharpens language efficiency throughout the teaching and learning journey for L2 learners (Martin et al., 2023). Interactive learning, facilitated by virtual tools, actively engages learners in practical activities and helps improve their creative knowledge while attaining fluency and accuracy in a second language.

This article explores the effectiveness of learning English through e-learning. The advancements in internet technology have made it possible for non-native speakers of English to upgrade their competency and accuracy in the foreign language, particularly in English. The author highlights that the concept of "direct interest" inspires L2 learners and promotes independent learning. Direct interest refers to a learning environment that prioritizes the needs and opinions of learners, expanding the teaching-learning process with the assistance of technology and the internet. E-learning helps learners master the English language and improves the English language skills of both instructors and students. It enables L2 learners to gradually gain mastery of the English language through virtual tools (Alhumaid et al., 2020).

The author of "The Pedagogy of Technology Integration" emphasizes the significant advantages of integrating technology into teaching and learning. Instructional activities occur within a hands-on setting, and to keep up with technology integration, teachers must enhance their computer literacy, which will stimulate their knowledge and enthusiasm for learning through technology (Pavlou, 2020).

Some research asserts that Computer-Assisted Language Learning (CALL) effectively addresses Speaking Anxiety in L2 learners by utilizing the internet and

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Available online online at https://www.asjp.cerist.dz/en/Articles/155
technology. The utilization of technology is crucial in the present educational landscape. This study examines the development of speaking skills using Web-Based Language Learning, specifically focusing on the impact of websites in improving language skills among learners (Aydin et al., 2024, Karatas et al., 2020).

Anxiety is a prevalent psychological element that arises when attempting to speak or communicate in a foreign language. Using Computer-Assisted Language Learning (CALL) in conjunction with the Web-Based Language Learning (WBLL) platform can effectively alleviate Foreign Language Speaking Anxiety (FLSA). Websites facilitate the improvement and practice of speaking abilities for L2 learners, hence promoting effective communication skills (Teng, 2022). Teaching and learning English as a Foreign Language (EFL) with technology is possible in a flexible and independent manner.

Herminia N. Falsario, in her article, states that virtual classrooms not only promote active learning but also enhance self-motivation and self-learning, making teaching and learning more engaging for L2 learners (Falsario et al., 2022). Similarly, research studies confirm that Computer-Assisted Argument Mapping (CAAM) enhances language skills through visual diagrams for easy understanding among EFL learners (Robillos, 2021). Thus, language skills are developed by applying digital learning that assists in taking online classes, watching online videos, and conducting interactive sessions using digital tools. Figure 1 illustrates the benefits of technology-centered digital classrooms in a more comprehensive manner.

**Figure 1. Benefits of Digital Teaching and Learning**

Considering the above concepts, this research focuses on the incorporation of technology in language learning that involves many instructional and hands-on activities and requires higher computer literacy of teachers, which helps them to be enthusiastic about the technology used in learning. The CALL reduces Speaking Anxiety in L2 learners using the internet and technology. Specifically, using CALL and WBLL platforms reduces learners’ anxiety and improves their communication skills in the second
language. Therefore, technology is a vital component in today’s learning model, as it allows EFL learners to learn flexibly with minimal assistance from the instructor. Speaking skills are also inarguably developed and enhanced through websites, thus fetching overall language proficiency and communication.

3. Research Objectives

The present study holds the following research objectives:

- Evaluate the impact of digital teaching tools on the English language skills of first-year B.A. English Literature students in select Arts and Science Colleges of Kanyakumari District, Tamil Nadu, India. This will be achieved by comparing pre-test and post-test scores. (Combines the first objective and clarifies the use of pre-test and post-test)
- Investigate the effectiveness of digital teaching methods in improving speaking accuracy, fluency, and reducing speaking anxiety among the target population. (Focuses on specific speaking skills and the additional goal of reducing anxiety).

4. Methodology

4.1. Aim of the Study

The primary objective of this study is to enhance English language skills among EFL learners by leveraging the following digital tools:

- PowerPoint Presentations (PPT)
- Multimedia resources
- Padlet
- Edmodo

These tools serve to improve fluency and accuracy while addressing the challenge of speaking anxiety often faced by EFL learners. By incorporating these digital resources into the learning process, the study aims to facilitate language development and proficiency among the target population.

4.1.1. Research Design

The quantitative research method involves the systematic collection and analysis of numerical data, which can be gathered through various means such as questionnaires, experiments, and structured observations. In this study, the researcher utilized the questionnaire method to assess the English language proficiency of L2 learners.

Additionally, a t-test was employed to analyze the numerical data related to four virtual tools: PowerPoint presentations, multimedia, Padlet, and Edmodo. The statistical
analysis provides evidence of the effectiveness of digital teaching and learning methods in enhancing English language skills among second language learners.

4.1.2. Research Participants

The survey was conducted among a sample of 120 first-year B.A. undergraduate English Literature students. Specifically, 15 students were selected from each college affiliated with the Arts and Science Colleges in Kanyakumari District, Tamil Nadu, India. The selected colleges are as follows:

- Scott Christian College, (Autonomous) Nagercoil, Kanyakumari, Tamil Nadu, India
- Holy Cross College, (Autonomous) Nagercoil, Kanyakumari Tamil Nadu, India
- Women’s Christian College, (Autonomous) Nagercoil, Kanyakumari Tamil Nadu, India
- S. T. Hindu College, Nagercoil, (Autonomous) Kanyakumari Tamil Nadu, India
- S. T. Hindu College, Nagercoil, (Autonomous) Kanyakumari Tamil Nadu, India
- St. Alphonsa Arts and Science College, Karungal, Kanyakumari Tamil Nadu, India
- Malankara Catholic College, Mariagiri, Kanyakumari Tamil Nadu, India
- St. Jude’s College, Thoothoor, Kanyakumari Tamil Nadu, India
- St. John’s College, Ammandivilai, Kanyakumari, Tamil Nadu, India

4.1.3. Research Instrument(s)

A Questionnaire was prepared to collect data from the respondents on how L2 language skills can be enriched through digital teaching learning among L2 learners. A structured Questionnaire is tested using a pilot survey of L2 learners. The questionnaire is prepared using a Likert-Rating scale along with a nominal and rank-order scale for data scaling to solicit participant feedback to evaluate their experiences and perceptions. The questionnaire was pretested for validity using a pilot survey. The questionnaire was framed based the four areas: PowerPoint Presentation, Multimedia, Pad Let and Edmodo.

4.1.4 Data collection and Analysis

Digital Learning requires combining digital technology, digital content and instruction. Digital teaching-learning is effective in four areas: PowerPoint Presentation, Multimedia, Pad Let and Edmodo. The questionnaire was distributed to the respondents and analysed using these Virtual Tools to develop L2 learners’ Language Skills. This digital learning comprises the need for non-vocal communication and kindles learners to frame creative visual images in their minds that assist in creatively learning the content. Table 2 summarizes the frequency distribution of demographic variables in the experimental group.
Table 2.
Frequency Distribution and Percentage of Demographic Variables in the Experimental Group

<table>
<thead>
<tr>
<th>S. No</th>
<th>Demographic Variables</th>
<th>Experimental Group n=120</th>
<th>(f)(Frequency)</th>
<th>(%)(Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a) Male</td>
<td>60</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) Female</td>
<td>60</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a) 17-18</td>
<td>60</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) 18-19</td>
<td>60</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Locality of the College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a) Urban</td>
<td>60</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) Rural</td>
<td>60</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Medium of Instruction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a) Mother Tongue(Tamil/Malayalam)</td>
<td>80</td>
<td>66.67</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) English</td>
<td>40</td>
<td>33.33</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Family Type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a) Joint Family</td>
<td>30</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) Nuclear Family</td>
<td>90</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Parental Educational Qualification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a) Pass in HSC</td>
<td>55</td>
<td>45.83</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) Graduates</td>
<td>65</td>
<td>54.17</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Occupation of Parents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a) Government Employed</td>
<td>35</td>
<td>29.17</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) Self-Employed</td>
<td>85</td>
<td>70.83</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Do you listen to English news daily?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a) Yes</td>
<td>25</td>
<td>20.83</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) No</td>
<td>95</td>
<td>79.17</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Do you prefer Interactive learning?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a) Yes</td>
<td>120</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) No</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Do you prefer active learning?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a) Yes</td>
<td>120</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) No</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
For instance, students are encouraged to watch visual presentations with the support of digital tools that develop not only language skills but also upgrade the computer literacy of the learners. Karim and colleagues state in their article that Facebook helps learners post visual images and study concepts to develop English language skills and attain proficiency. Technology has become more convenient and flexible for language teachers (Karim et al., 2019).

4.1.5. Experimental Design and Procedure

The present study follows Quasi-Experimental Designs such as Pre-Test and Post-Test. Pre-test and post-test methods are non-random research methods utilised to estimate an intervention's outcomes.

In a pre-test and post-test design the rates of the participants before the intervention are measured and then re-measured after the intervention. Such an approach is useful in making comparisons determining the intervention’s effectiveness, given that corresponding data is compared within the same group over time. Due to some extraneous variables, quasi-experiments can be considered to be between true experiments and non-experiments. However, they are very helpful in educational and social research where allocating subjects into groups can be completely random. The questionnaire was distributed to 120 students of select Arts and Science Colleges to test and analyse students' language skills through digital teaching-learning. Probability Sampling Technique was employed and the results were analysed using t-test. The Pre-Test was used to gauge their English language skills, and the post-test was conducted to show improvement in their language skills (Darmajanti et al., 2022; Paradowski et al., 2023). The learners developed fluency and competency through digital learning. Interventions were given to improve language skills using digital tools such as PPT, Multimedia, Pad Let, and Edmodo. The t-test was conducted to produce results and it was analysed through SPSS (Statistical Package for Social Science). Table 3 discusses the effects of the English language learning process during the intervention process.

Table 3.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Language Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>PowerPoint Presentation</td>
</tr>
<tr>
<td>2.</td>
<td>Visual Arts</td>
</tr>
<tr>
<td>3.</td>
<td>Pad Let</td>
</tr>
<tr>
<td>4.</td>
<td>Edmodo</td>
</tr>
</tbody>
</table>
The study commenced with a pre-test on the first day, during which a questionnaire was administered to the participating students. The digital intervention, aimed at enhancing English language skills, was then implemented over the course of four days, utilizing resources such as PowerPoint presentations, multimedia, Padlet, and Edmodo.

**Day 1 “Pre-Test”:** a pre-test questionnaire was administered to assess the students' baseline English language proficiency.

**Day 2-5 “Digital Intervention”:** the digital intervention was conducted during weekdays between 10 am and 4 pm to minimize distractions and ensure optimal student performance.

**Day 2 “Listening Skills”:** students listened to poems by Robert Frost, specifically "The Road Not Taken" and "Mending Wall," using pre-recorded PowerPoint presentation slides to improve their listening skills.

**Day 3 “Speaking Skills”:** a multimedia presentation featuring animations based on the aforementioned poems was used to stimulate group discussions and enhance speaking skills. Visual aids, such as photos and graphics, were incorporated to facilitate language acquisition.

**Day 4 “Reading Skills”:** Participants engaged in newspaper reading activities to develop their reading skills. They shared online newspapers using Padlet, promoting collaborative learning.

**Day 5 “Writing Skills”:** Edmodo, a virtual learning platform, was utilized to enhance the writing skills of second language learners through graphic composition and active learning.

**Day 6 “Post-Test”:** Following the effective digital intervention, a post-test was administered to assess the impact on the L2 learners' language skills. The results demonstrated that the use of virtual tools effectively engaged students in learning language skills, developing fluency and accuracy in English.

Table 4.
Learning Literature through Virtual Tools

<table>
<thead>
<tr>
<th>S. No</th>
<th>Interventions on Language Skills</th>
<th>Using Virtual Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Listening Skills(Poem)</td>
<td>Because I Could Not Stop for Death, Mending Wall</td>
</tr>
<tr>
<td>2.</td>
<td>Speaking Skills(Poem)</td>
<td>Group Discussion</td>
</tr>
<tr>
<td>3.</td>
<td>Reading Skills</td>
<td>Reading Newspaper</td>
</tr>
<tr>
<td>4.</td>
<td>Writing Skills</td>
<td>Picture Composition</td>
</tr>
</tbody>
</table>
4.1.6. Data analysis

The Pre-Test and Post-Test data from the experimental group, comprising 120 students, were meticulously analyzed by the researcher. The following table presents the frequency and percentage distribution of English language skills among the B.A. English undergraduate students in the selected Arts and Science Colleges. Table 5 illustrates the frequency and percentage distribution of the participants based on their levels of English language proficiency within the experimental group.

Table 5.
Frequency and Percentage Distribution of English Language Skills Levels in the Experimental Group

<table>
<thead>
<tr>
<th>S. No</th>
<th>Level of Skills</th>
<th>Experimental Group (n=120)</th>
<th>Pre-test</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>(f)</td>
<td>(%)</td>
<td>(f)</td>
<td>(%)</td>
</tr>
<tr>
<td>1.</td>
<td>Good</td>
<td></td>
<td>19</td>
<td>15.83</td>
<td>91</td>
<td>75.83</td>
</tr>
<tr>
<td>2.</td>
<td>Moderate</td>
<td></td>
<td>41</td>
<td>34.17</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>3.</td>
<td>Poor</td>
<td></td>
<td>60</td>
<td>50</td>
<td>11</td>
<td>9.17</td>
</tr>
</tbody>
</table>

Table 5 presents a comparison of the Pre-Test and Post-Test results for the Experimental Group, highlighting significant changes in English language proficiency levels among the 120 participants before and after the intervention.

In the pre-test phase, the distribution of English language skills was notably skewed towards lower proficiency levels. Only 19 participants (15.83%) were classified as having good English language skills. A substantial portion, 41 participants (34.17%), demonstrated moderate skills, while the majority—60 participants (50%)—fell into the poor category. This distribution underscores a significant need for improvement among the learners.

In contrast, the post-test results reveal a dramatic shift in language skill distribution, indicating a profound positive impact from the intervention. The number of participants classified as having good language skills surged to 91 (75.83%), representing a remarkable improvement. Conversely, the number of participants with moderate skills decreased significantly to 18 (15%), and those categorized as having poor skills dropped to just 11 (9.17%).

These results strongly suggest that the intervention was highly effective in enhancing the language skills of the experimental group, with the percentage of participants achieving good proficiency increasing from 15.83% to 75%.

To test the validity of these results, a t-test statistical analysis was conducted. The data were processed using the Statistical Package for Social Science (SPSS). This
comprehensive analysis highlights the significant advancements in English language proficiency resulting from the intervention.

Table 6.
Comparison of Pre-Test and Post-Test Language Skills Among L2 Learners in the Experimental Group

<table>
<thead>
<tr>
<th>S. No</th>
<th>Experimental Group</th>
<th>Mean</th>
<th>SD</th>
<th>MD</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Pre-test</td>
<td>4.03</td>
<td>2.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Post-test</td>
<td>7.35</td>
<td>2.37</td>
<td>3.32</td>
<td>13.56</td>
</tr>
</tbody>
</table>

Degrees of Freedom (df) 119
Significant p<0.005
Critical t-value (Tash Value) 1.98

Table 6 presents a comparative analysis of language skill levels among an experimental group of second language (L2) learners, specifically examining their performance before and after an intervention, as indicated by pre-test and post-test scores. The pre-test mean score was 4.03, with a standard deviation (SD) of 2.49, reflecting the initial language skill level of the experimental group. Following the intervention, the post-test mean score significantly rose to 7.35, with an SD of 2.37, indicating a marked improvement in language skills. The mean difference (MD) of 3.32 further underscores this substantial enhancement in performance. The calculated \( t \)-value of 13.56 far exceeds the critical \( t \)-value of 1.98, demonstrating that the difference between the pre-test and post-test scores is statistically significant. With a p-value of less than 0.005, these results provide strong evidence supporting the hypothesis that the intervention positively impacted the language skills of the L2 learners. Overall, the data in Table 6 clearly illustrates a significant improvement in the language skills of L2 learners within the experimental group, as evidenced by the higher post-test scores compared to the pre-test scores. This confirms the effectiveness of the intervention in enhancing their language proficiency, supported by robust statistical significance.

5. Results

The present study employs a self-analysis approach through the administration of a questionnaire to conduct Pre-Tests and Post-Tests. This methodology aims to assess the English language skills of second language (L2) learners in select Arts and Science
Colleges located in Kanyakumari District. The collected data are analyzed, presented, and divided into the following three sections:

5.1 Description of Participants Characteristics

The study involved a sample of 120 students from the Experimental Group at various Arts and Science Colleges. Comprehensive demographic data were collected, encompassing factors such as gender, age, locality of the college, medium of instruction, parental occupation, family type, and parental educational qualifications. This information is illustrated in Figure 2, providing a detailed overview of the participants' backgrounds.

![Graph](image)

**Figure 2.** Demographic Variables of the Participants in the Experimental Group

The data presented in Figure 2 provides a comprehensive overview of the demographic characteristics of the respondents. The sample comprises an equal distribution of gender, with 50% male and 50% female participants.

*Age Distribution:* in terms of age, 60% of participants fall within the 17-18 year age group, while the remaining 40% are in the 18-19 year age category.

*Geographic Background:* Geographically, the respondents are evenly split, with 50% residing in urban areas and 50% in rural areas.

*Medium of Instruction:* regarding the medium of instruction, 66.67% of participants are educated in their mother tongue, while 33.33% receive instruction in English.
Family Structure: the family structure of the participants reveals that 25% come from joint families, whereas a significant majority, 75%, belong to nuclear families.

Parental Education and Occupation: regarding parental education, 45.83% of respondents' parents have completed their education up to the 12th grade, while 54.17% are graduates. In terms of occupation, 29.17% of parents are employed as government servants, while the majority, 70.83%, are self-employed.

This demographic information provides valuable context for understanding the participants' backgrounds and potential influences on their language learning experiences.

4.2 Comparison and Distribution of participants' Level of English Knowledge

Based on the analysis, Figure 3 shows the Pre-Test and Post-Test levels of English language Skills (Listening, Speaking, Reading, and Writing) among the Experimental Group (120 samples).

Figure 3. Comparison and Distribution of Learners English Language Skills

Figure 3 illustrates the distribution of English language proficiency among the 120 students in the Experimental Group based on the Pre-Test results. Specifically, 15.83% of the participants demonstrated good knowledge of English, 34.17% exhibited a moderate level of proficiency, while 50% were classified as having poor knowledge.

In contrast, the Post-Test analysis reveals a significant improvement in language proficiency. Following the intervention, 71.83% of participants achieved good knowledge of English, 15% maintained a moderate level, and only 9.17% were identified as having poor English language skills. This shift highlights the positive impact of the intervention on the students' language development.
5.1.3. Comparison and Analysis of Test Levels among the Experimental Group

In the experimental group, the mean pre-test score was 403, with a standard deviation of 249. In contrast, the mean post-test score increased to 7.35, with a standard deviation of 2.37. The mean difference between the pre-test and post-test scores was 3.32. The calculated t-value was 13.56, while the critical t-value was 1.98, indicating that the differences observed are statistically significant (p < 0.005).

These results demonstrate that the intervention has been highly effective in enhancing English language proficiency among B.A. English Literature students in Kanyakumari District. This effectiveness is illustrated in Figure 4.

![Test Analysis](image)

**Figure 4.** Test Analysis among the Experimental Group Learners

5.1.1 Association of Values for Post-Test among the Experimental Group

The final analysis employs the chi-square test to determine the association between English language proficiency levels and demographic variables among the B.A. English Literature students in the Experimental Group. The results indicate that there is no significant association (p > 0.005) between these factors. The findings are presented in Figure 5, which provides a visual representation of the relationship between English knowledge levels and demographic characteristics within the Experimental Group.
6. Conclusion and Recommendations

Developing language skills among EFL learners presents significant challenges, particularly within the educational sector. The integration of digital technology in teaching and learning environments fosters practical and active engagement among EFL students. Research indicates that Communicative Language Teaching (CLT) effectively enhances speaking skills and promotes innovative competencies among L2 learners.

This investigation aims to deepen our understanding of how digital teaching methods can effectively improve students' English language skills, focusing on selected Arts and Science Colleges in Kanyakumari District, Tamil Nadu. The findings underscore the effectiveness of this approach in enhancing student learning outcomes while highlighting the importance of considering various factors in the design of effective digital learning environments.

The significant improvements observed across all areas of learning indicate the positive impact of the intervention. Utilizing visual arts through animation and imagery encourages both teachers and learners to acquire new vocabulary, thereby enhancing L2 teaching and learning. Tools such as Microsoft PowerPoint, Padlet, and Edmodo are particularly effective in boosting language proficiency among EFL learners in India. These resources facilitate a rich vocabulary context that supports effective and rapid communication.

Moreover, blended learning approaches, which combine traditional classroom instruction with distance education, have proven effective in fostering positive learning experiences and generating valuable feedback. The use of innovative technologies makes learning more active and interactive, contributing to a seamless flow of communication and enhancing language competencies.
Digital technologies that leverage virtual environments significantly contribute to the development of both productive and receptive English language skills. In conclusion, the integration of interactive technologies in teaching and learning processes plays a crucial role in advancing English language development among EFL learners, offering promising opportunities in literature, arts, and humanities.

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Authors’ Biodata
Francis Joice Guvin Felcida completed her Master of Philosophy in Bharathidasan University, Tamil Nadu, India. She is currently pursuing Ph.D in English from Department of English, Noorul Islam Centre for Higher Education, India. Her research work focuses on English Language Teaching. The author shows her keen interest in enhancing in improving second language (English) among the L2 learners through modern technologies.

Dr. Deepa Parameswaran is a distinguished academician and researcher in the Department of English at Noorul Islam Center for Higher Education, India. She holds a Ph.D. in English, where her research focused on innovative methods in language acquisition and the integration of technology in education. Dr. Deepa has published numerous research papers in reputable journals, emphasizes the importance of adaptive learning environments and the use of virtual tools to create engaging and effective educational experiences. She is highly regarded for her teaching excellence and her ability to inspire students through interactive and student-centered learning approaches. Dr. Deepa's contributions to the field of English education extend beyond her institution, as she actively participates in national and international conferences, workshops, and collaborative projects.

Authors’ contributions
Francis Joice Guvin Felcida contributed to this study through her in-depth research on the subject. Her role involved designing and implementing the methodology used for evaluating the effectiveness of various digital teaching platforms in enhancing language skills. Her contributions encompassed conducting a comprehensive literature review to uncover existing gaps in research and leading the data collection phase.

Dr. Deepa Parameswaran focused on the analytical components of the study by contributing to the methodological design and the interpretation of data. She interpreted the collected data to establish correlations between digital tool use and language skill improvement. Her expertise was essential for drawing meaningful conclusions from the study.

Declaration of conflicting interest
The authors declared they have no competing financial or personal relationships that could have appeared to influence the work reported in this paper. They also declared no conflicts of interest with respect to the research, authorship, and/or publication of the article.