Evaluating the Effectiveness of Eclectic Method in ESL Creative Thinking and Writing - An Experimental Study

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Abstract

This study evaluates the impact of the Eclectic Method on creative thinking and writing ability among ESL learners in a post-pandemic engineering education setting. The controlled six-week intervention was conducted on 64 freshmen engineering students of a technical school, who were randomly assigned to an experimental group (n=32) and a control group (n=32). The Eclectic Method combined multimedia instruction, interactive exercises, competency-oriented learning, and cognitive skills development to address gaps in language education post-pandemic. Statistical analysis of paired t-tests results shows that students in the experimental group reported statistically significant gains in creative thinking (mean difference: 8.03, $p<0.001$) and creative writing (mean difference: 6.41, $p<0.001$) over the control group. A comparison between genders revealed no significant difference in the improvement between male and female students ($p=0.002$, Cohen's $d=0.13$), indicating the method is of equivalent worth for all students. The findings witness the eclecticism of the Eclectic Method, asserting its utility as a flexible and scalable instructional method for ESL classes. By bringing solutions to language learning problems in technical education, this research adds to the realization of the goals under Sustainable Development Goal (SDG) 4 by providing inclusive, innovative, and student-centred learning approaches. Further studies will concentrate on how the approach can affect education in the long term and its compatibility with AI-driven and computer-based learning environments for ESL acquisition in technical courses.

Keywords: creative thinking, creative writing, ESL Learning, sustainable teaching practices

1. Introduction

Language proficiency enables the communication process and demands that the individual has a good grasp of listening, speaking, reading, and writing. Listening and reading demand comprehension, while speaking and writing demand expression. Of all these, creative thinking is the most important, setting the tone for how the learner develops the thoughts and puts them across succinctly. Creativity is not an option in engineering but a requirement. Engineering professionals must assess problems, design solutions, and communicate technical concepts in terms that are easily understandable. Technical expertise alone cannot assist in addressing complicated problems or communicating concepts adequately without creative thinking potential. A good creative foundation underpins problem-solving ability, and engineers are able to develop innovative solutions and communicate thoughts well.

Despite their technical training, students of engineering are not well equipped in written communication. Lack of skill in constructing arguments, organizing content, and presenting ideas in an effective manner affects academic performance as well as occupational readiness. Lack of skill in presenting project reports, research papers, and technical reports usually weakens their ability to present facts clearly. Inefficiency in communication decreases employment potential since effective writing becomes important in multidisciplinary contexts for team effort, collaborative work, and decision-making processes. Scholarly studies emphasize the inclusion of creative thinking in engineering studies to address such challenges (Brown, 2002). Traditional ESL instruction focuses greatly on grammar, syntax, and

memorization and pays little attention to analytical and expressive skills required in technical fields. A more integrated approach that promotes creativity, critical thinking, and context-specific learning can significantly enhance the ability of students to communicate technical knowledge effectively in academic and professional settings.

Conventional ESL teaching practices are built around rote memorization, reiterated grammar exercises, and literal translation. While these practices impose grammatical accuracy, they do not adequately develop fluency or proficiency to use the language in proper real-world contexts. Overemphasis on rigid structures limits creative expression, problem-solving ability, and independent thought—skills that are valuable for engineers who must communicate complex concepts in clear terms (Brown, 2002). As institutions reverted to in-class instruction, engineering students found it difficult to readjust to cooperative learning environments after years of screen-based, asynchronous learning. The shift to online platforms during the pandemic altered the study habits reducing structured discussion and spontaneous language usage. To overcome this challenge, ESL instructions need to incorporate adaptive techniques that encourage creativity, active participation and student – centered learning environment.

Despite the emphasis on technical competence in engineering education, there remains a large gap in the development of linguistic creativity and written communication among ESL students. Existing ESL pedagogies are primarily grammar, syntax, and structure based, occasionally at the expense of imaginative interaction and mental acuity (Brown, 2002). The post-pandemic shift towards blended learning paradigms also emphasized the shortcomings of traditional ESL methodologies, which lack the competencies to address the interactive, analytical, and expressive needs of students pursuing technical courses. This research aims to test the effectiveness of Eclectic Method, which combines different methods, techniques to enhance creative thinking and creative writing skills. The objectives of the study are,

1. To assess the effectiveness of the eclectic method enhancing the creative thinking and creative writing of Engineering students.
2. To examine the impact of the method in the process of acquiring the creative thinking skills
3. To analysethe gender-based performance of the engineering students with respect to their creative thinking and creative writing skills.

Recent research in ESL classrooms and engineering contexts highlights that collaborative learning through wikis, forums and peer learning boosts the creative thinking and technical writing of the students (Kasumi & Xhemali, 2023). Engineering Creativity Assessment Tool (ECAT) allows precise measurement of creative fluency and originality to articulate technical concepts clearly in writing (Akdemir-Beveridge et al., 2025). Gamification and flipped learning cater supportive environment for improving the critical thinking and creativity of the students (Troncoso Lobos et al., 2025). Inquiry based group tasks provided a platform for enhancing creativity, communication skills, collaborative, technical discourse among ESL learners (Muawiyah, 2024). Eclectic approach - a combination of collaborative peer review, genre analysis, and scaffolded writing activities enhanced the research writing style (Sundari &Febriyanti, 2021).

The Eclectic Method

Overcoming the limitations of conventional ESL pedagogy is a pedagogy that is responsive and flexible. Eclectic method is a broad model that gathers heterogeneous approaches to facilitating language acquisition and learning. It is unlike common methods, which focus on disparate aspects of second language acquisition that blends greater than a single approach. This enables the teachers to personalize learning according to pupil ability, classroom atmosphere, and curriculum objective (Brown,2002). By multimedia aids, interactive learning, and competency-based instruction, the method fills language gaps and reinforces communication skills necessary for academic and professional achievement. An organized mix of visual, aural, and analytical activities encourages students to engage with language in a way that enhances imagination, criticality, and real-world applicability. E-content modules can be added as a part of the eclectic method, since it allows flexibility through which the students get benefitted outside the lecture hall anytime, anywhere and at any place. (Sathya, 2016)

Blending a number of teaching practices, the Eclectic Method represents a practical alternative to rigid, single-method models. Alternatively referred to as the "mixed-method model," it allows instructors to combine methods from different theories of teaching in response to course objectives and student needs (Kumar, 2013). In contrast to rigid teaching models, this approach allows teachers to modify lessons according to learners' abilities, needs, expectation and classroom settings. One of the biggest advantages of this method is that it can generate a strong and interactive learning atmosphere. Through the usage of visual, auditory, and kinaesthetic tasks, it increases active participation and learning retention. This technique is also compatible with the linguistic and cognitive challenges faced by engineering students and therefore can be most helpful in technical education, where the requirement is communication skills. Its adaptable structure promotes creativity and problem solving, and students acquire language skills that translate to their non-academic lives.

The success of the Eclectic Method depends on some basic principles that make language learning more interactive and interesting. The method, as stated by Iscan (2017), is based on constant exposure to the target language, with English as the primary medium of instruction. The mother tongue is used only when necessary, allowing students to develop fluency and confidence in their communication in authentic situations. One of the significant features of this method is its emphasis on motivation-based learning. Interactive and meaningful activities are used to make lessons more interesting, which retain students' interest and the learning process more natural. Instead of memorization, words and phrases are introduced through real-life situations so that students can associate words and sentences with actual use. Context-based learning enhances understanding and recall. Besides mediating the different language teaching methods with their strengths and weaknesses, this approach also serves as a means of encouraging students to study English on their own. (Irwandi, 2020).

The Eclectic Method is oriented towards communication skills and not rote drilling, building application proficiency in problem-solving and

interactive settings. The teaching doctrine supports subject-area instruction where instructional procedures are crafted for specialized fields like engineering. Involving listening, speaking, reading, and writing in a harmonious blend is a way to ensure the appropriate development of languages. A systematic model guides student from simple concepts to advanced applications, with a gradual shift from simple to complex concepts. Recognizing that students have different cognitive abilities and learning styles, the method incorporates personalized instruction to cater to different needs. Adhering to these guidelines, the Eclectic Method creates a student-centred learning environment that enhances language ability, fosters creativity, and develops critical thinking.

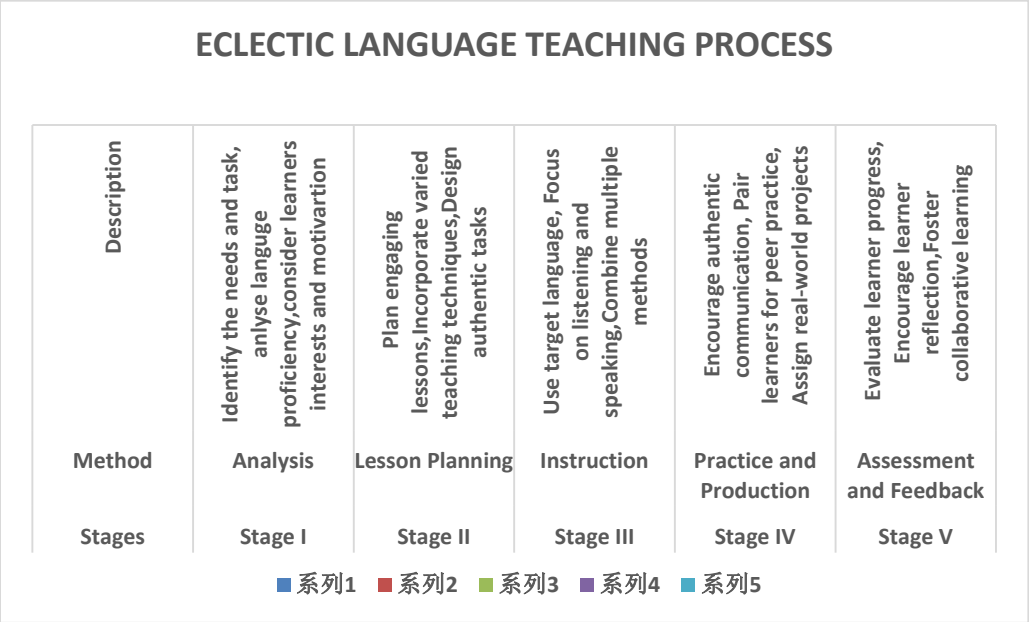

Figure 1. Framework of the Eclectic Language Teaching Process: Stages and Methods

The Eclectic Method is derived from cognitive theory of learning and communicative approach to language instruction, which prioritize adaptive, learner-centred teaching in place of inflexible, off-the-shelf methodologies (Iscan, 2017; Kumar, 2013). Language acquisition occurs most effectively with social interaction, contextual learning, and scaffolded assistance as according to Vygotsky's Sociocultural Theory, all of which are tenets of the Eclectic Method's multimodal strategy (Vygotsky,1978). In addition, Krashen's Input Hypothesis suggests that successful language learning is derived from comprehensible input and meaningful interaction, once again justifying the utilization of a rich instructional design incorporating multimedia, authentic uses, and activities student-directed (Krashen, 1982). The hybrid and digital-supported learning processes play a huge role in creative thinking and problem solving In ESL learning. Drawing on these theoretical bases, the Eclectic Method offers a research-based, adaptable model that integrates a number of teaching strategies, enabling ESL students to develop linguistic fluency and cognitive flexibility in technical education settings.

Creative Thinking and Creative Writing in ESL Learning

Developing creative thinking skills helps the learner examine concepts from different perspectives, produce novel solutions, and think in an innovative manner to solve problems. In learning a language, creativity reinforces the learner's ability to read information in a new way, express ideas clearly, and convey meaningfully. Strong foundation in creative thinking equips the learner to move beyond memorization and apply language in a dynamic fashion within different contexts (Brown, 2002). Fostering creativity in ESL classrooms supports both linguistic skill and cognitive development. Exercises involving creativity such as brainstorming, problem-solving, and lateral thinking are vital to exposing learners to multiple means of using language. These practices, through them, allow learners to build expression flexibility, formulate healthy logical reasoning, and advance total communicative proficiency. Infusing creative thinking in language education avails learning with increased participation and interaction, increases English capability, and induces self-assurance.

Creative writing is not merely the passing of information-it's a means of exploring emotions, constructing stories, and experimenting with language. Not subject to formalities, in contrast with academic writing, creative writing provokes imagination and helps learners to develop an individual voice and style (Brown, 2002). By creative writing, students are able to try out storytelling devices, use expressive language, and communicate imaginative ideas. This exercise makes them strong enough to articulate abstract and technical content concisely. Fluency is also improved, with students capable of articulating ideas comfortably without restrictive structural confines. The Eclectic Method offers an effective approach to developing creative thinking and writing skills in ESL instruction. Critical thinking is the ability to analyze facts, evaluate arguments, and form judgments whereas creative thinking is the ability to generate new ideas and novel solutions (Thangavel S 2021). By incorporating a combination of different teaching methods, it facilitates interactive learning to enable students to refine their communicative abilities. Integrating creativity with systematic language training not only refines problem-solving abilities but also prepares

students for academic and career success. The quality of the teaching and learning process is a question in the sustainable teaching and learning process. In order to explain difficult concepts, scientific project strategies, etc., engineering students must be able to communicate well and think creatively. They must also be capable of making decisions, leading others, solving problems, and other cognitive abilities. To give them a comprehensive educational platform in the after the pandemic period, Artificial Intelligence Education (AIEd) is used as a part of eclectic method inside the classroom to enhance the creativity of engineering learners (Thankavel S., 2023). The activities in ESLclassrooms are considered as the practical approach to the acquisition and learning, the Activity Based Language Teaching can be added as a part of eclectic approach which assists the learners to improve their thinking skills through novels. (Sathya&Selvan, 2014)

2. Review of Literature

English has become the prominent global language of communication and is a necessity for career and academic achievement. The engineering graduates must be competent in English to convey technical concepts, collaborate inter-disciplinarily, and function in international projects. Inadequate English knowledge may turn into an obstruction in career development and academic achievement. Based on the understanding of this challenge, institutions have introduced special language teaching programs designed to improve the communicative skill of learners. One such effort is the English for Specific Purposes (ESP) course in engineering education at Tomsk Polytechnic University (TPU), Russia. As part of the Multilevel Intensive Foreign Language-Training (MILFT) program, the course is directed towards industry-oriented communication and is beneficial to both students and teaching staff (Cheremissina&Riemer, 2001). The success of these programs highlights the need for special language instruction, as general ESL courses may not fully meet the demands of technical education.

Teachers and researchers through the years, come to the understanding that there is no single approach to teaching that fits all. The traditional methods, such as the Grammar-Translation Method (GTM) and the Audio-Lingual Method (ALM) emphasize grammatical accuracy and drill exercises. While these methods help in gaining elementary language competence, they fail to focus on encouraging creative writing. On the contrary, Communicative Language Teaching (CLT) focuses on interaction and fluency but lacks a systematic method for writing (Mwanza, 2017). To fill these gaps, the Eclectic Method has emerged as a versatile and adaptive teaching method. By borrowing from a range of instructional methodologies, this approach enables instructors to tailor lessons to students' needs, course learning objectives, and classroom contexts.

Eclectic teaching, on the other hand, encompasses elements of a number of methodologies, including GTM, CLT, Situational Language Teaching (STL), the Lexical Approach, and Desuggestopedia. The outcome is a balanced course that offers both linguistic competence and active learning on the student's part. Technical education, particularly in engineering, demands creativity, as students need to solve problems, design new solutions, and communicate them effectively. Traditional ESL teaching leans more towards grammar and memorization than independent thought. This narrow approach restricts students from applying language in real-life contexts (Brown, 2002). The Eclectic Method bridges this gap by adopting diverse teaching approaches. Multimedia-based learning assists comprehension through visual and audio aids, which render lessons engaging. Activity-based learning facilitates problem solving and participation and allows students to apply language skills to real-life contexts. Competency-based strategies focus on skill development, with written and verbal communication confidence being cultivated. The use of digital content, such as blogs, e-books, and interactive content, allows students to acquire language learning beyond textbooks.

3. Methodology

Sampling and Participant Selection

The research design of the study is to assess the effectiveness of the eclectic method in enhancing the creative thinking and creative writing of Engineering learners through pre and post assessment. The sample size for the sudy has 64 intermediate engineering students, randomly divided into experimental group(n=32) and controlled group (n=32) as per random sampling method. Students were alphabetically listed, and every third student was selected until the required sample size reached. The random assignment was conducted using a computer-generated algorithm, ensuring an equal distribution of demographic variables across groups.

Control of Instructor Bias:

- Both groups were taught by the same instructor to eliminate variations in teaching style.
- The instructor followed a structured lesson plan, ensuring uniform delivery of content.
- A blinded assessment was conducted, where evaluators scoring the creative writing tasks were unaware of group assignments.

Research Design

This research employed a formal six-week experimental study design to test the viability of the Eclectic Method as a means to enhance creative thinking and writing capability among ESL learners. The course consisted of 40 hours of instruction, the same amount being devoted to lessons that enhanced creative thinking through the listening and speaking skills, as well as the writing skills via reading and writing. Instructional strategies were designed to develop creativity and language abilities. The experimental group of students were instructed through six well-chosen methods and approaches such as Activity Based Language teaching, Competency Based Language Teaching, Multi Media Teaching, E-Learning, Cognition Skill Based Language Teaching and Humanistic Approach.

Activity-based instruction involved the incorporation of role-plays, debates, case studies, and problem-solving activities that ensured active

engagement and authentic language use. Competency-based approach was emphasized on fluency and communicative competence so that learners could use language effectively in various contexts of real life. Multimedia instruction involved the utilization of videos, animations, infographics, and podcasts for increasing visual and auditory learning. E-Learning materials like blogs, discussion forums, and online interactive content were also provided to use for practice outside the classroom. For further enhancement of analytical reasoning and decision-making skills, activities based on cognitive ability were introduced, where students had to develop innovative problem-solving strategies. Humanistic approach was implemented in order to create a comfortable and encouraging atmosphere for the learners which provided a platform for their self discovery and self growth.

Study Procedure

Section 1

Skill Concentrated	Creative Thinking (Decision Making and Problem Solving)
Methods	Humanistic Approach, Multi Media Teaching, Cognition Skill Based Language Teaching, and Activity Based Language Teaching,
Materials	Pictures, Movie Scenes, Caricatures, Videos
Level	Intermediate
Time	20 hours
Process	After applying each activity, the students are informed to speak for five to six minutes on their own.
Result	Their creative thinking skill was improved and their confidence level increased through those activities

Section 2

Skill Concentrated	Creative Writing
Methods	E-learning, Activity Based Language Teaching and Cognition Skill Based Language Teaching, Competency Based Langauge Teaching.
Materials	Social Media platforms, Blogs, E-books
Level	Intermediate
Time	20 hours
Process	After applying each activity, the students are informed to write for five to six minutes on their own.
Result	Their creative writing skill was developed along with critical thinking and self expression.

Assessment Tools and Data Collection

The pre-test was conducted before the experiment, which had six weeks of teaching the engineering learners through the eclectic method to enhance their creative thinking and creative writing skills. The post-test was conducted after the experiment. The tool evaluated five significant aspects of writing performance - message clarity, organization, originality, coherence, and language conventions, on a four-point scale. The assessment was focused on whether students could clearly express their thoughts, organize content, be innovative and follow grammatical principles.

The top "4" indicated excellence, with clear and well-supported messages, logical construction, good imagination, outstanding clarity and minimal grammatical errors. "3" indicated acceptable work, with minor flaws in structure or in clarity but effective communication in general. "2" grades characterized fair quality work, where writing was inconsistent and little originality existed. The "1" score was the lowest and indicated poor performance, where the writing was incoherent, poorly organized and had frequent language errors that made reading challenging. With this standardized test, the study offered a systematic analysis of students' progress in creative writing and a valid measure of the impact of the eclectic method on language learning.

Table 1. Writing Assessment Rubric for Criteria and Performance Levels

Criteria	**4 (Excellent)**	**3 (Good)**	**2 (Fair)**	**1 (Poor)**
Message	Concrete language with strong supporting details	Clear language with relevant examples	Communication is vague and lacks depth	Little or no evidence of a clear message
Organization	Logical flow with seamless transitions	Mostly organized with minor lapses	Some structural inconsistencies	Disorganized and difficult to follow
Originality	Highly creative and engaging writing style	Moderately creative with some unique elements	Limited creativity with basic structure	Lacks originality and depth
Clarity	Exceptional clarity with no ambiguities	Minor ambiguities but mostly clear	Several unclear or confusing areas	Major gaps in clarity and coherence
Conventions	Excellent grammar, punctuation, and syntax	Minor errors but do not affect readability	Noticeable grammatical inconsistencies	Frequent errors affecting comprehension

The study applied descriptive and inferential statistical analysis to quantify the impact of the Eclectic Method on creative writing and thinking abilities. A paired t-test was used to examine post-test and pre-test scores to determine whether changes noted were statistically significant. The size of the improvement, as estimated through Cohen's d, was a measure of effect size for the two skill sets. A gender analysis also examined performance differences between boys and girls. Through this analysis, it was established whether the Eclectic Method assisted all students equally or if there were performance differences in creative expression and problem-solving ability development. The statistical analysis revealed significant increases in mean scores for creative thinking and writing. The pre-test mean score

in creative thinking was 2.75, which increased to 6.42 in the post-test, and the mean difference was 3.66 ($t = -45.34$, $p < 0.001$). Similarly, the mean score in creative writing increased from 2.66 to 6.09, and the mean difference was 3.42 ($t = -55.70$, $p < 0.001$). The results vividly show that the Eclectic Method considerably improved both creative thinking and creative writing.

Table 2. Statistical Analysis Summary

Hypotheses	Pre-test mean scores	Post-test mean scores	MD	t-value	p-value	Result
H01: Creative Thinking	2.75	6.42	3.66	-45.34	0.000	Significant
H02: Creative Writing	2.66	6.09	3.42	-55.70	0.000	Significant
H03: Gender Differences	Female: 6.42	Male: 5.76	0.65	3.32	0.002	Not statistically significant

Data Analysis

This research employed descriptive and statistical analysis to test the impact of the Eclectic Method on creative thinking and writing skills among ESL students. A paired t-test was used to compare pre-test and post-test scores to determine if the improvements achieved were statistically significant. Further, gender-based analysis was made to analyse performance of the male and female students, which helped to determine whether the method equally benefits all.

Effect of the Eclectic Method on Creative Thinking

H01: There is no significant difference between the performance of engineering learners in the entry and exit tests concerning creative thinking.

The study experimented to see if the difference in the performance of engineering students on creative thinking between exit and entry tests was significant. The experimental and control groups' pre-test and post-test scores were subjected to statistical analysis in order to evaluate the efficacy of the Eclectic Method. It was found that there was a huge improvement in the experimental group where the mean score went from 2.75 to 6.42. The large effect size (Cohen's $d = 2.54$) and the very low p-value ($p < 0.001$) indicate that the intervention was highly effective in improving creative thinking. The control group, on the other hand, demonstrated an insignificant improvement, with a difference of 0.24. The effect size was small (Cohen's $d = 0.12$), and the p-value ($p = 0.069$) was not statistically significant. These findings support that Eclectic Method plays a crucial role in building thinking skills. From the integration of problem-solving activities, multimedia content, and learner-centered activities, this method ensures a more active and effective learning process for ESL students (Larsen-Freeman, 2000).

H02: There is no significant difference between the performance of engineering learners in the entry and exit tests concerning creative writing.

Table 3. Performance of Engineering Learners in Creative Writing

Group	Test	N	Mean	S.D	MD	t-value	p-value	Effect Size (Cohen's d)	Result
Experimental	Pre-test	32	2.66	0.46	-3.43	-55.70	0.000	2.81 (large)	Significant
Experimental	Post-test	32	6.09	0.77					
Control	Pre-test	32	2.68	0.50	-0.18	-1.45	0.152	0.09 (small)	Not Satistically significant
Control	Post-test	32	2.86	0.54					

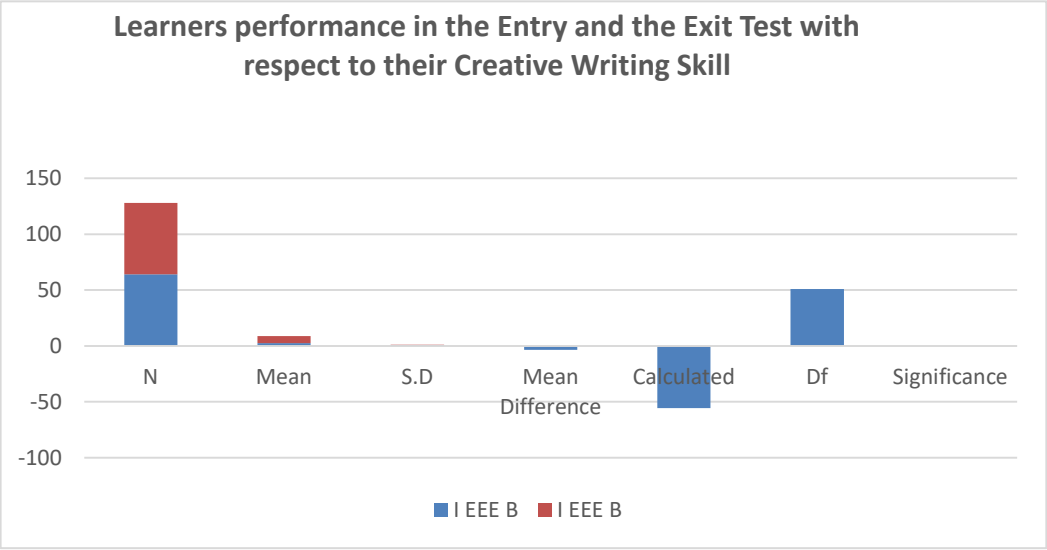

Figure 2. Comparison of Learners' Performance in Entry and Exit Tests for Creative Writing Skills

The study quantified whether or not engineering students demonstrated significant improvement in creative writing skill following the

application of the Eclectic Method. Pre-test and post-test experimental and control group scores were compared to quantify the effectiveness of such an instructional method. Results indicated significant improvement in the experimental group with the mean score rising from 2.66 to 6.09. The large effect size (Cohen's d = 2.81) and significant p-value ($p < 0.001$) confirm that the intervention significantly influenced students' creative writing abilities. In contrast, minimal change was observed in the control group, with a mean difference of only 0.18. The non-significant effect size (Cohen's d = 0.09) and p-value ($p = 0.152$) indicate that the traditional ESL instruction had no contributing effect on creative writing development. The findings highlight the effectiveness of the Eclectic Method in encouraging creative writing skills. By including online content, narration approaches, and student-centred writing tasks, the strategy formulates an engaging learning setting that supports written communication (Hyland, 2019; Richards & Rodgers, 2014).

H03: There is no significant difference between the creative writing performance of male and female students in the exit test.

Table 4. Comparison of Creative Writing Performance between Male and Female Students

Gender	N	Mean (post-test)	S.D	MD	t-value	p-value	Effect Size (Cohen's d)	Significance
Male	38	5.76	0.71					Not Statistically
Female	26	6.42	0.70	-0.65	3.32	0.002	0.13 (Small)	Significant

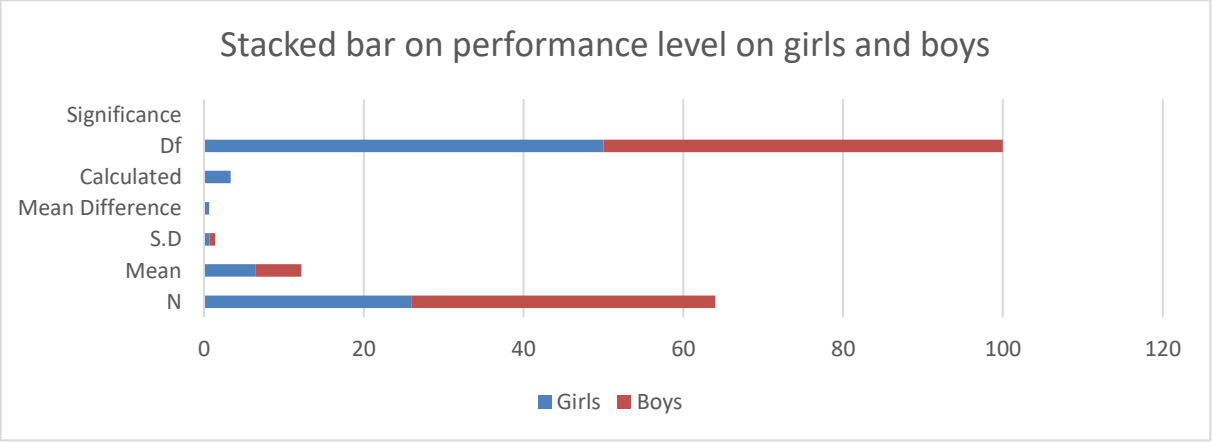

Figure 3. Comparison of Performance Levels of Girls and Boys in Exit Tests

These findings indicate that both male and female students benefited from the Eclectic Method, reinforcing its suitability as an inclusive teaching approach for enhancing creative writing skills in ESL learners. The method's adaptability in accommodating diverse learning styles aligns with previous studies emphasizing the importance of student-centred instructional strategies (Hyland, 2019, Richards & Rodgers, 2014)

4. Discussion

The results of the study highlight that the eclectic method serves as an effective platform to enhance the creative thinking and creative writing of engineering learners. The marked improvement achieved by the experimental group, compared to the little improvement achieved by the control group, is a testimony to the strength of an adaptable and eclectic approach to teaching. The implementation of different teaching methods can generate student interest, stimulate creativity and develop language skills. The findings verify previous studies that emphasize the application of multimodal pedagogic strategies in language learning (Richards & Rodgers, 2014).

Findings show that combining visual, auditory and interactive elements enables deeper comprehension and arouses active engagement (Hyland, 2019). The Eclectic Method, emphasizing flexibility, caters to diverse learner styles and enables to learn critical and creative writing competencies within a structured but dynamic environment.The outcomes revealed that the experimental group of students had a sharp increase in creative thinking and creative writing skills with the difference in means being 3.67 ($p < 0.001$, Cohen's d = 2.54) for creative thinking and 3.43 ($p < 0.001$, Cohen's d = 2.81) for creative writing. Contrary to this, the control group, who were instructed through a regular ESL course, revealed minimum development, and there was no significant score change. Gender-based analysis showed that the female students (Mean: 6.42) also recorded slightly higher post-test scores compared to male students (Mean: 5.76), yet the effect size (Cohen's d = 0.13) of this difference does not reflect practical significance. The results further support the effectiveness of the Eclectic Method as an inclusive teaching method with its capability to contribute towards creative abilities of diverse groups of learners without significant gender-based differences.

Pedagogically, the above results are in favour of adopting student-centred approaches in ESL learning. Traditional approaches centred on memorization and grammar exercises may not best promote higher-order thinking skills (Larsen-Freeman, 2000). However, an eclectic approach based on problem-solving tasks, computer aids and collaborative writing exercises is more likely to equip learners with the ability

needed for professional and academic achievement. Examining its application with larger, more diverse student populations could further elucidate its potential for more general educational use.

5. Findings of the Study

The study found significant enhancement in creative thinking competencies of the students who were educated through the Eclectic Method. The experimental group showed significant improvement in scores (mean difference = 3.67, $p < 0.001$, Cohen's $d = 2.54$), which signifies an extremely high rate of influence on their critical thinking and analysing capabilities, coming up with new solutions, and expressing ideas. The large effect size suggests that this pedagogy is a crucial determinant of higher-order cognitive skills development. The results concur with the available literature emphasizing the benefits of interactive and blended pedagogies in enhancing cognitive engagement among ESL learners (Irwandi, 2020;). The use of multimedia resources, practical exercises, and organized cognitive skill practice exercises most likely contributed to a more engaging and fascinating learning environment. Therefore, the students became more proficient in expression of ideas and assertive in their creativity.

On the other hand, the control group improved slightly (mean difference = 0.24, $p = 0.069$, Cohen's $d = 0.12$), reinforcing the evidence that standard ESL instruction emphasizing rote memorization and grammatically based instruction does not help foster creative thinking. The findings corroborate Brown's (2002) argument that rigid, single-method instruction approaches cannot accommodate the diverse learning needs of the students, particularly those in the technical stream. Since engineering students will have to have good problem-solving and analytical abilities, ESL training content/activities must be structured that, it links language proficiency with technical reasoning. Teaching techniques must involve problem-based learning (PBL), case study approaches, and computer-based storytelling methodologies to promote divergent thinking in language learning. This would not only improve the English language ability of the students but also equip them with cognitive flexibility to succeed in their professions and academic careers.

Comparison with Existing Research and Theoretical Contributions

This study builds on earlier work by validating the effectiveness of the Eclectic Method in post-pandemic ESL teaching. Earlier studies had primarily examined general language proficiency, while the present findings provide empirical support for a multi-strategy approach that enhances creative thinking and writing skills—skills essential to engineering students. The findings also contribute to the existing controversy in ESL teaching by highlighting the limitations of rigid, single-method teaching methodologies. To resolve cognitive and language hurdles in technical instruction, a dynamic model of education is required. The alignment of online environments, multimodal teaching methodologies, and competency-oriented instruction gives an accommodating model for educational provision in STEM and expert professional ESL environments that can be personalized for instructional suitability. Such outcomes concur with research stressing the requirement of having various modes of instruction for reinforcing language proficiency among technical professions (Wei, P., et al. 2023)

6. Limitations of the Study

Although the research is informative, there are certain limitations that must be mentioned. One of the limiting factors was the sample of students participating in the study as the research was carried out on merely 64 students from a single institution. This limited the ability to generalize findings to a broader population. A larger representative sample would paint a clearer picture of the Eclectic Method's success across different learning environments. Another drawback of the study was the focus placed on creative writing and thinking skill. Other core elements of learning the English language, such as comprehension reading and structure writing in a formal style were excluded from being tested. A test that measures various skills in several areas of language can give a complete picture about language learning skills.The relative brevity of the intervention was also a limitation. The study took place during the six-week period, to evaluate the short-term acquisition of skills but did not inform whether the improvement was sustained in the long term.

7. Future Research Directions

Although this research employs a unique approach to establish an appropriate learning model for Engineering students in the after the pandemic period, the research domain has numerous opportunities from several perspectives. A comparison analysis can be performed on the efficacy of the Eclectic Method of Language Teaching between urban and rural students. This research can be applied to develop other language abilities such as hearing, reading and writing of rural school students through Eclectic Method of Language Teaching. An Experimental study can be made on Eclectic Method with a combination of various techniques to increase the communication skill of the Engineering students.

8. Conclusion

Thinking skills are essential to language acquisition. Employing the eclectic method of language teaching inside the classroom provides a way to improve the creative thinking skill (mean difference: 8.03, $p<0.001$) and creative writing skill (mean difference: 6.41, $p<0.001$). It had a qualitative effect on the engineering students. Although there are many ways to help students improve the language, the eclectic method allows to acquire the language rather than learning it. No skills can be imparted in isolation, the activities progress the creative thinking along with other types of skills such as decision making, problem solving and reasoning ability. Therefore, after the pandemic period the eclectic technique of language teaching opens the door to adapting the technique to the student rather than the other way around.

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Authors' contributions

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Dr.M. Ramesh was responsible for the thorough proofreading of the manuscript. Dr. Sathya Thangavel conceptualized and developed the literature review, formulated the research objectives, designed the research methodology, analyzed and interpreted the data, presented the key arguments, and authored the manuscript. All authors actively engaged in discussions regarding the research findings, contributed to the interpretation of results, and reviewed and approved the final manuscript.

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References

Brown, S. A. (2002). *Communication in the design process*. Taylor & Francis. https://doi.org/10.4324/9780203478912

Cheremissina, I. A., & Riemer, M. J. (2001). English for Specific Purposes in engineering education at the Tomsk Polytechnic University [Conference Paper]. In Tomsk Polytechnic University, Monash University, & UICEE, 5th Baltic Region Seminar on Engineering Education 2001 UICEE (pp.57–58). Retrieved from https://www.researchgate.net/publication/302592987

Field, A. (2017). *Discovering statistics using IBM SPSS statistics*. Retrieved from https://dl.acm.org/citation.cfm?id=2502692

Hyland, K. (2019). *Second language writing* (2nd ed.). Cambridge University Press. https://doi.org/10.1017/9781108635547

Irwandi, I. (2020). Implementing eclectic method for ELT through distance learning during the Covid-19 pandemic *Educatio*, *15*(2), 91-103. https://doi.org/10.29408/edc.v15i2.2799

İscan, A. (2017). The use of eclectic method in teaching Turkish to foreign students. *Journal of Education and Practice*, *8*(7), 149-150. http://www.iiste.org/Journals/index.php/JEP/article/view/36019

Kasumi, H., & Xhemaili, M. (2023). Student motivation and learning: The impact of collaborative learning in English as foreign language classes. *International Journal of Cognitive Research in Science, Engineering and Education (IJCRSEE), 11*(2), 301-309.

https://doi.org/10.23947/2334-8496-2023-11-2-301-309.

Krashen, S. D. (1982). *Principles and practice in second language acquisition*. Pergamon Press. Retrieved from https://www.sdkrashen.com/content/books/principles_and_practice.pdf

Kumar, C. P. (2013). The Eclectic Method- theory and its application to the learning of English [Journal-article]. *International Journal of Scientific and Research Publications*, *3*(6), 1-2. Retrieved from https://www.ijsrp.org

Larsen-Freeman, D., & Anderson, M. (2011). Techniques and principles in language teaching (3rd ed., R. N. Campbell, W. E. Rutherford, J. Bell, A. Hunter, & K. Layfield, Eds.). Oxford University Press. Retrieved from https://acasearch.wordpress.com/wp-content/uploads/2015/03/techniques-in-language-teaching.pdf

Mellow, J. D. (1999). *Towards principled eclecticism in language teaching: The two-dimensional model and the centering principle*. *Tesl-Ej*, *5*(4), 1-18.

Mwanza, D. S., & The University of Zambia. (2017). The eclectic approach to language teaching: Its conceptualisation and misconceptions. *International Journal of Humanities Social Sciences and Education (IJHSSE)*, *4*(2), 53-67. https://doi.org/10.20431/2349-0381.0402006

Pallant, J. (2020). SPSS Survival Manual. In *Routledge eBooks*. https://doi.org/10.4324/9781003117452

Richards, J. C., & Rodgers, T. S. (2014). *Approaches and methods in language teaching* (3rd ed.). Cambridge University Press. https://doi.org/10.1017/9781009024532

Sathya, T. (2016). Developing an e-content module on the poem 'The Road Not Taken'–an experimental study. *International Journal of English Language, Literature and Translation Studies (IJELR)*, *3*(1), 148-152.

Sathya, T., & Selvan, R., S. (2014). Novels as a tool to enhance thinking skills -- an Activity-Based language teaching method using Vikram Seth's An Equal Music. *EBSCO*.

Singh, C. K. S., Ong, E. T., Mulyadi, D., Kiong, T. T., Wong, W. L., Singh, T. S. M., & Chen, M. J. (2022). Effects of metacognitive strategies and gender differences on English as a Second Language (ESL) students' listening comprehension. *Pertanika Journal of Social Science & Humanities*, *30*(S1), 81-97. https://doi.org/10.47836/pjssh.30.s1.05

Thangavel, S. (2023). *The (meta) cognitive edge: Advancing language acquisition*. JEC Publication.

Thankavel, S. (2022). Artificial intelligence integrated language teaching to enhance creative speaking and creative writing of engineering learners: An experimental study. *Journal of Research Administration*, *5*(2).

Vygotsky, L. (1978). *Mind in Society: the development of higher psychological processes*. https://ci.nii.ac.jp/ncid/BA03570814

Wei, P., Wang, X., & Dong, H. (2023). The impact of automated writing evaluation on second language writing skills of Chinese EFL learners: a randomized controlled trial. *Frontiers in Psychology*, *14*. https://doi.org/10.3389/fpsyg.2023.1249991