

AN EXPERIMENTAL STUDY ON DEVELOPING COMPETENCY OF STUDENTS AMONG L2 LEARNERS THROUGH HYBRID TEACHING LEARNING IN THE SELECT ENGINEERING COLLEGES

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ABSTRACT

Developing competency of students among L2 learners' through hybrid teaching learning is a promising educational technique combining direct instruction with e-learning tools, aiming to enhance language proficiency and capabilities. Usage of hybrid teaching learning fosters a dynamic and learner-centered environment that supports the development of students' language abilities and prepares them for success in an increasingly digital and interconnected world. This experimental study aimed to investigate the development of students' competency in English through hybrid teaching learning in select Engineering colleges in Kanyakumari District. The study aimed to enhance learning activities, promote active learning, and improve English language teaching through the integration of technology and online tools. Descriptive and inferential statistics were employed to analyze the data collected from the participating colleges. The descriptive analysis disclosed that pupils had favorable insights and experiences in the areas of Face-to-Face Learning, Google Classroom, Podcasts and Blogs. The t-tests and ANOVA, showed significant improvements in students' competency in English after the hybrid teaching learning intervention. The hybrid approach was found to be effective in developing students' competency in English across different groups and colleges. The study contributes to the existing literature on hybrid teaching learning and offers useful guidance for instructors and policymakers in enhancing English language teaching practices in higher education institutions.

Keywords: Hybrid teaching learning, Competency development, English language, Online tools, Active Learning

INTRODUCTION

Technological advancements and innovations are rapidly progressing, necessitating both educators and students to adapt to disruptive educational technologies and adjust their learning strategies accordingly (Pheeraphan *et al.*, 2013, Chaiyama *et al.*, 2019). In order to address the emergence of digital innovations, it is imperative to provide lifelong learning opportunities and adaptable learning approaches that embrace innovation and digital technology. Consequently, fostering the skill of creativity becomes crucial for students. The conventional lecture-based teaching style has given way to engaging educational methodologies, where learners engage fully in class and are provided with options to develop their creativity and inventiveness. Hybrid learning refers to a teaching and learning method that incorporates current technology and educational innovations to facilitate interactions between students and instructors in the classroom (Saliba *et al.*, 2021). It encompasses various educational approaches, such as digital learning and online self-study, combined with active engagement in face-to-face classroom settings. In this context, instructors play a role as coaches, assisting learners in their individual learning journeys (Chularat *et al.*, 2018). Figure 1 shows the timeline of hybrid learning.

The hybrid approach, combining remote and in-person teaching, has proven to be highly successful, unlike fully online models. The online learning market has witnessed significant growth since its inception and is projected to reach \$325 billion by 2025, with a 200% increase from 2020 to 2025. More than 90% of nations have embraced digital e-learning, with 60% of preschools partaking. In higher education, 21% of colleges have implemented a hybrid model. Students have shown high satisfaction with online education, with 95% expressing contentment and acknowledging that web-based learning is enjoyable and facilitates faster information retention.

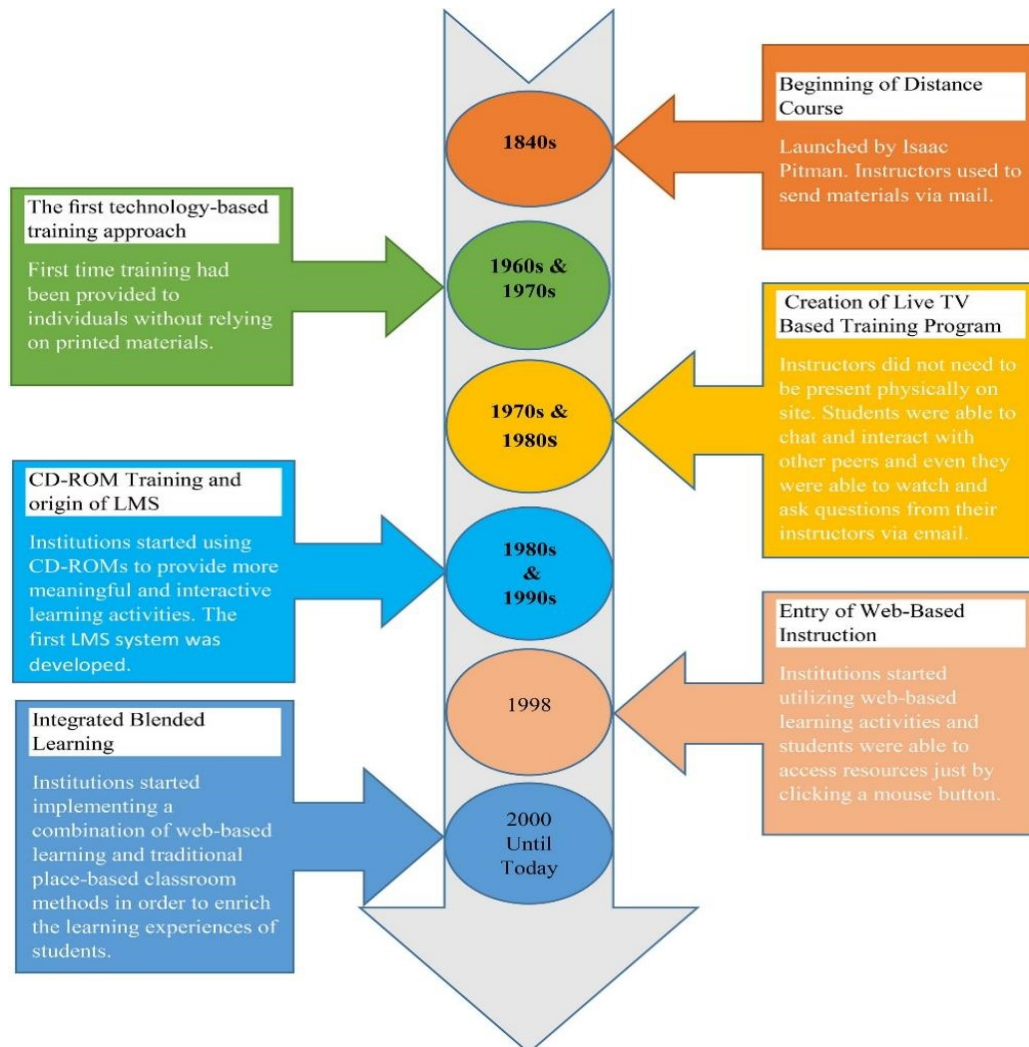


Fig. 1: Timeline of Hybrid learning

Moreover, e-learning saves considerable time, taking employees and students 40% to 60% less time than traditional learning methods. Student retention rates are also higher, increasing by 25% to 60% with online learning. Interestingly, up to 82% of students prefer hybrid learning environments over traditional ones, and 53% even intend to study fully online post-pandemic. Hybrid learning models have been found to enhance student motivation and engagement, as reported by 59% of students and 73% of teachers. Furthermore,

teachers show openness to hybrid learning, with 94% indicating their support when provided with appropriate resources, curriculum, and support. Livestreaming classrooms for homesick students are also favored by 60% of teachers. It is worth noting that online learning significantly reduces energy consumption (by 90%) and carbon dioxide emissions (by 85%) compared to traditional classrooms. This preference for hybrid learning is shared by 85% of parents who want the option for their homesick children to join class virtually. While 27% of institutions continued with fully face-to-face learning, the benefits and popularity of hybrid learning have become evident across various educational settings [21]. The study aims to focus on the following research objectives.

- To develop the standard of the current education using technology and online tools.
- To promote Hybrid Teaching and Learning among students in Arts & Science Colleges
- To enhance learning activities and develop the creativity of the learner.
- To move towards an advanced mode of learning using Hybrid Learning in which students learn through activities
- To develop second language through technology-based learning.
- To develop computer literacy of the learners.
- To enable independent and flexible learning through the support of internet
- To promote active learning by conducting online and offline classes simultaneously through technology.
- To grasp learner's attention and enhances English language teaching.
- To bring a challenge to present Online Learning due to the pandemic and to change it into Hybrid mode of Teaching and Learning.

LITERATURE SURVEY

Numerous investigations have looked into effects of hybrid learning affects on educational outcomes in higher education contexts, revealing that hybrid learning yields greater improvements in learner performance compared to fully online or traditional face-to-face instruction. However, majority of this research has focused on fields such as mathematics, health sciences, and natural sciences, with limited attention given to assessing learning outcomes specifically for second language learners. A notable exception is the study by Jee and O'Connor (Jee *et al.*, 2024) which demonstrated the positive effects of hybrid learning on language learning outcomes. The implementation of hybrid learning has significantly transformed the teaching and learning process, and its benefits have attracted the interest of curriculum implementers who have embraced this approach (Handayani *et al.*, 2020). Hybrid learning has been defined by various authors, although there is a shared understanding that it involves the combination of face-to-face instruction and online learning. In academic and corporate settings alike, the term "hybrid learning" has gained popularity, referring to instructional systems that integrate face-to-face teaching with computer-assisted teaching (Bonk *et al.*, 2012).

Three frequently used definitions of hybrid learning are discernible, according to Bonk and Graham (Bonk *et al.*, 2012). These definitions refer to the blending of teaching modalities or delivery medium, instructional methodologies, and online and in-person instruction. Graham Graham *et al.*, 2013) draws the conclusion that hybrid educational systems combine in-person instruction with computer-mediated training and provides additional justification for these criteria. The terms "hybrid learning" and "blended learning" are frequently applied interchangeably and have gained popularity in both corporate and higher education settings (Klimova *et al.*, 2015). While hybrid courses are similar to blended courses, they differ in that the online components of hybrid courses are designed to supplement face-to-face class

time. As defined by Littlejohn and Pegler (Littlejohn *et al.*, 2007), hybrid learning consists of merging conventional methods of instruction with online strategies. (Harmer *et al.*, 2012) defines hybrid learning as a strategy where students supplement information obtained from materials such as coursebooks with additional materials and websites available on the internet. In the context of the current technological era, hybrid e-learning combines traditional and digital learning to accommodate the advancements brought by the Fourth Industrial Revolution (Syam *et al.*, 2019). Consequently, hybrid learning has become a widely implemented instructional approach worldwide.

PLANNING FOR SUCCESSFUL TEACHING AND LEARNING

The learning experience, with a focus on student engagement, is influenced by the surrounding context. Carvalho and Goodyear (Goodyear *et al.*, 2014) and (Goodyear *et al.*, 2021) who developed the activity-centered analysis and design (ACAD) framework, share this viewpoint. Previous studies have provided evidence on the importance of designing learning environments and providing suitable tools for effective learning (Carvalho *et al.*, 2020). The ACAD framework acknowledges the significance of the physical, epistemic, and social aspects of learning and categorizes them as set, epistemic, and social design. Set design pertains to the specific tools, artifacts, and learning spaces used to support teaching and learning. Epistemic design relates to the tasks or activities assigned to students to facilitate learning, while social design concerns the formation of groups, networks, and communities. The ACAD framework has been previously applied to examine emerging learning activities in online and physical settings for networked learning. In this study, the framework will be employed to describe the design of two synchronous hybrid learning practices and evaluate the resulting student outcomes within these novel settings.

Scholarly investigations in the field of hybrid education emphasize the

significance of visual and audible cues, typically available to on-site students, in influencing the learning and teaching experience (Weitze *et al.*, 2016). To address the absence of these cues and minimize the perceived sense of distance, it has been recommended that teachers incorporate regular pauses for questions during lectures and demonstrate attentiveness to student responses (Heilporn *et al.*, 2020, McGovern *et al.*, 2009). Furthermore, it is crucial for students participating in remote classes to have access to the same audio quality as their peers in physical classrooms, as audio has been identified as a key determinant of success (Bower *et al.*, 2015, Cunningham *et al.*, 2014). (Irvine *et al.*, 2013) discovered that synchronous hybrid tools that replicate face-to-face interactions assist students in maintaining closer connections with their peers. Consequently, in addition to prioritizing audio quality, the attainment of satisfactory video quality and optimal framing of the teacher presents challenges in the design of hybrid learning environments.

According to Nuangchalem *et al.*, (2020) the implementation of hybrid instruction and peer mentoring has demonstrated that students possess high innovation skills. Notably, their collaborative planning abilities were found to be particularly strong. The utilization of hybrid instruction and peer mentoring promotes online collaboration, interaction, joint planning for innovation, and the incorporation of various technologies, making it a contemporary approach in education, research, and learning. The provision of advice, feedback, and reflection within the peer coaching process contributed to the development of effective group-planning capabilities among students. Furthermore, the continuous guidance, discussion, and contemplation among both the teacher and learners and between the learners themselves fostered the generation of ideas characterized by interesting novelty and modernity.

Chantem *et al.*, (2010) highlighted the benefits of hybrid learning, which include fostering learner autonomy, improving communication skills, facilitating interaction among educators and pupils, as well as between students themselves. Additionally, hybrid learning enables learners to enhance

their innovation by utilizing contemporary technologies in research to access resources for learning beyond the confines of the traditional classroom setting. Patterns of hybrid learning and mentoring by peers are educational techniques that aim to promote students' engagement with technology and utilize techniques such as program use, while also providing feedback from instructors and peers (Nuangchalerms *et al.*, 2020). These approaches empower students to harness technology for various innovative purposes and foster a positive attitude towards information technology, thereby positively impacting their performance in technology-related tasks (Wisetsat *et al.*, 2019). In a similar vein, Britton *et al.*, 2010) conducted a study on peer coaching among teachers prior to their employment, finding that peer coaching facilitated the application of professional experiences and helped enhance their instruction practices. Additionally, Chimthongdee *et al.*, 2012) investigated teachers' levels of creativity and innovation based on the size of their schools and the grade levels they taught, finding that rewards for creativity and collaboration had a favorable impact on teachers' levels of innovation (Nuangchalerms *et al.*, 2017).)

Patmanthara *et al.*, (2018) underscored the importance of equipping vocational students with digital literacy skills to prepare them for future professional roles. They proposed the adoption of the Hybrid Learning paradigm that integrates conventional in-person training with online learning, as a means to enhance students' digital literacy skills. Digital literacy encompasses the potential to effectively navigate and analyze information, create and share web content, engage in online communication, and utilize digital technologies proficiently. Developing students' digital literacy is crucial as it empowers them to utilize digital technology competently in academic, professional, and everyday contexts. A key aspect of fostering digital literacy involves teaching students effective internet search strategies (Ng *et al.*, 2015). Birbal *et al.*, 2018) further suggested that when students and teachers recognize the potential of Hybrid Learning to enhance learning outcomes, promote efficiency, and facilitate

meaningful interactions with peers and instructors, they are more likely to accept and be satisfied with this approach.

THE IMPACT OF HYBRID LEARNING ON LEARNERS

According to Martinsen *et al.*, (2017), hybrid learning deployment can raise student success and engagement. However, it is vital to create digital content that encourages critical thinking, takes into consideration the learning styles of pupils, and permits adaptable guidance from instructors to deal with any potential technological challenges. Previous research has demonstrated that student motivation and engagement with technology play significant roles in their learning experiences. Students have expressed positive views towards learning with technology, finding it interesting, enjoyable, and motivating. Encouraging student motivation and engagement involves moving beyond surface learning and promoting deeper learning approaches that cultivate interest and foster a comprehensive understanding through the integration of knowledge (Moyle *et al.*, 2011).

Syarif and Sofyan (Syarif *et al.*, 2012) conducted a study that demonstrated a noteworthy distinction in learning motivation and accomplishment among pupils who utilized face-to-face learning and those who adopted the Hybrid Learning model. The implementation of the Hybrid Learning model resulted in notable improvements in learning motivation and achievement. Students' positive attitudes toward hybrid learning contributed to increased enthusiasm and active participation in the learning process. This, in turn, fostered a greater sense of responsibility and eagerness to engage in learning. Similar findings were reported by Ferguson and Simon (Ferguson *et al.*, 2011), who emphasized that hybrid learning integrates conventional teaching techniques alongside electronic media. Chandra and Briskey (Chandra *et al.*, 2010) also discovered that secondary math and science students exhibited a clear understanding of their learning experiences with the hybrid method, contributing to improved academic performance and greater engagement among pupils. Furthermore,

Swarat *et al.*, 2012) asserted that active student engagement facilitated by technology is a crucial aspect of education.

According to Graham (Graham *et al.*, 2013), the concept of hybrid learning facilitates learners' efficiency in acquiring knowledge and accessing resources. the adoption of hybrid learning approaches has resulted in improved learning outcomes, thereby influencing various teaching strategies such as learning that is fostered by collaboration, peer interaction, and learner involvement. This particular study was conducted using an online-learning environment, with a specific emphasis on fostering interactive engagement among instructors and students. The study emphasizes the importance of students' active participation in planning and collaboration, fostering a collaborative environment where students observe and learn from one another, while sharing reflective knowledge to achieve their academic objectives. For undergraduate students, hybrid learning has been found to enhance accomplishment in learning and promote better comprehension of what was taught (Nachairi *et al.*, 2014, Plailek *et al.*, 2024). Their findings indicate that learners exhibit an enhanced degree of performance in visual learning and knowledge acquisition. Additionally, Piyasri Plailek *et al.*, (2022) proposes that coaching serves as a means of mentoring, providing recommendations, encouraging reflective thinking, and sharing information. Furthermore, Thamaisuk (Pongsak *et al.*, 2020) discovered that students' average scores in mathematics learning increased after the intervention compared to before the intervention.

Lungu *et al.*, 2013 suggests that Hybrid Learning facilitates faster and more effective student learning by allowing them to progress at their own pace based on individual interests and needs. Additionally, Kırkgöz and Dikilitaş (Kırkgöz *et al.*, 2018) highlights that Hybrid Learning provides teachers with more time to utilize the diverse resources available in the classroom, enabling them to create engaging and impactful lessons. The integration of independent and student-centered learning with teacher guidance in hybrid learning approaches has been found to promote student motivation and support their

English language learning objectives (Basri *et al.*, 2020). These findings underscore the benefits of hybrid learning in enhancing both student learning outcomes and teacher effectiveness.

MATERIAL AND METHODS

The following hypotheses can be put up in light of the study's goals:

- 1) Hybrid teaching learning will significantly enhance the competency of students in English compared to traditional teaching methods.
- 2) Hybrid teaching learning will significantly improve the creativity and learning activities of the students compared to traditional teaching methods.
- 3) Hybrid teaching learning will significantly improve the computer literacy of the students compared to traditional teaching methods.
- 4) Hybrid teaching learning will significantly promote independent and flexible learning among the students compared to traditional teaching methods.
- 5) Hybrid teaching learning will significantly improve the English language teaching and grasp the learner's attention compared to traditional teaching methods.
- 6) Hybrid teaching learning will significantly improve the academic ability of the students compared to traditional teaching methods.

The quantitative research method was followed to analyze the benefits of using technology embedded teaching learning for the 12 learners.. An experimental study was done by conducting pre-test and post-test. Additionally t-test and ANOVA was done using Statistical Package for Social Sciences (SPSS) based on the four technology tools to be followed in the classroom to improve the 12 learners English language competency. The four technology tools are

1. Face-to-Face Learning

2. Google Classroom
3. Podcasts
4. Blog

The survey was conducted to first year under graduate engineering students comprising of

120 respondents. Specifically, 10 students from each colleges in taken for study. The researcher took 12 engineering Colleges in Coimbatore, Tamil Nadu, India. The selected colleges are as follows. The data of the respondents was gathered using a questionnaire as the study tool. The questionnaire consisted of items related to the four areas of assessment: Face- to-Face Learning, Google Classroom, Podcasts, and Interactive Whiteboards. The questionnaire was administered to the students after they completed their hybrid teaching and learning sessions. A five point Likert Scale was used to solicit feedback from the participants for an evaluation of their experiences and perceptions.

- 1) PSG College of Engineering and Technology
- 2) Kumagruru College of Engineering and Technology
- 3) Karpagam College of Engineering
- 4) SNS College of Engineering
- 5) Coimbatore Institute of Engineering and Technology
- 6) Sri Eshwar College of Engineering
- 7) Sri Ramakrishna College of Engineering
- 8) Sri Sai Ranganathan Engineering College
- 9) Sri Sakthi Institute of Engineering and Technology
- 10) Kathir College of Engineering
- 11) KPR Institute of Engineering and Technology
- 12) Park College of Engineering

The questionnaire was framed comprising of 10 questions based on the

technology enabled teaching learning for the 12 learners. It followed 5 point Likert Scale system. Grading scale system was followed to analyze the desired results. Quasi Experimental study was done to test the learners' interest in practicing technology to follow in classroom for developing 12 learners' competency. A pilot survey was done by conducting pre-test and intervention was given using the four virtual tools like Face-to—Face Learning, Google Classroom, Podcasts, Blog. After the successful intervention which was done for a period of thirty days. The learners are interested to follow technology embedded teaching atmosphere for the effectiveness in Education.

The current study follows Quasi-Experimental Designs such as Pre-Test and Post Test. Pre- test and post-test methods are non-random research methods which is followed to analyse the intervention's outcomes. By using the pre-test and post-test, interventions connect the participants to produce the positive outcomes from the learners. Interventions support to develop learners competency, vocabulary, fluency and pronunciation which are the necessary for attaining mastery over the English language. Interventions was given to one single experimental group comprises of 120 respondents for a period of 4 weeks (28 days). The study was conducted for 30 days to analyse the engineering students' competency over English language. It is done with the assistance of technology by placing virtual tools in the language classroom. The four tools Face- to- Face Learning, Google Classroom, Podcasts and Blog are used to develop the learners Vocabulary, Fluency, Pronunciation and syntax of the English language. The Table 1 shows the virtual tools to attain competency over the language.

Intervention was done by William Shakespeare four plays for period of four week. Each play is discussed and taught using the virtual tools for one week. It helps the 12 learners to develop the competency through the virtual tools which are practiced by teachers and students for effective teaching and learning.

Day-1 – On the initial first day, the questionnaire was distributed to 120 respondents to analyse the previous knowledge and interest of 12 learners to

develop the competency of the English language.

Day 2-8 – The first week, classroom teaching is enabled for 1 week with technology to teach the play ‘Macbeth which reveals about the pride of the eponymous character Macbeth. Learners are given time to discuss about the play. Role play is practiced inside the classroom to listen to various dialogues to grasp the language mastery to reach competency of the English language.

Table 1: Components of English Language

S. No.	Virtual Tools	Components of English Language
1.	Face- to- Face Learning	Vocabulary
2.	Google Classroom	Fluency
3.	Podcasts	Pronunciation
4.	Blog	Syntax

Day 9-15- the second week. Google Classroom was created by the instructor and the 120 respondents were added over there. The second play ‘Othello’ was taught to the learners in a deep way. The movie of ‘Othello’ was displayed to the learners with English Subtitles that assist to develop Fluency, vocabulary, pronunciation and syntax over the second language. Movie was posted in Google Classroom for the future use. Reviews were collected from the respondents in English language which improves the syntax of the English language.

Day 16-22- The third week, podcasts tool was implemented to the respondents. The third play ‘Hamlet’ was shown to the learners. Here, dialogues are played through audios which improves the listening skill of the learners. The respondents listen to the way the dialogues are pronounced which in turn develop vocabulary and fluency of the English language. Day 23-29- The

fourth week, Blog was created for all 120 respondents by the instructor. The final play 'As You Like It' was displayed to the learners. Interactive session was conducted between teacher and the student and was posted in the blog. Learners responded to the comments in the blog box. It helps to remove anxiety in speaking and develops written vocabulary. It promotes fluency and language accuracy which paves way to attain vibrant competency in English. Day- 30- On the successful intervention, the questionnaire was distributed to 120 experimental group respondents. It shows massive changes in promoting competency in English. The Table 2 shows the intervention that taken place to achieve language competency.

Table 2: Techniques Used in Intervention

S. No	Shakespeare Plays	Techniques used in Intervention
1.	Macbeth	Role Play
2.	Hamlet	Writing Movie Reviews
3.	Othello	Listening to Dialogues
4.	As You Like It	Interactive sessions

RESULTS AND DISCUSSION

Competency develops vocabulary, fluency, pronunciation and syntax. It is done with technology embedded teaching learning which is followed in language classroom. Anxiety is removed by using virtual tools in improving English Language Teaching. Analysis was done using independent and dependent variables. The Table 3 shows the Demographic analysis of the independent variables.

Table 3: Demographic Variables of Independent Variables

S. No.	Demographic Variables		Frequency (f)	Percentage (%)
1.	Gender	Male	60	50
		Female	60	50
2.	Age	19-20	60	50
		21-22	60	50
3.	Locality of College	Urban	60	50
		Rural	60	50
4.	Medium of Instruction	Tamil	82	68.33
		English	38	31.67
5.	Family Type	Joint Family	28	23.33
		Neutral	92	76.67
6.	Parental Educational Qualification	Literate	50	41.67
		Illiterate	70	58.33
7.	Parent's Occupation	Government Employee	40	33.33
		Self- Employee	80	66.67
8.	Do you read English newspaper?	Yes	30	25
		No	90	75
9.	Do you like practical learning?	Yes	120	100
		No	0	0
10.	Do you prefer smart classroom?	Yes	120	100
		No	0	0

The table 4 discusses about the frequency distribution of the area Face-to-Face learning. The table provided reflects a pre-test and post-test analysis of

learning outcomes under a face-to-face learning setting, categorized into three performance levels: Good, Moderate, and Poor. Pre-Test results shows Good: Before the intervention, 17 individuals (14.16%) exhibited a "Good" level of learning performance. This represents a relatively small portion of the group, Moderate: A significant 43 individuals (35.83%) were at a "Moderate" performance level, indicating that more than a third of the participants had average learning outcomes and Poor: The majority, 60 individuals (50%), fell under the "Poor" category, indicating substantial room for improvement before the learning intervention.

Table 4. Frequency Distribution on Face-to-Face Learning

Face-to-Face Learning	Pre- Test		Post- Test	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Good	17	14.16	94	78.33
Moderate	43	35.83	16	13.33
Poor	60	50	10	9.33

Post-Test results shows Good: After the intervention, the number of participants achieving a "Good" level rose dramatically to 94 (78.33%), suggesting a significant improvement in learning outcomes, Moderate: The number of participants in the "Moderate" category dropped to 16 (13.33%), reflecting an upward shift in performance levels and Poor: Only 10 individuals (9.33%) remained in the "Poor" category, showing a substantial reduction in underperforming learners. The data indicates that the face-to-face learning intervention effectively improved performance levels. A majority transitioned from "Moderate" or "Poor" performance pre- test to "Good" performance post- test, highlighting the intervention's success in fostering better learning outcomes.

Figure 2 provides a statistical analysis of an experimental group participating in face-to-face learning, comparing their performance on a pre-test and a post-test. The p-value is less than 0.005, indicating a statistically significant difference between the pre-test and post-test scores. The calculated ttt-value (14.8314.8314.83) is much greater than the critical table value (1.981.981.98) at the given level of significance, further confirming the result. The results demonstrate a statistically significant improvement in performance from the pre-test to the post-test for the experimental group. This suggests that the face-to-face learning method had a positive effect on learning outcomes. The low p-value and high ttt-value provide strong evidence that the observed changes are unlikely to be due to chance.

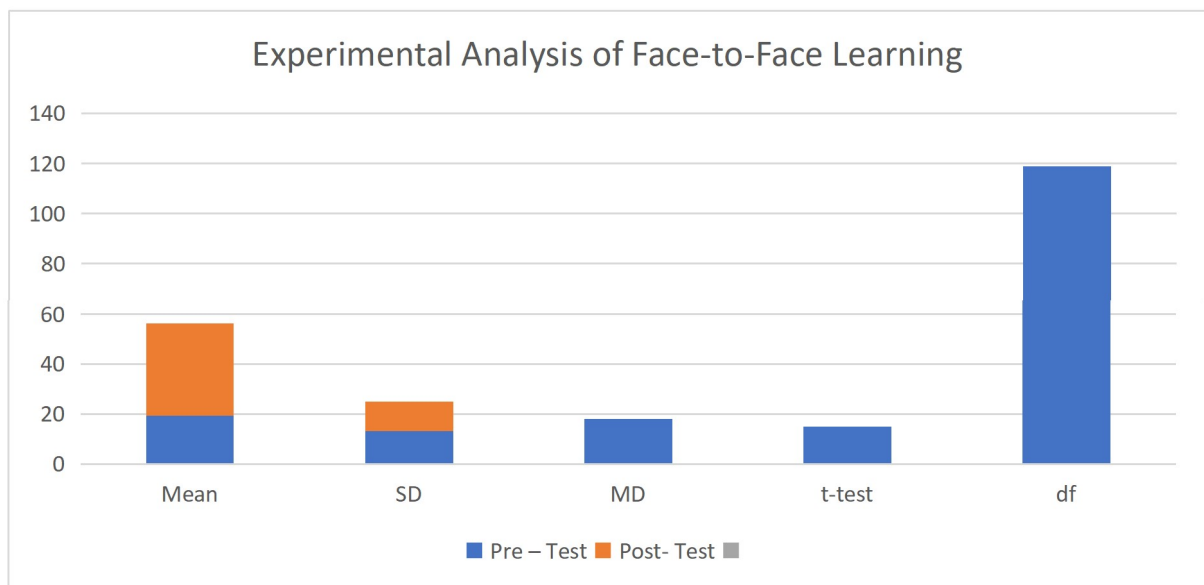


Fig 2: Experimental Analysis of Face-to-Face Learning

The Figure 3 provides statistical results for a study comparing the pre-test and post-test performance of an experimental group using Google Classroom. The t-value is 12.90, which is compared to the table value of 1.98 at a specific degree of freedom ($df = 119$) and significance level ($p < 0.005$). Since the

calculated t-value (12.90) is much greater than the table value (1.98), the result is statistically significant. The significance level ($p < 0.005$) indicates strong evidence that the observed improvement in the post-test scores is not due to chance but rather due to the intervention (Google Classroom). The results show a statistically significant improvement in the experimental group's performance after using Google Classroom, highlighting its effectiveness in enhancing learning outcomes

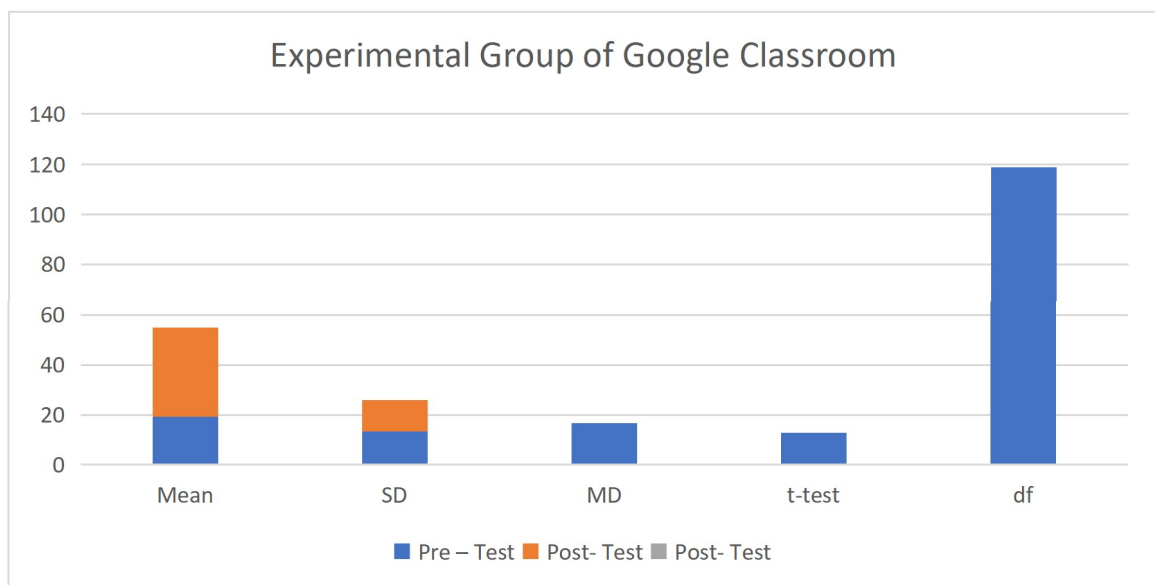


Fig 3: Experimental Analysis of Google Classroom

The Figure 4 represents an experimental analysis of the impact of using a tool (possibly podcasts) on an experimental group. The t-test value is 14.58. A t-test checks if the difference between the two means is statistically significant. This high value suggests a significant difference between Pre-Test and Post-Test scores. The analysis shows $p < 0.005$ (less than 0.005), meaning the results are statistically significant. The observed improvement in performance is unlikely due to chance. A value of 1.98 serves as the critical value for significance testing at a specified confidence level (likely 95%). Since the calculated t-value (14.58) exceeds this table value, it further confirms the statistical significance. The analysis reveals a statistically significant

improvement in the performance of the experimental group after using the tool (podcasts). The high t-test value and p-value (<0.005) strongly support the effectiveness of the intervention. The results suggest that podcasts might be a highly effective method for improving outcomes in the measured context.

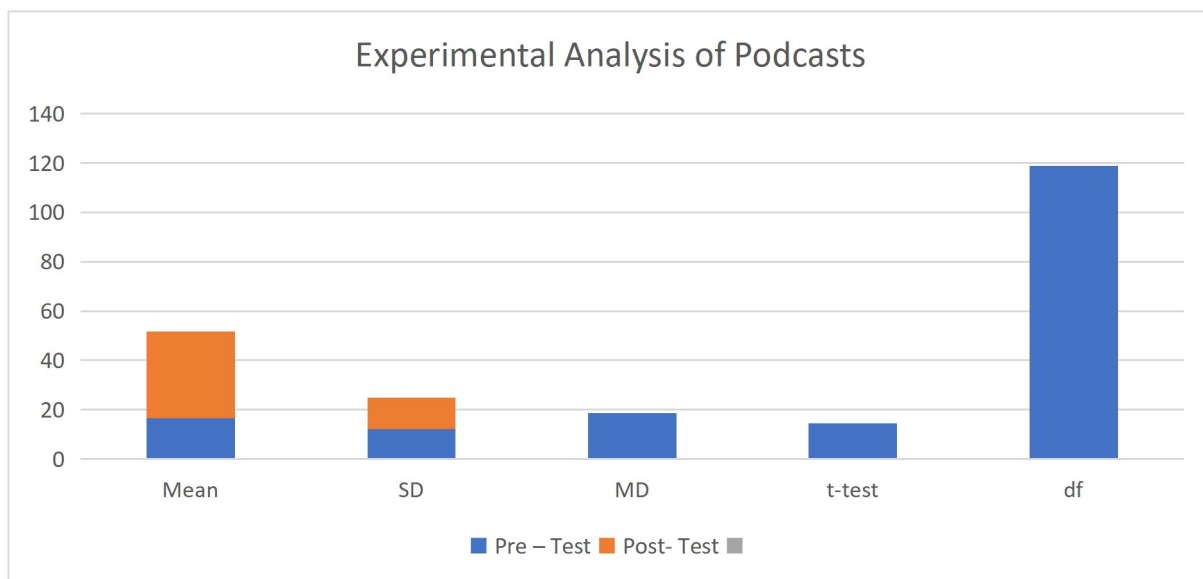


Fig 4: Experimental Analysis of Podcasts

The Figure 5 summarize the results of experimental group exposed to a virtual tool called Blog. The number of values in the final calculation of a statistic that are free to vary. Here, $df=119$, 14.89 is the calculated value from the t-test used to assess the statistical significance of the mean difference. The $p<0.005$, since the p-value is less than 0.005 and the calculated t-value (14.89) is much higher than the table value (1.98), the improvement in scores is statistically significant. The analysis demonstrates that the virtual tool Blog significantly improved the participants' performance from the pre-test to the post-test. The increase in mean scores and the high t-test value validate the effectiveness of the tool

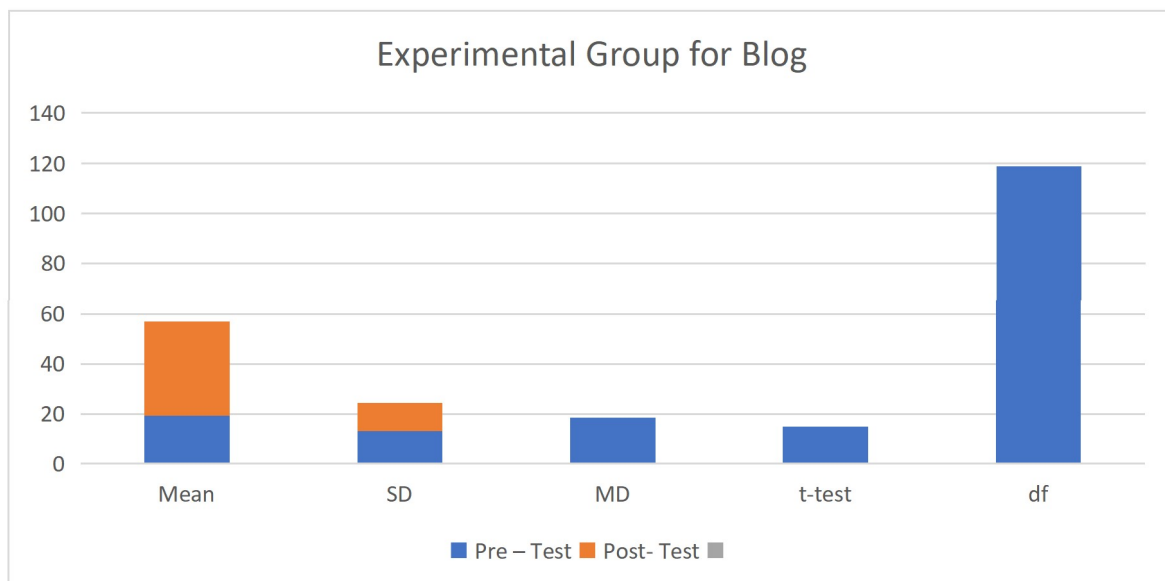


Fig 5: Experimental Group of Blog

In Table 5, the $p=0.34$ which is higher than the typical significance level ($\alpha=0.05$). A low F-value of 1.10 suggests that the variability between groups is not substantially greater than the variability within groups. Since $p>0.05$, there is no statistically significant difference between the group means. The differences between the group means are not sufficient to reject the null hypothesis. The data do not provide strong evidence that the groups are different from one another in a statistically significant way.

The study conducted an analysis of the gathered data employing both descriptive and inferential statistics to examine the development of students' competency among L2 learners through hybrid teaching learning in select Engineering Colleges in Kanyakumari District. Peer coaching has emerged as a noteworthy methodology within hybrid learning, aiming to support students in developing desirable learning characteristics. It involves peers mentoring one another to foster collaboration and enhance new skills or knowledge acquisition (Intasena *et al.*, 2022). Additionally, Kırkgöz and Dikilitaş

(Kırkgöz *et al.*, 2018) highlights that Hybrid Learning provides teachers with more time to utilize the diverse resources available in the classroom, enabling them to create engaging and impactful lessons.

Table 5: ANOVA Analysis of the Experimental Group

Source of Variation	SS	df	MS	F-value	p-value
Between Groups	482.70	3	160.90	1.10	0.34
Within Groups	69148.82	476	145.27		
Total	69631.53	479	145.36		

The results of the data analysis, provide valuable insights into the effectiveness of the hybrid teaching learning approach and the competency levels of students in different areas of learning. By employing descriptive statistics, the study obtained valuable insights into the participants' competency levels, variability, and response patterns in each area of interest. The descriptive analysis results provide insights into the students' perceptions and experiences in the areas of Face-to-Face Learning, Google Classroom, Podcasts, and Blogs. Overall, the mean scores indicate positive perceptions across all areas, with podcasts receiving the highest mean score. The standard deviations suggest consistent responses within each area, and the frequency distribution indicates a balanced distribution of responses. These findings suggest that students generally had favorable experiences and perceptions in these aspects of hybrid teaching and learning.

Additionally, ANOVA was employed to compare the competency of students in English among more than two groups. The outcomes displayed no statistically substantial distinction in competency among the different groups in any of the areas of learning. This indicates that the competency levels

among L2 learners were similar across the various groups under investigation. Overall, the findings suggest that the hybrid teaching learning approach positively influenced the development of students' competency in English. The significant improvements observed after the intervention demonstrate the effectiveness of this approach in enhancing students' English proficiency. The consistent results across different groups further support the generalizability of these findings. It is critical to acknowledge the investigation's shortcomings. The sample size and specific characteristics of the groups need to be considered when interpreting the results. Additionally, the study focused on specific areas of learning and did not explore other factors that might influence competency development. To further strengthen the findings, future research should consider increasing the sample size, including diverse student populations, and examining additional variables that may impact competency development. Additionally, qualitative data and student feedback could provide deeper insights into the students' experiences and perceptions of the hybrid teaching learning approach.

CONCLUSION

Developing competency in English is a crucial aspect of education, particularly in an increasingly globalized world. Hybrid teaching learning, which combines face-to-face instruction with technology-mediated approaches, has emerged as a promising method to enhance students' English language skills. The current investigation contributes to the understanding of how hybrid teaching learning can effectively develop students' competency in English, with a focus on select Engineering Colleges in the Kanyakumari District. The findings support the use of this approach in enhancing student learning outcomes and highlight the importance of considering different factors in designing effective hybrid learning environments. The significant improvements observed in all areas of learning indicate the positive impact of the intervention. These results support the notion that combining face-to-face and online learning methods can lead to improved learning outcomes and

increased student engagement. For validation and generalization of these outcomes, additional investigations with more extensive and varied populations would be desirable. Additionally, qualitative data and student feedback could provide more nuanced insights into the students' experiences and perceptions of the hybrid teaching learning approach. The findings of this research nevertheless add to the expanding body of proof aiding the effectiveness of hybrid teaching learning in developing students' competency in English.

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