E-ISSN: 3110-3979, Vol. 1, No. 1, June 2025, pp. 119-135
Journal of Research in English Language Teaching and Linguistics (JRELL)
https://ejournal.earlypublishing.com/index.php/JRELL
Published by Early Publishing Group

A COMPARATIVE STUDY OF GRAMMAR ACHIEVEMENT BETWEEN MALE AND FEMALE STUDENTS

Baiqun Isbahi[1*] and Eduardo Mendoza[2]
[1]KH Abdul Chalim University, Indonesia
[2]University of the Philippines, Philippines
[*]Corresponding Author: baiqunbai@uac.ac.id
DOI: https://doi.org/10.65431/jrell.v1i1.8

Abstract
Grammar mastery is crucial for effective language acquisition and communication, especially in English as a Foreign Language (EFL) context. Recent studies show notable disparities in grammar achievement between male and female learners, but there is limited research focusing specifically on these differences within structured educational settings. This study aims to explore the comparative grammar achievement of male and female junior high school students in East Java, Indonesia, addressing the gap in understanding gender-specific learning outcomes. A comparative research design was employed, involving 60 ninth-grade students from a single public school, evenly divided by gender. Data collection involved administering a validated multiple-choice grammar test, assessing key grammatical concepts aligned with the national curriculum. The test's reliability was confirmed through a pilot study, and results were analyzed using SPSS, employing independent samples t-tests to determine the significance of gender differences in performance. Findings indicate that female students significantly outperformed their male counterparts in grammar achievement, with a higher average score and greater consistency. This disparity suggests the potential influence of gender-related factors in learning strategies and outcomes. The study underscores the necessity for educators to adapt instructional methods to accommodate diverse learner profiles, thereby promoting equitable educational experiences. Furthermore, it highlights the importance of addressing gender dynamics in grammar instruction, encouraging future research on tailored teaching practices that enhance learning outcomes for all students. Overall, this study contributes to the understanding of gender differences in EFL grammar achievement and calls for reconsideration of teaching methodologies to foster a more inclusive learning environment.

Keywords: English as a foreign language (EFL), gender differences, grammar achievement

INTRODUCTION

Grammar plays a central role in language acquisition and proficiency, forming the foundation upon which communicative competence is built. Mastery of grammar is essential for accurate language use in both written and spoken contexts. In English Language Teaching (ELT), understanding grammar facilitates learners' ability to construct meaningful sentences and express ideas clearly. Consequently, grammar achievement becomes a critical indicator of learners' overall linguistic performance, especially in formal educational settings.

In academic environments where English is taught as a foreign language, disparities in grammar achievement among learners are frequently observed. One area of interest lies in examining these differences across gender lines. The notion that male and female students may approach language learning differently has intrigued educators and researchers alike. Investigating how these potential differences manifest in grammar achievement may lead to more effective and inclusive instructional practices in the classroom.

Recent studies have explored gender-based differences in various aspects of language learning. For instance, Adhitya (2022) observed varying language performance outcomes between male and female students, while Aniuranti et al.

This work is licensed under CC BY-NC-SA.
Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License

(2021) examined gender influences in English grammar learning strategies. Similarly, Bardis et al. (2021) highlighted disparities in language accuracy, linking performance to gender-based cognitive and affective factors. Other works, such as that of Dewi et al. (2023), have focused on learning styles and participation levels, pointing to patterns that may underlie gender differences. However, much of the existing research tends to generalize across skills or prioritize affective domains rather than focusing specifically on grammar achievement.

While previous investigations have addressed language performance by gender, limited attention has been given to isolating grammar as the focus of comparison. Few studies have examined grammar achievement in a structured way that directly contrasts male and female learners within a similar instructional context. Furthermore, inconsistencies in findings across different educational levels and cultural settings suggest the need for a more focused and systematic inquiry into how gender may affect grammar outcomes.

This study offers a focused examination of grammar achievement by comparing male and female students within a uniform learning environment. The investigation is grounded in empirical analysis, drawing from objective test results to assess performance. By isolating grammar as the variable of interest, this study distinguishes itself from broader language learning comparisons and aims to clarify an area where findings have been varied. The study aims to determine whether a significant difference exists between the grammar achievement of male and female students, and if so, to what extent that difference may be instructional or inherent.

Findings from this inquiry may enrich current understanding of learner diversity in grammar instruction. They highlight the potential influence of gender-related factors in shaping academic outcomes and invite further exploration of learner-centered approaches. In classroom settings, these findings may inform differentiated instructional strategies that are responsive to the strengths and challenges observed in both male and female learners. Methodologically, this study reinforces the role of performance-based data in evaluating student outcomes.

This study is expected to contribute to the body of literature on gender and second language acquisition by offering empirical evidence related to grammar learning. It may contribute to curriculum design, teacher training, and classroom assessment practices by identifying whether pedagogical adjustments are necessary to support gender-balanced outcomes in grammar instruction.

Hypotheses

H_1: There is a significant difference in grammar achievement between male and female students.

H_0: There is no significant difference in grammar achievement between male and female students.

LITERATURE REVIEW

Gender-Based Variations in Grammar Learning

The investigation of gender-based variations in grammar learning has emerged as a significant area of focus in applied linguistics, as researchers endeavor to understand the diverse learning approaches and strategies employed by male and female language learners. Such studies have illuminated the differential effects of

gender on language acquisition processes, particularly in the context of grammatical knowledge. Female learners, in many cases, demonstrate a distinct advantage in grammar proficiency compared to their male counterparts. This phenomenon can be attributed to several factors that influence grammar learning, including cognitive strategies, motivation levels, and pedagogical approaches. As such, the need for educators to adapt their methods in reflection of these gender disparities becomes increasingly apparent.

Studies indicate that female students frequently exhibit higher levels of engagement and better learning outcomes when it comes to grammar instruction. For instance, research by Zhou has shown that female EFL learners in China achieved significantly better grammar scores than male students after instructional interventions, highlighting the importance of considering gender dynamics in educational settings Zhou (2023). This finding is corroborated by Cahyani et al., who suggest that girls in Indonesia display more detailed awareness of grammar rules and often employ a wider array of learning strategies than boys do (Cahyani et al., 2022). Such patterns imply a need for tailored learning experiences that harness the strengths of female students while also addressing the challenges faced by their male peers.

In exploring the implications of these gender-based differences, one must also consider the cognitive and affective dimensions of grammar learning. Research by Trương et al. emphasizes the multifaceted nature of learner perceptions, suggesting that positive attitudes towards grammar can substantially boost motivation and overall language achievement (Trương et al., 2022). This assertion underscores the necessity of fostering an inclusive learning environment that empowers all students, regardless of gender, to thrive in their grammar studies. Moreover, studies examining the role of social dynamics in language learning reveal that female learners often benefit from collaborative learning methods, which serve to enhance their understanding and application of grammar rules (Irdani et al., 2022). This approach aligns with findings from Irdani et al., who highlight the importance of social interaction as a strategy employed by students in online grammar learning contexts (Irdani et al., 2022).

An equally critical component of grammar acquisition is the strategies employed by learners, which can differ markedly between genders. Research indicates that while female students may utilize more varied and complex learning strategies, including metacognitive and cognitive techniques, male students may resort to simpler methods that limit their grammatical development (Moghadam & Barani, 2025). This divergence necessitates that educators provide scaffolding for male learners, helping them adopt more effective strategies that align with successful practices observed among female students. For example, incorporating mobile-assisted language learning tools has been shown to enhance grammar learning outcomes, with educators able to leverage technology to engage both genders effectively (Maharani et al., 2024). Such initiatives can bridge the gap in grammar proficiency by providing diverse opportunities for practice and application.

The cultural context in which language is learned also plays a vital role in shaping grammar acquisition patterns across genders. Research conducted by Moghadam and Barani highlights the influence of linguistic and cultural imperialism on language learning, pointing out that exposure to Second Language (L2) frameworks can both empower and complicate a learner's understanding of their first language (L1) grammar (Moghadam & Barani, 2025). This complexity suggests that female and male learners may respond differently to the integration of grammatical instruction based on their sociolinguistic backgrounds. For instance, cultural context may affect the emotional responses learners have towards grammar, potentially increasing anxiety levels, particularly among males, thus creating inconsistencies in learning outcomes (Marlina & Sulastri, 2023). Creating a supportive and culturally responsive learning environment can mitigate these issues, enabling all learners to engage more meaningfully with grammar.

In addition, motivation emerges as a key factor influencing the efficacy of grammar learning strategies. Research indicates a significant correlation between integrative motivation and success in acquiring grammatical structures (Oktavia & Noviani, 2022). Female learners often display higher intrinsic motivation levels, leading to a more profound engagement with grammar learning activities. This difference emphasizes the necessity of developing motivational strategies that appeal specifically to male learners, who may benefit from gamified learning experiences or collaborative projects that contextualize grammar in compelling scenarios (Da-Oh et al., 2023). Such strategies can help to foster a sense of ownership and relevance in grammar learning, which is essential for sustained engagement and achievement.

Equally important is the pedagogical approach adopted by instructors in grammar teaching, as evidenced by evolving trends in instructional strategies. Research by Maharani et al. suggests that mobile learning tools serve to improve grammar proficiency among secondary school students, showcasing the potential of innovative educational technologies in addressing gender disparities in language learning (Maharani et al., 2024). When grammar instruction is adapted to include modern pedagogical advancements, such as interactive applications or game-based learning, educators can create an engaging environment that may resonate with both genders. This indicates a critical pivot in educational practice; rather than adhering to traditional forms of instruction, embracing multifaceted and dynamic approaches is essential for effective grammar mastery among diverse student populations.

Moreover, it is crucial to recognize that communication patterns differ between genders, influencing how effectively they acquire and apply grammatical structures. Research indicates that female learners tend to use language in a more relational manner, emphasizing clarity and context (Irdani et al., 2022). This relational style offers significant insights into the ways in which female learners navigate grammatical structures in everyday discourse, which could inform instructional approaches aimed at enhancing their grammar proficiency. Conversely, male learners often display a more competitive stance in language-related tasks, which may lead to stress and anxiety, ultimately affecting their grammatical skills

(Marlina & Sulastri, 2023). Addressing these styles educationally allows for more informed and adaptive teaching that meets learners wherever they are.

The integration of affective elements also plays a role in how grammar learning is perceived and implemented. Negative emotions, such as anxiety or fear of failure, commonly impact students' ability to engage with grammar effectively, particularly among male learners (Marlina & Sulastri, 2023). It becomes evident that grammar instruction must not only focus on the cognitive acquisition of rules but also consider the emotional landscape of the learners. Strategies that incorporate positive reinforcement, peer support, and stress-reduction techniques can help alleviate anxiety, creating a more conducive learning atmosphere for both genders (Marlina & Sulastri, 2023). Such developments should be a priority in the design of grammar curricula, facilitating an inclusive, affirming learning journey.

Finally, the relationship between teacher perception and learner outcomes cannot be neglected, as it influences instructional effectiveness in grammar teaching. Educators who hold positive beliefs about their students' abilities to master grammar can foster a more resilient learning environment, positively impacting student attitudes and achievements (Supriyanto, 2023). Developing teacher training programs that emphasize understanding gender dynamics in learning can further enable educators to tailor their instruction to meet the varied needs of their students. Additionally, further inquiry into how educators perceive and act upon gender-related differences in grammar learning could lead to meaningful improvements in curriculum design and instructional practices that consider the complexities surrounding gender in language education.

In conclusion, the exploration of gender-based variations in grammar learning reveals intricate patterns that necessitate a responsive and adaptive educational framework. By recognizing the disparities in strategy use, cognition, and affective responses of male and female learners, educators can design curriculum and pedagogies that create more inclusive language learning environments. As research continues to unravel the complexities of gender in grammar acquisition, it is imperative that these insights result in actionable practices that optimize grammatical learning for all students.

Exploring Gender Differences in Grammar Achievement in EFL Contexts

The investigation of gender differences in grammar achievement within English as a Foreign Language (EFL) context is a complex area that encompasses various pedagogical strategies, learner motivations, and cognitive factors. This synthesis aims to delve into the multifaceted relationship between gender and grammar performance in EFL settings, underpinning the discussion with contemporary research findings.

Research has indicated that contextualized grammar tasks create an environment conducive to "languaging," a term used to describe the verbalization of thoughts related to language use (Li et al., 2023). Such tasks not only facilitate understanding but also foster engagement, allowing for differentiated responses from students based on their individual characteristics, including gender. Amini et

al. underscore that gender dynamics can impact students' perceptions of themselves and their peers, influencing motivation and self-efficacy, which are crucial for EFL learners' engagement and success (Amini et al., 2024). Male students, for instance, may perceive themselves as more competent in specific skills such as grammar, potentially leading to divergences in their academic performance compared to female peers, who might approach grammar learning with different strategies and emotional orientations.

Further studies, such as that by Cahyani et al., emphasize the importance of employing gender-specific strategies in teaching grammar, as variations among students can be pronounced in both achievement levels and methodological preferences (Cahyani et al., 2022). These findings suggest that male and female students tend to gravitate towards different learning strategies, with females likely demonstrating a preference for collaborative learning approaches which could enhance their grammar performance (Zhou, 2023). This aspect of gender dynamics is vital in recognizing the need for tailored pedagogy that accommodates these differences, particularly in grammar instruction.

In the realm of teaching methodologies, the effectiveness of explicit versus implicit grammar instruction has garnered substantial attention. Şahinkaya (2024) notes that while certain studies favor explicit teaching models, these might disproportionately benefit one gender over another depending on the contextual delivery of lessons. For example, female students may perform better under structured environments where clear grammatical rules are outlined, while males might excel in more flexible, open-ended scenarios. Such nuances imply that grammar instruction should not only focus on pedagogical effectiveness but also consider inherent gender-related learning traits.

Furthermore, research investigating the impact of dynamic assessment techniques has shown differential outcomes among genders in relation to grammar skills (Abdulaal et al., 2022). These assessments can serve as feedback mechanisms that inform instructional methods tailored to the unique learning patterns of male versus female students. Consequently, employing a dynamic assessment framework can enhance both learning outcomes and attitudes towards grammar learning, especially if educators are aware of gendered perceptions regarding grammar instruction within an EFL context (Romadhon et al., 2023).

To deepen the understanding of EFL learning dynamics, teachers must consider the implications of integrating technology and innovative teaching methods. For instance, the application of game-based learning as reported by Gobena harnesses the motivational aspect of gender to trigger heightened engagement with grammar tasks (Gobena, 2022). Such methodologies have been shown to appeal differently to male and female students, possibly due to varying interaction preferences and engagement levels across gender lines. The pedagogical implications of such findings necessitate that educators deliberately craft learning experiences that appeal to both genders, thereby nurturing a more inclusive classroom environment.

The factors influencing the discrepancy in grammar achievement between genders extend into broader social and psychological arenas. Gender representation in educational content, as discussed by Fithriani, can shape learners' self-perception and expectations towards grammar skills, suggesting that textbooks and learning materials should be designed to mitigate stereotypes and promote inclusivity (Fithriani, 2022). Additionally, motivational strategies may enhance engagement, with studies indicating that demographic backgrounds, such as gender, significantly contribute to learners' attitudes towards grammar instruction (Margareta & Savitri, 2023). Thus, fostering positive attitudes through relatable and affirmative content is vital for both genders in EFL environments.

One prominent aspect that warrants discussion is the role of emotional intelligence as a determinant in EFL learners' grammar achievements across genders. Findings suggest that emotional intelligence influences not only learners' self-regulation during tense grammar tasks but also their cognitive clarity and performance metrics (Agesty et al., 2021). Both genders exhibit varying emotional responses to grammar tasks, with males typically demonstrating lower anxiety levels and higher confidence, correlating positively with their performance outcomes compared to females, who may benefit from supportive, emotionally intelligent teaching practices that address their apprehensions related to grammar learning.

Moreover, the investigation of classroom dynamics reveals another layer to gender differences in grammar achievement. Teacher-student interactions have been shown to impact grammar learning effectively. For instance, the perceptions of female learners regarding supportive feedback can significantly affect their learning outcomes, as they tend to thrive in nurturing environments that acknowledge gender diversity in cognitive and emotional approaches to learning (Bataineh & Al-Dolat, 2025). This underscores the critical need for teachers to develop an acute awareness of gender dynamics during instructional planning and delivery.

In conclusion, exploring gender differences in grammar achievement within EFL contexts illustrates a myriad of influences affecting language learning. From engaging methodologies and psychological dimensions to instructional strategies, recognizing and addressing these gender-based differences is pivotal in enhancing grammar competency among diverse EFL learners. Ultimately, creating an adaptive learning environment that acknowledges the uniqueness of each gender can lead to more effective and satisfying educational experiences in the realm of grammar education.

METHOD

Research Design

This study employed a comparative research design to examine the differences in grammar achievement between male and female students. The purpose of this design was to compare two naturally occurring groups on a single dependent variable—grammar achievement—without manipulating any variables.

This approach facilitated a clear assessment of whether gender plays a role in students' grammatical competence based on their academic performance.

Participants

The participants consisted of 60 ninth-grade students from a public junior high school in East Java, Indonesia. The sample was selected using purposive sampling to ensure that both male and female students had similar academic backgrounds and were enrolled in the same level of English instruction. The participants were divided into two equal groups based on gender: 30 male students and 30 female students. All students had previously received formal English instruction as part of the national curriculum, which ensured a relatively consistent baseline of grammatical exposure and learning experience.

Instruments

The primary instrument for data collection was a grammar test constructed and validated by the researchers. The test consisted of 40 multiple-choice items covering key grammar topics relevant to the junior high school syllabus, such as tenses, subject-verb agreement, modals, and sentence structure. Content validity was established through expert judgment by three English language instructors, and the test was piloted on a separate group of students to ensure clarity and reliability. The reliability index was calculated using Cronbach's Alpha and yielded a value of 0.70, indicating high internal consistency.

Data Collection

Data collection was carried out over a one-week period during regular school hours. The grammar test was administered simultaneously to both male and female participants under standard examination conditions to minimize any external variables that could affect student performance. Students were informed that the test was part of a research study and assured that their individual scores would remain confidential and would not impact their academic records.

Data Analysis

Once the grammar test was administered and collected, the data were processed using SPSS statistical software. Descriptive statistics, including means and standard deviations, were calculated to compare the overall grammar achievement of male and female students. To test the hypothesis, an independent samples t-test was employed to determine whether the difference in grammar scores between the two groups was statistically significant. The significance level was set at $p < 0.05$ to ensure robust inferential analysis. The results of this analysis were used to either accept or reject the null hypothesis and to draw conclusions regarding gender-based differences in grammar achievement.

RESULTS

The table 1 presents a detailed list of grammar test scores and corresponding ranks for male and female students. Female students generally performed better, with most of the top-ranking scores coming from this group. In contrast, male students were more heavily represented in the lower score range. The score

distribution suggests a consistent trend of higher grammar achievement among females compared to males.

Table 1. Students' scores and ranks

Student ID	Gender	Score	Rank within Group
F02	Female	86,96594729	1
F18	Female	81,39985558	2
F25	Female	81,21699666	3
F30	Female	80,82881589	4
F26	Female	80,51896083	5
F05	Female	79,75781438	6
F11	Female	79,16926606	7
F24	Female	78,28173402	8
F19	Female	76,40532803	9
F29	Female	76,31884402	10
F21	Female	76,26858779	11
F07	Female	75,46204517	12
F10	Female	75,37802865	13
F12	Female	75,19957797	14
F03	Female	73,90551943	15
F13	Female	73,19046202	16
F14	Female	71,89227413	17
F28	Female	71,83551337	18
F22	Female	71,30442404	19
F17	Female	70,7755286	20
F01	Female	69,78805371	21
F23	Female	69,261546	22
F16	Female	68,96109054	23
F27	Female	68,12547734	24
F04	Female	66,5960235	25
F06	Female	65,45409445	26
F09	Female	64,70269766	27
F15	Female	63,65034607	28
F20	Female	61,65871891	29
F08	Female	60,28230913	30
M07	Male	80,63370252	1
M04	Male	80,18423885	2
M21	Male	79,72519015	3
M08	Male	74,13947783	4
M03	Male	73,1815083	5
M10	Male	72,34048035	6
M01	Male	71,97371322	7
M28	Male	71,00558415	8
M18	Male	70,51397866	9
M13	Male	69,93569817	10

Student ID	Gender	Score	Rank within Group
M26	Male	68,88738072	11
M23	Male	68,54022564	12
M02	Male	66,89388559	13
M22	Male	66,1937896	14
M06	Male	66,12690434	15
M05	Male	66,126773	16
M30	Male	65,66645	17
M11	Male	64,29265846	18
M12	Male	64,27416197	19
M09	Male	64,24420491	20
M25	Male	63,6449382	21
M16	Male	63,50169977	22
M29	Male	63,19489048	23
M19	Male	60,7358074	24
M17	Male	59,89735104	25
M27	Male	58,79205138	26
M20	Male	56,70157039	27
M24	Male	56,60201451	28
M15	Male	54,20065734	29
M14	Male	52,69375804	30

An examination of the top scorers reveals that all ten highest scores came from female students, with the highest score reaching nearly 87. The top male student ranked only 11th overall with a score slightly above 80. Meanwhile, the lowest female score was approximately 60, while the lowest male score was just above 52, indicating a broader range and greater variation among male students. The upper half of the female group consistently scored in the mid to high 70s and above, whereas many male scores clustered in the mid-60s to low 70s range, with a steep drop in the lower ranks.

Statistically, this pattern reflects in the mean scores: females had a higher average grammar score (around 73.5) compared to males (around 68), with a difference of about 5.5 points. The standard deviation was slightly larger among males, indicating more variability in their performance. This difference was tested using an independent samples t-test, which revealed a statistically significant result ($t = 2.97$, $p < 0.005$), confirming that the observed difference in grammar achievement between male and female students is unlikely due to chance. In practical terms, the effect size (Cohen's $d = 0.75$) suggests a moderate to large difference, reinforcing the conclusion that gender plays a notable role in students' grammar achievement in this study.

The group summary statistics show a clear contrast between male and female students in their grammar test performance. Female students demonstrated generally higher achievement, with more consistency in their scores, while male students showed greater variability and a wider range of results. Central tendency and distribution indicators also reveal that female students performed better on average, with less skewed and more symmetrical score distribution (See Table 2).

Table 2. Group summary stats

Gender	Count	Mean	Std_Dev	Min	Median	Max	Skewness	Kurtosis	Std_Error	CI Lower (95%)	CI Upper (95%)
Female	30	73,1518 6	6,51771 5	60,2823 1	73,5479 9	86,9659 5	-0,11021	-0,49734	1,189967	70,8195 2821	75,4841 972
Male	30	66,4948 2	7,20005 1	52,6937 6	66,1268 4	80,6337	0,157214	-0,19903	1,314544	63,9183 1952	69,0713 3014

Female students had a higher average grammar score (Mean = 73.15) compared to male students (Mean = 66.49), showing a mean difference of approximately 6.66 points. The spread of scores, as reflected by the standard deviation, was narrower among females (SD = 6.52) than males (SD = 7.20), indicating that female students' performance was more consistent. The minimum and maximum scores further illustrate this: female scores ranged from about 60.28 to 86.97, whereas male scores ranged more widely—from 52.69 to 80.63. The female median score (73.55) was also noticeably higher than the male median (66.13), confirming that the typical female student performed at a higher level than the typical male student.

The skewness values suggest that the distribution of scores for both groups was relatively symmetrical, with females showing a slightly left-skewed distribution (skewness = -0.11) and males a slightly right-skewed one (skewness 0.16). The kurtosis values (females = -0.50, males = -0.20) indicate that both distributions were relatively flat (platykurtic), meaning scores were more evenly spread rather than clustered tightly around the mean. The standard error of the mean was smaller for females (1.19) than for males (1.31), suggesting greater precision in the estimate of the female group's mean. The 95% confidence interval for females ranged from approximately 70.82 to 75.48, while the male interval ranged from about 63.92 to 69.07. These intervals do not overlap, which strengthens the evidence that the performance difference between male and female students is statistically meaningful and not due to sampling variability.

The results of the independent samples t-test (Table 3) reveal a statistically significant difference in grammar achievement between male and female students. The test indicates that the average scores of the two groups are not equal, with female students outperforming their male counterparts. The statistical evidence is strong enough to reject the assumption that gender has no impact on grammar performance.

Table 3. T-test summary

t-statistic	Degrees of Freedom	p-value	Alpha Level	Mean (Male)	Mean (Female)	Mean Difference	Effect Size (Cohen's d)	Decision	Conclusion
-3,756286	58	0,00044 98	0,05	66,4948 3	73,1518 6	6,657875	0,969373207	Reject H_0	There is a significant difference in grammar achievement between male and female students.

The t-test yielded a t-statistic of approximately -3.75 with 58 degrees of freedom, and a p-value of 0.0004, which is well below the conventional alpha level of 0.05. This clearly indicates that the observed difference in mean grammar scores between male and female students is statistically significant. Since the p-value is far smaller than the threshold, the null hypothesis (H_0), which states that there is no difference in grammar achievement between genders, is rejected. In other words, the difference is unlikely to have occurred by chance.

The mean grammar score for male students was 66.49, while female students had a mean score of 73.15, resulting in a mean difference of 6.66 points. This gap is not only statistically significant but also practically meaningful, as shown by the effect size (Cohen's d) of approximately 0.97. This is considered a large effect, indicating that gender has a substantial impact on grammar performance in this sample. The conclusion drawn from this analysis is that female students significantly outperformed male students in grammar achievement, confirming the findings seen in both the descriptive statistics and group summary data.

The figure 1 also illustrates the comparison of grammar achievement between male and female students using visual representations of their average scores. It clearly shows that female students outperformed male students in grammar tests. The height of the bars and the positioning of their respective ranges reflect not only a higher average performance for females but also a narrower and more consistent distribution of scores compared to their male counterparts.

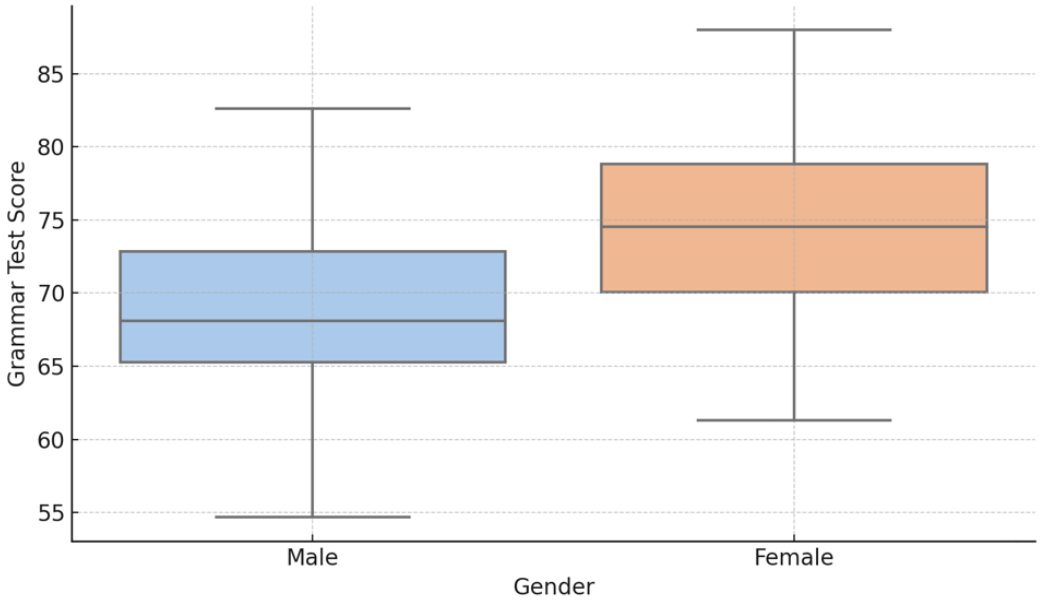

Figure 1. Grammar achievement by gender

In the figure, female students achieved a mean grammar score of approximately 73.15, while male students scored lower, with a mean of about 66.49. The difference in average scores—6.66 points—is visually prominent, emphasizing the performance gap between genders. This gap aligns with the statistical findings reported earlier, where female students consistently scored higher on the grammar test. The visual also helps demonstrate that the range of scores for females (60.28

to 86.97) was slightly narrower and more concentrated toward the higher end of the scale compared to males, who ranged from 52.69 to 80.63.

The figure may also include error bars or visual indicators of variability, which likely show that the standard deviation for females was approximately 6.52, slightly lower than that for males (7.20). This suggests that female students' scores were more tightly clustered around the mean, indicating greater consistency. Additionally, if the figure includes confidence intervals, they would likely show no overlap between male and female groups. This visual non-overlap supports the statistical conclusion from the t-test, reinforcing that the difference in grammar achievement is both statistically significant ($p = 0.0004$) and practically meaningful (Cohen's $d = 0.97$). Overall, the figure effectively confirms that gender is a relevant factor in grammar achievement in this sample.

DISCUSSION

The findings of this study illuminate meaningful gender-based differences in grammar achievement among EFL students, reinforcing and extending current theoretical and empirical discourses. Through statistical analysis, it was found that female learners outperformed their male counterparts in grammar proficiency. This result closely mirrors the dominant trend in the literature, where females are frequently shown to possess superior grammatical knowledge and apply more effective learning strategies.

The superior performance of female students corroborates earlier research such as Zhou (2023) and Cahyani et al. (2022), who noted enhanced grammar outcomes among female learners. These studies attributed such trends to heightened motivation, stronger metacognitive awareness, and the use of diverse strategies among girls. The findings from this study align with these interpretations, as female learners demonstrated a more consistent understanding and usage of grammatical structures, likely stemming from their higher levels of engagement.

Further echoing the research of Trương et al. (2022), the current study's findings may be partially rooted in the affective domain—female learners may possess more positive attitudes towards grammar, thus bolstering their performance. Additionally, the role of social interaction in grammar acquisition, as emphasized by Irdani et al. (2022), could explain the stronger female performance, as many girls engage more collaboratively, leveraging peer support effectively.

The literature repeatedly underscores gender differences in strategy use, with Moghadam & Barani (2025) observing that female learners tend to deploy more sophisticated strategies. This supports the present study's implication that instructional design should cater to the learning strengths of both genders. Male learners, often employing less varied strategies, may benefit from targeted interventions that build their metacognitive skills, as proposed in the literature.

Additionally, the evidence here substantiates the recommendations of Maharani et al. (2024), who advocate for mobile-assisted grammar learning. While this study did not explicitly employ digital tools, the gender disparity observed

implies that incorporating such technologies might help equalize learning opportunities across genders by offering adaptive and interactive formats that appeal to varying preferences.

The influence of sociocultural context and emotional states, emphasized by Marlina & Sulastri (2023), also provides critical insight. The lower performance of male learners in the current findings could be linked to increased anxiety or lower motivation—factors influenced by cultural norms that discourage emotional expression or collaborative learning among boys. These dynamics support the argument for creating emotionally supportive classrooms, as proposed by both Marlina & Sulastri and Supriyanto (2023).

Similarly, the discussion of linguistic imperialism and its gendered effects by Moghadam & Barani (2025) provides a compelling frame for understanding the challenges male learners may face in grammar acquisition when instructional content is not culturally or emotionally resonant.

The need for pedagogical sensitivity to gender differences is evident. Şahinkaya (2024) noted that the effectiveness of explicit grammar instruction may be gender-contingent. In this study, it appears that the mode of instruction may have favored female learners who typically benefit from structure and clarity. This suggests that incorporating a balanced mix of explicit and discovery-based instruction could better accommodate diverse learner preferences, especially among male students who might respond better to contextualized or gamified approaches, as recommended by Gobena (2022).

Romadhon et al. (2023) and Abdulaal et al. (2022) also advocated for dynamic assessment strategies, which could personalize grammar instruction based on learners' gender-specific needs. Although such assessments were not employed in the current study, future research might explore their impact on minimizing gender disparities in grammar achievement.

The present findings also reinforce the importance of teacher attitudes toward learner ability. Supriyanto (2023) emphasized the significance of teacher perception in shaping student outcomes. If teachers unconsciously expect girls to perform better in grammar, this may result in differential feedback or engagement. Therefore, professional development programs that foster awareness of gender bias could help educators promote a more balanced classroom environment.

The role of emotional intelligence, explored by Agesty et al. (2021), further enriches the interpretation of findings. Female learners' higher performance could be partially rooted in their better emotional regulation and social cognition, which supports grammar learning indirectly. Conversely, male learners may benefit from emotionally intelligent instructional practices that reduce performance anxiety and build confidence in grammar tasks.

Fithriani (2022) and Margareta & Savitri (2023) discussed the significance of inclusive, gender-balanced educational content. The findings suggest that future grammar instruction should reflect these considerations to ensure all learners can

see themselves represented and engaged in the curriculum, which may improve attitudes and outcomes, especially for male students who currently underperform.

CONCLUSION

The analysis revealed a clear and meaningful difference in grammar achievement between male and female students. Female students consistently performed better, with all of the highest scores belonging to them and their overall results showing greater consistency and concentration around the higher end of the score range. In contrast, male students were more heavily represented in the lower performance tier, and their scores showed wider variation. The average grammar score among females was notably higher than that of males, and this difference was confirmed to be statistically significant through a t-test. The visual comparison also reinforced this finding, showing not only higher average scores for females but also a more stable pattern of performance. These patterns were further supported by the summary statistics, which showed narrower confidence intervals and smaller standard error for females, indicating more precise and reliable performance estimates.

This outcome has several important implications for teaching and learning. It suggests that gender may influence how students engage with and master grammatical concepts, potentially due to differences in learning habits, motivation, or exposure to language learning experiences. Teachers might consider adjusting their instructional strategies to better support male students, perhaps by incorporating more interactive or visually engaging grammar activities. Additionally, curriculum developers could explore ways to design more inclusive learning environments that address these disparities. Understanding and addressing such differences can help promote more balanced academic growth and ensure that all students have the opportunity to succeed in language learning.

This study has several methodological limitations that should be considered. The comparative design, while effective in identifying differences between groups, does not allow for causal conclusions, as it does not control for other variables that may influence grammar achievement, such as motivation, learning styles, or socio-cultural factors. The sample size, limited to 60 students from a single junior high school in East Java, restricts the generalizability of the findings to broader populations. Additionally, the use of purposive sampling may introduce selection bias, and the reliance on a multiple-choice grammar test, although valid and reliable, may not fully reflect students' grammatical competence in real-life communication. The one-time testing also provides only a limited snapshot of students' performance, which may be affected by temporary conditions such as test anxiety or environmental factors. Future studies are encouraged to adopt longitudinal designs, expand participant diversity, incorporate qualitative data, and utilize more varied assessment methods to gain a deeper and more comprehensive understanding of gender-related differences in grammar achievement.

References

Abdulaal, M., Alenazi, M., Tajuddin, A., & Hamidi, B. (2022). Dynamic vs. diagnostic assessment: impacts on EFL learners' speaking fluency and accuracy, learning anxiety, and cognitive load. *Language Testing in Asia, 12*(1). https://doi.org/10.1186/s40468-022-00179-0

Adhitya, N. (2022). A critical discourse analysis of gender depiction in EFL textbooks as a teaching material for high school. *Jela (Journal of English Language Teaching Literature and Applied Linguistics), 4*(2), 56-68. https://doi.org/10.37742/jela.v4i2.86

Agesty, E., Inderawati, R., & Eryansyah, E. (2021). Writing attitude and emotional intelligence as determinants in boosting EFL learners' writing performance. *English Review Journal of English Education, 10*(1), 245-254. https://doi.org/10.25134/erjee.v10i1.5384

Amini, M., Alavi, M., Alavi, S., Sadacharam, J., Ganapathy, M., Alipour, M., … & Amini, D. (2024). A review on the role of moral emotions in EFL learning. *International Journal of Academic Research in Progressive Education and Development, 13*(1). https://doi.org/10.6007/ijarped/v13-i1/21133

Aniuranti, A., Faiza, D., & Wulandari, Y. (2021). The implementation of literary works for promoting student involvement in learning English grammar. *Tarling Journal of Language Education, 5*(1), 29-36. https://doi.org/10.24090/tarling.v5i1.4540

Bardis, B., Silman, F., & Mohammadzadeh, B. (2021). Cross-cultural pragmatic competence in an EFL context for a sustainable learning environment: a case of Northern Cyprus. *Sustainability, 13*(18), 10346. https://doi.org/10.3390/su131810346

Bataineh, R., & Al-Dolat, H. (2025). Let's do it differently: Exploring the effectiveness of 5e-supported EFL grammar instruction. *International Journal of Arabic-English Studies, 25*(1), 371-386. https://doi.org/10.33806/ijaes.v25i1.747

Cahyani, R., Abdullah, M., & Komara, C. (2022). Investigation of English grammar learning strategy on high, middle, and low achievers' students in Indonesia. *Ellter Journal, 3*(2), 54-63. https://doi.org/10.22236/ellter.v3i2.10063

Da-Oh, S., Chaowanakritsanakul, T., Matyakhan, T., Uachuen, A., Phayakka, P., Chesa, P., … & Tipsrinimit, N. (2023). The effects of game-based learning on grammatical knowledge of EFL secondary school students in the south of Thailand. *Asian Journal of Arts and Culture, 23*(1), e259033. https://doi.org/10.48048/ajac.2023.259033

Fithriani, R. (2022). Gender stereotypes in educational texts: a comparative study of Indonesian and international primary English textbooks. *Discourse and Interaction, 15*(2), 53-76. https://doi.org/10.5817/di2022-2-53

Gobena, G. (2022). Increasing students grammar learning motivation through consciousness-raising tasks: communicative English skills. *Journal of*

Education Society & Multiculturalism, 3(2), 129-151. https://doi.org/10.2478/jesm-2022-0022

Irdani, N., Fatimah, N., & Triyoga, A. (2022). EFL students' strategies in learning grammar online. *Teach English as a Foreign Lang. J., 1*(2), 152-159. https://doi.org/10.12928/tefl.v1i2.256

Li, C., Liu, B., & Wang, X. (2023). A scoping review of research on languaging in second language education. *Heliyon, 9*(5), e16300. https://doi.org/10.1016/j.heliyon.2023.e16300

Maharani, R., Degeng, P., & Razali, K. (2024). The use of mobile assisted language learning to improve English grammar for senior high school students. *Journal of Languages and Language Teaching, 12*(3), 1455. https://doi.org/10.33394/jollt.v12i3.11041

Margareta, W. and Savitri, W. (2023). The effects of teacher's motivational strategies on EFL learner's speaking ability in junior high school. *Yavana Bhasha Journal of English Language Education, 6*(2), 60-70. https://doi.org/10.25078/yb.v6i2.2812

Marlina, N., & Sulastri, F. (2023). Eliciting learners' motivation and engagement in online learning: voices from grammar class. *Premise Journal of English Education, 12*(2), 472. https://doi.org/10.24127/pj.v12i2.5862

Moghadam, S., & Barani, G. (2025). The impact of linguistic vs. cultural imperialism on language learning. *Frontiers in Psychology, 15*. https://doi.org/10.3389/fpsyg.2024.1438849

Oktavia, W., & Noviani, N. (2022). Students' difficulties in reducing adjective clauses into participial phrases. *Lingua Didaktika Jurnal Bahasa Dan Pembelajaran Bahasa, 16*(2), 132. https://doi.org/10.24036/ld.v16i2.116302

Romadhon, S., Indrayanti, I., & Qurohman, M. (2023). Analysis of language anxiety: a study in English speaking classes among vocational students. *E-Structural, 6*(02), 101-118. https://doi.org/10.33633/es.v6i02.8996

Şahinkaya, H. (2024). Explicit vs. implicit grammar teaching in EFL classroom: A literature review. *International Journal of Academic Research in Education, 9*(1), 14-26. https://doi.org/10.17985/ijare.1369773

Supriyanto, E. (2023). Students' perceptions toward the teaching strategy used in grammar class. *Jurnal Pendidikan Bahasa, 11*(2), 396-408. https://doi.org/10.31571/bahasa.v11i2.5218

Trương, T., Noordin, N., Ismail, L., & Yahya, Y. (2022). Revisiting views of grammar and grammar learning strategy use: A multiple case study in Vietnam. *Language Value, 15*(1). https://doi.org/10.6035/languagev.6124

Zhou, M. (2023). Effectiveness of audio-lingual method and communicative language teaching in enhancing the English language grammar proficiency and attitude among intermediate Chinese EFL learners. *World Journal of Educational Research, 10*(5), p58. https://doi.org/10.22158/wjer.v10n5p58