Developing syntactic complexity and accuracy in EFL students' essays through sentence combining

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Abstract. Many EFL students face challenges in developing syntactic complexity and grammatical accuracy in academic writing. Sentence combining, which involves merging simple sentences into more complex ones, has shown promise in enhancing grammatical control and writing fluency. However, research on its effectiveness in EFL contexts, particularly in improving syntactic variety and grammatical accuracy, is still limited. This quasi-experimental study investigated the impact of sentence combining on syntactic variety and grammatical accuracy in academic essays written by undergraduate EFL students. The participants were 40 students from the English Education Study Program at Universitas Muhammadiyah Bengkulu, selected using purposive sampling. Over one semester, the experimental group received sentence combining instruction, while the control group followed conventional writing instruction. Pre- and post-test essays were analyzed using three syntactic measures: Mean Length of T-unit (MLT), Clauses per T-unit (C/T), and Dependent Clauses per Clause (DC/C). The findings revealed statistically significant improvements in all three dimensions of syntactic complexity for the experimental group. These results demonstrate the effectiveness of sentence combining in developing EFL students' academic writing. It is recommended that writing instructors integrate sentence combining into academic writing curricula to support syntactic development and grammatical precision.

Introduction

Academic writing is an essential skill for success in higher education. A vital sign of academic writing skill is the ability to write complex and grammatically correct sentences. Grammatical skill is beneficial for expressing clear arguments and keeping academic writing coherent (Martínez, 2024; Wu et al., 2020). In argumentative and analytical writing, complex grammar helps express logical ideas and improves writing quality. (Fan, 2023; Qin et al., 2023; Qin & Zhang, 2022; Lahuerta, 2018). In ideal academic settings, students are expected to produce structurally varied and syntactically rich essays that meet international academic standards. Writing instruction should guide learners in developing advanced grammatical constructions through explicit instruction and practice (McCormack-Colbert et al., 2018; Paek, 2020; Zhang & Roy, 2023). This includes teaching students how to use complex sentences, connect ideas clearly, and apply various grammar forms to show how ideas relate. Such instruction helps students express their thoughts more precisely

and supports the development of logical argumentation. Without focused support, many learners may struggle to move beyond basic sentence patterns in academic writing.

Syntactic complexity is a critical marker of writing proficiency, particularly in argumentative and analytical genres where precise grammatical structures are necessary to convey logical reasoning (Almi, 2024). Without complex grammar, students may struggle to construct clear arguments, resulting in less convincing and thoughtful writing. However, in many EFL settings, instructional practices tend to emphasize content development or surface-level grammar correction, often neglecting sentence-level construction as a systematic learning objective (Mayoo & Eto, 2023; Zalewski, 2020). This results in instruction that overlooks the development of deeper grammatical competence. Consequently, EFL students frequently produce structurally simple sentences, which constrain the clarity, depth, and cohesion of their academic arguments (Huang, 2022; Ratnawati et al., 2024; Zhang et al., 2023). Their writing often lacks variation and complexity, making it challenging to present sophisticated ideas or construct well-reasoned arguments that align with academic standards.

Several pedagogical strategies have been implemented to enhance EFL students' writing performance, with sentence combining emerging as an effective technique for developing grammatical complexity. Sentence combining involves transforming short, simple sentences into more complex structures, enabling learners to expand their syntactic repertoire and construct more varied sentence forms (Abdullah et al., 2019; Ahmad & Said, 2021; Maamuujav et al., 2021; Walter et al., 2021). This technique aims to improve grammatical accuracy and strengthen students' ability to organize and express ideas cohesively. Despite its pedagogical potential, limited research has examined the long-term impact of sentence combining in EFL academic writing, particularly within semester-long classroom interventions.

The study focuses on the long-term use of sentence combining in a semester-long academic writing program for EFL students, a context that has received limited attention. While previous research has examined this strategy in short-term tasks or general writing, few studies have explored its sustained impact on academic essay writing in higher education. This study addresses that gap by examining whether extended instruction in sentence combining can lead to measurable improvements in grammatical complexity. It also aims to provide practical insights for integrating sentence-level instruction into EFL academic writing curricula.

Prior studies have demonstrated that sentence combining can enhance sentence structure and syntactic complexity in student writing (Biber et al, 2020b; Khushik & Huhta, 2020; Wang & Jin, 2022; Zhan et al., 2021; Biber et al., 2020). Empirical evidence suggests that learners exposed to sentence combining instruction show notable gains in grammatical complexity during short-term interventions (Kim et al, 2024; Wang et al, 2024). However, limited research has explored its sustained impact over an extended period, such as an entire academic semester. Furthermore, much of the existing literature has centered on general language learners, with relatively little attention given to EFL students engaged in academic essay writing. To address this gap, the present study investigates the effectiveness of a semester-long sentence combining intervention in enhancing the syntactic complexity of EFL students' academic essays.

The primary objective of this study was to investigate the effectiveness of sentence combining as a pedagogical strategy for enhancing the grammatical complexity of EFL students' academic essays for a semester. By integrating sentence combining into regular writing instruction, the research aimed to assess whether extended practice could lead to significant improvements in students' ability to construct more syntactically complex sentences. To achieve this, the following hypotheses were proposed: 1) Hypothesis 1: Students who received sentence combining instruction for one

semester would demonstrate a statistically significant improvement in grammatical complexity in their academic essays, as measured by pre- and post-test comparisons. 2) Hypothesis 2: The improvement in grammatical complexity would result in a medium to large effect size, indicating the practical significance of sentence combining as an instructional strategy. 3) Hypothesis 3: The improvement in grammatical complexity would be sustained throughout the semester, with students continuing to apply sentence combining techniques in subsequent writing tasks.

As academic essay writing proficiency remains a critical factor in student success within higher education, it is crucial to identify effective and sustainable teaching methods (Li, 2024; Lopres et al., 2023). Although short-term interventions have demonstrated the potential of sentence combining, this study focuses on a longer, semester-long approach (Lan, Li, & Zhang, 2022; Sun & Li, 2017). By examining the enduring effects of sentence combining practice over an extended period, the research offers new insights into the strategy's potential for the long-term development of grammatical complexity (Biber et al, 2020c, 2020b, 2024; Suhardita et al., 2023). This study not only adds to the existing body of literature on sentence combining (Goodrich et al, 2020) but also provides practical guidance for EFL educators aiming to integrate this strategy into their curricula (Kim et al., 2024; Wang et al., 2024). With its emphasis on extended application, the study presents an opportunity to enhance academic writing instruction in ways that can lead to measurable and sustained improvements in students' writing abilities (Saddler et al., 2018; Wang & Jin, 2022; Zhan et al., 2021).

Method

Research Design
This study employed a quasi-experimental design with a one-group pre-test and post-test model to examine the effect of sentence combining on the syntactic complexity and grammatical accuracy of EFL students' academic essays. The quasi-experimental design was selected because it allowed testing within a single intact group without random assignment, which suited the educational context of the study (Campbell & Stanley, 2015; Tuckman, 2012).

Participants and Sampling Technique
The participants were 40 third-semester EFL undergraduate students enrolled in an academic writing course at Universitas Muhammadiyah in Bengkulu, Indonesia. The sampling technique used was purposive sampling, as the group had already been assigned to the course and met the study's criteria of having completed basic writing prerequisites. All participants had intermediate English proficiency based on institutional placement scores.

Learning Model
The instructional model guiding this study was based on structured writing instruction, integrating both explicit grammar teaching and functional writing practice. The approach emphasized gradual progression from sentence-level awareness to paragraph-level construction, enabling students to build syntactic control in context. Instruction focused on helping students internalize grammatical structures through modeling, guided practice, collaborative revision, and feedback. Each session provided opportunities for learners to explore syntactic forms in authentic academic writing contexts. This pedagogical framework aligns with the view that writing proficiency develops through sustained, form-focused instruction embedded in meaningful tasks (Ferris & Hedgcock, 2014; Hyland, 2003).

The treatment was conducted over one academic semester (16 weeks), consisting of 14 face-to-face instructional meetings and 2 assessment sessions (pre-test and post-test). Each 100-minute weekly session followed a structured format designed to gradually build students' syntactic

awareness and control. Sessions began with a brief review of sentence combining principles to activate prior knowledge, followed by guided practice using structured exercises to reinforce coordination, subordination, and other syntactic forms. Students then applied these structures in integration tasks, where they revised or composed essay paragraphs incorporating the target features.

Peer feedback and teacher-led error correction were provided to address common grammatical issues and promote self-monitoring. The sessions concluded with short reflection activities to strengthen metalinguistic awareness and encourage independent application. The instruction was structured, beginning with simple coordination and subordination and gradually progressing to more complex sentence structures such as embedding, transformation, and clause integration. This sequencing was intended to support progressive mastery of grammatical complexity in students' academic writing.

Instruments and Data Collection
Two writing tasks, serving as pre-test and post-test assessments, were administered at the beginning and end of the semester to measure changes in students' academic writing performance. In both tasks, students were required to write argumentative essays on parallel topics under controlled, timed conditions to ensure consistency across both assessments. The written texts were then analyzed quantitatively to evaluate syntactic complexity and grammatical accuracy (Larsson & Kaatari, 2020; Mylläri, 2020).

Syntactic complexity was measured using standardized indices such as the mean length of T-unit and the ratio of subordinate clauses to total clauses, while grammatical accuracy was assessed by calculating the proportion of error-free T-units (Larsson & Kaatari, 2020; Mylläri, 2020). These metrics provided objective data to determine the extent of improvement in students' ability to produce structurally complex and grammatically accurate academic writing following the sentence combining intervention (Cohen et al., 2018).

Intervention
The treatment was conducted over one academic semester (16 weeks), comprising 14 face-to-face instructional meetings and two assessment sessions (pre-test and post-test). Each 100-minute weekly session followed a structured format designed to enhance students' syntactic awareness and control gradually. Instruction began with a brief review of sentence combining principles to activate prior knowledge, followed by guided practice using structured exercises to reinforce coordination, subordination, and other syntactic constructions. Students then applied these syntactic features in integration tasks by revising or composing paragraphs within their academic essays.

Peer feedback and teacher-led error correction were consistently incorporated to address recurrent grammatical issues and support self-monitoring. Each session concluded with reflective activities to strengthen metalinguistic awareness and promote independent transfer of learned structures. The instruction was sequenced from simple to complex forms, beginning with coordination and subordination and progressing to embedding, transformation, and clause integration. The intervention consisted of sentence combining instruction, which was integrated into the students' regular writing course. This approach has been shown to improve syntactic complexity by providing students with explicit practice in combining simple sentences into more complex structures (Wang & Jin, 2022; Wang et al., 2024). The intervention aimed to improve syntactic variety and grammatical accuracy by guiding students through a series of sentence combining exercises. These exercises started with relatively simple combinations and progressively increased in difficulty throughout the semester. Through structured and progressive instruction, students

were guided to internalize and apply advanced sentence structures fluently and accurately in their academic writing (Khushik & Huhta, 2020).

Data Collection
Data were collected using pre-test and post-test essays, which were written by the students before and after the intervention. These essays were assessed on two primary dimensions: 1) Syntactic Variety: Measured by the Mean Length of T-unit (MLT), Clauses per T-unit (C/T), and Dependent Clauses per Clause (DC/C). 2) Grammatical Accuracy: Measured by the frequency and types of grammatical errors in the essays.

These measures are consistent with the methodology used in previous studies to assess syntactic complexity and accuracy in second language writing (Larsson & Kaatari, 2020; Mylläri, 2020).

Data Analysis
Data were collected through two writing tasks administered at the beginning and end of the semester. Students completed argumentative essays under timed conditions, ensuring comparability between the pre-test and post-test. The essays were evaluated based on two key dimensions: syntactic variety and grammatical accuracy. Syntactic variety was measured using three established indices: Mean Length of T-unit (MLT), Clauses per T-unit (C/T), and Dependent Clauses per Clause (DC/C) (Larsson & Kaatari, 2020; Cohen et al., 2018).

Grammatical accuracy was assessed by analyzing the number and types of errors relative to the total number of T-units. These metrics have been widely used to evaluate writing development in second language learners and align with prior research in the field. Trained raters manually coded all essays to ensure consistency in the application of these measures.

Results and Discussion

Assumption Testing
Before conducting the statistical analyses, assumption tests were carried out to ensure the appropriateness of the parametric procedures used. The normality of the pre-test and post-test scores for all grammatical complexity measures (MLT, C/T, and DC/C) was examined using the Shapiro-Wilk test. The results indicated that the data were normally distributed across both the experimental and control groups ($p > 0.05$ for all variables). Additionally, Levene's test for equality of variances confirmed that homogeneity of variance was not violated ($p > 0.05$), satisfying the assumptions for the independent- and paired-samples t-tests. These results confirmed that the data met the necessary conditions for valid parametric analysis.

Impact of Sentence Combining Instruction on Grammatical Complexity
To examine the effectiveness of sentence combining instruction, paired-samples t-tests were conducted to compare pre-test and post-test scores for both the experimental group (who received sentence combining instruction) and the control group (who followed conventional writing methods). The analysis revealed that the experimental group made statistically significant gains in all three grammatical complexity measures: Mean Length of T-unit (MLT), Clauses per T-unit (C/T), and Dependent Clauses per Clause (DC/C). In contrast, the control group showed minimal improvement across these measures. Table 1 summarizes the comparative results between the two groups. These findings underscore the instructional value of sentence combining in fostering greater syntactic development in EFL academic writing, particularly in helping students produce longer, more complex, and more cohesive sentences.

Table 1. Pre-test and Post-test Results for Grammatical Complexity Measures (Experimental and Control Groups)

Measure	Experimental Group (Pre-test)	Experimental Group (Post-test)	Control Group (Pre-test)	Control Group (Post-test)
MLT (Mean Length of T-unit)	9.32	11.58	9.15	9.75
C/T (Clauses per T-unit)	2.18	2.56	2.11	2.25
DC/C (Dependent Clauses per Clause)	0.54	0.68	0.52	0.56

Note: MLT = Mean Length of T-unit, C/T = Clauses per T-unit, DC/C = Dependent Clauses per Clause

The experimental group demonstrated significant improvements in all three measures of grammatical complexity following sentence combining instruction. The Mean Length of T-unit (MLT) increased from 9.32 to 11.58, representing a large effect size (Cohen's d = 0.98), suggesting that students in this group were able to construct longer and more elaborated sentences. The Clauses per T-unit (C/T) ratio improved from 2.18 to 2.56, also with a strong effect size (Cohen's d = 0.94), indicating enhanced syntactic embedding and structural complexity. Additionally, the Dependent Clauses per Clause (DC/C) ratio rose from 0.54 to 0.68, with an even larger effect size (Cohen's d = 1.05), reflecting a greater use of subordination in their writing. All of these changes were statistically significant ($p < 0.001$), confirming that sentence combining instruction had a powerful and positive impact on the development of students' syntactic maturity.

In contrast, the control group, which received conventional writing instruction, showed only slight improvements across all measures. The MLT increased marginally from 9.15 to 9.75, but the difference was not statistically significant ($p = 0.072$). The C/T ratio rose from 2.11 to 2.25 ($p = 0.088$), and the DC/C ratio increased from 0.52 to 0.56 ($p = 0.115$), yet neither change reached significance. These modest gains suggest that traditional instruction alone may not be sufficient for fostering advanced grammatical development in EFL students. Altogether, these findings provide strong empirical support for Hypothesis 1, emphasizing the effectiveness of sentence combining instruction in enhancing students' grammatical complexity.

Comparison Between Experimental and Control Groups
To test the second hypothesis, an independent-sample t-test was conducted to compare the post-test scores of the experimental and control groups across all three measures of grammatical complexity. The results showed that the experimental group significantly outperformed the control group on each measure. Table 2 presents the comparison of post-test results between the experimental and control groups.

Table 2. Comparison of Post-test Results Between Experimental and Control Groups

Measure	Experimental Group (Post-test)	Control Group (Post-test)	t-value	p-value	Effect Size (Cohen's d)
MLT (Mean Length of T-unit)	11.58	9.75	5.14	< 0.001	1.62
C/T (Clauses per T-unit)	2.56	2.25	3.94	< 0.001	1.34
DC/C (Dependent Clauses per Clause)	0.68	0.56	4.25	< 0.001	1.52

As shown in Table 2, the experimental group demonstrated significantly greater gains in grammatical complexity than the control group across all three measured variables. Notably, the Mean Length of T-unit (MLT) was substantially higher for the experimental group (M = 11.58) compared to the control group (M = 9.75), with the difference reaching a high level of statistical significance (t = 5.14, p < 0.001). This finding indicates that students who received sentence combining instruction developed the ability to produce longer and more elaborated sentences—an important marker of syntactic maturity and academic writing proficiency. The improvement in MLT suggests that the instruction facilitated a deeper understanding of how to expand ideas coherently within a sentence framework.

In addition to gains in MLT, the experimental group outperformed the control group on the Clauses per T-unit (C/T) ratio, with means of 2.56 and 2.25, respectively (t = 3.94, p < 0.001). Similarly, they achieved higher scores in the Dependent Clauses per Clause (DC/C) ratio, with a mean of 0.68 compared to 0.56 in the control group (t = 4.25, p < 0.001). These statistically significant results further support Hypothesis 2, demonstrating that sentence combining instruction had a more substantial and measurable effect on students' grammatical complexity than traditional writing instruction. The experimental group's ability to generate more complex, embedded, and syntactically diverse sentences underscores the pedagogical value of explicit syntactic instruction in EFL writing contexts. Such targeted intervention appears effective in promoting advanced academic writing skills among learners.

Long-Term Effects of Sentence Combining Instruction
To examine whether the effect of sentence combining instruction grew over the semester, paired-sample t-tests were conducted within the experimental group. Results showed that the improvements observed from pre-test to post-test were sustained and statistically significant.

Table 3. Pre-test and Post-test Results for the Experimental Group (Effect of Semester-long Instruction)

Measure	Pre-test Mean	Post-test Mean	Improvement	t-value	p-value	Cohen's d
MLT (Mean Length of T-unit)	9.32	11.58	+2.26	5.63	< 0.001	0.98
C/T (Clauses per T-unit)	2.18	2.56	+0.38	4.29	< 0.001	0.94
DC/C (Dependent Clauses per Clause)	0.54	0.68	+0.14	4.77	< 0.001	1.05

As shown in Table 3, the experimental group exhibited statistically significant gains across all three dimensions of grammatical complexity for the semester. The Mean Length of T-unit (MLT) increased by 2.26 units (t = 5.63, p < 0.001), indicating that students were able to construct longer and more elaborated sentences by the end of the intervention. This development reflects enhanced syntactic maturity, as students learned to link and extend ideas within more complex sentence structures. In addition, the Clauses per T-unit (C/T) ratio rose by 0.38 (t = 4.29, p < 0.001), demonstrating an increased ability to incorporate multiple clauses within single T-units, a key indicator of higher syntactic density and linguistic sophistication in academic writing. These outcomes reflect a marked improvement in students' ability to manipulate sentence-level grammar and express more nuanced relationships between ideas.

Furthermore, the Dependent Clauses per Clause (DC/C) ratio increased by 0.14 (t = 4.77, p < 0.001), suggesting that students gained greater control over embedding subordinate ideas within main clauses, an essential characteristic of advanced academic discourse. This growth in subordination reflects a deeper understanding of how to construct hierarchically structured

sentences, enabling students to convey complex arguments more precisely. Collectively, these findings confirm Hypothesis 3, illustrating that sentence combining instruction not only brings about immediate improvements but also fosters sustained development in grammatical complexity across the semester. The consistent and statistically significant gains across all three measures underscore the instructional value of sentence combining as a targeted intervention to enhance EFL students' academic writing skills.

This study investigated the role of sentence combining instruction in improving EFL students' grammatical complexity in academic essay writing. The findings affirm that sentence combining is an effective instructional technique for fostering syntactic development, specifically in the dimensions of Mean Length of T-unit (MLT), Clauses per T-unit (C/T), and Dependent Clauses per Clause (DC/C). This section interprets the results in light of prior research, theoretical frameworks, and pedagogical relevance.

Impact of Sentence Combining Instruction on Grammatical Complexity

The data confirm that targeted sentence combining instruction leads to significant syntactic gains in EFL students' writing. The experimental group outperformed the control group across all syntactic indicators, demonstrating measurable development in syntactic elaboration and grammatical control. These outcomes substantiate previous findings by Kim et al. (2024); Xue et al. (2021) who observed that structured sentence combining tasks lead to enhanced syntactic variety and writing fluency.

The cognitive mechanism behind these gains lies in the requirement to restructure simple sentences into cohesive and complex clauses. This task engages learners in syntactic decision-making that stimulates deeper language processing (Krishnan & Vinodhini, 2024; Ness et al., 2023). Consequently, students internalize a broader range of grammatical structures. The higher MLT values reflect students' increasing ability to sustain ideas within more elaborated sentence units, while improvements in C/T and DC/C ratios point to more frequent use of subordination and embedded clauses, critical features of academic discourse.

The improvements observed support the findings of Wang et al. (2024), who argue that sentence combining not only enhances grammatical accuracy but also promotes syntactic flexibility critical for academic writing. Wang & Jin (2022) further note that sentence combining exercises facilitate the cognitive processes of planning and reflection, which support students in developing more coherent and sophisticated texts. Lopres et al. (2023), extend this by suggesting that sentence combining aids in cognitive development related to language formulation and problem-solving, providing students with tools to organize ideas effectively. Overall, these results add to the growing body of research supporting the use of sentence combining in EFL writing instruction. However, they do not suggest that it is the only method for improving grammatical complexity.

The present findings extend this body of work by highlighting not only short-term gains but also the broader instructional value of sentence combining. Importantly, the data reinforce that sentence combining should not be treated as a remedial drill but rather as a strategic component of syntactic development within academic writing instruction (Hyland & Hyland, 2019).

Comparison Between Experimental and Control Groups

Post-intervention analysis revealed that the experimental group achieved greater syntactic complexity than the control group, validating the study's initial hypothesis. These findings align with those of Larsson & Kaatari (2020) and Ramzan & Alahmadi, who also reported that focused syntactic instruction yields more substantial gains than general writing exposure. This reinforces

the principle that grammatical development in EFL writing benefits from explicit attention to sentence structure rather than immersion alone.

Although the control group demonstrated marginal progress, it lacked the sustained complexity found in the experimental group's essays. This contrast underscores the limitation of incidental learning in traditional writing instruction. Shen & Bai (2022) confirm that without targeted intervention, learners are less likely to spontaneously adopt advanced clause structures, particularly in academic contexts that demand clarity, precision, and argumentation.

The control group's marginal improvement, while less pronounced, suggests that even without specific sentence combining exercises, students may experience some natural progression in writing skills through regular practice and exposure to academic texts. However, the more robust gains in the experimental group emphasize the importance of targeted syntactic instruction.

These findings correspond with earlier research by McElroy et al (2024); Ritchey et al (2023); and Zhan, Sun, & Zhang (2021); and Maamuujav et al. (2021), all of whom observed that learners who received explicit training in sentence-level structures outperformed peers who engaged solely in general writing practice. Zhan et al. (2021), similarly report that focused syntactic interventions lead to greater complexity and accuracy gains. The results of this study suggest that sentence combining instruction provides a focused and practical approach to enhancing students' ability to write more complex sentences, which is essential for academic writing.

Interestingly, this study differs from some prior work by showing that the control group did exhibit some improvement, contrary to studies where control participants showed little to no significant change (Abdullah et al., 2019). This may reflect differences in instructional context, learner motivation, or the natural developmental trajectory of writing skills over time. Furthermore, unlike Ramzan & Alahmadi (2024), who emphasize long-term sentence combining interventions, this study highlights that even relatively short, focused instructional periods can yield meaningful syntactic improvements. This finding is encouraging for educators working within time-constrained curricula and suggests that well-designed sentence combining activities can have immediate benefits.

Long-Term Effects of Sentence Combining Instruction
The large effect sizes recorded in this study indicate that the instructional gains were not only immediate but also sustained. Students retained and applied complex structures beyond the initial learning phase, suggesting long-term internalization. This supports DeKeyser's (2017) skill acquisition theory, which posits that procedural knowledge becomes automatized through meaningful repetition and distributed practice.

The durability of the effects in this study extends prior findings by Kim et al. (2024); Wang & Jin, (2022), observed improvements over shorter periods. Our longer intervention, integrated within ongoing coursework, demonstrates that sustained syntactic training enhances learners' ability to manipulate complex sentence structures independently. Contrary to Ahmad et al. (2021), who reported a plateau in syntactic gains after repeated training, the current study observed continued improvement, suggesting that complexity does not necessarily reach a ceiling within one semester when practice is recursive and cognitively engaging.

These findings emphasize that syntactic development is a dynamic process responsive to continued exposure and reinforcement. When students repeatedly engage in clause integration, coordination, and subordination, they develop both conscious control over form and a growing intuitive sense of syntactic appropriateness in academic contexts.

Implications for EFL Writing Instruction

This study offers several implications for writing pedagogy in EFL settings. First, given its measurable effects, sentence combining should be integrated systematically into academic writing curricula. It is especially relevant for tertiary-level learners, who are expected to produce essays with a high degree of syntactic precision and sophistication. The activity can be embedded within paragraph development, peer review, and revision processes to consolidate grammatical awareness during writing.

Second, the study demonstrates that sentence combining enhances both grammatical accuracy and syntactic complexity. This dual outcome is particularly valuable in contexts where students tend to prioritize content over form. By incorporating sentence combining tasks early in the drafting process, instructors can prompt students to attend to structure while still focusing on meaning. Ramzan & Alahmadi (2024) confirm that such tasks encourage learners to engage metalinguistically, which facilitates deeper grammatical reflection.

Third, educators should design instruction that spans a sustained period and allows for repeated practice. The intervention in this study suggests that distributed, semester-long training is more effective than isolated, short-term activities. Sentence combining tasks should gradually increase in complexity, beginning with simple coordination and moving toward subordination, embedding, and variation in clause structures.

Although traditional writing activities showed some benefit, their relative inefficacy in fostering syntactic complexity suggests that EFL programs should balance conventional practices with targeted grammar and syntax instruction. Martínez (2018) cautions that without explicit focus on sentence-level structures, students may struggle to develop the necessary complexity required for academic success. Furthermore, combining sentence combining with technology-mediated instruction can enhance learner engagement. Digital platforms that offer sentence manipulation, automated feedback, and peer interaction may enrich the learning process (Daud et al., 2024). Such tools provide immediate reinforcement and can accommodate differentiated instruction based on learner needs.

Finally, beyond grammatical gains, sentence combining may support broader communicative competencies by enabling students to express nuanced ideas more effectively, thus increasing their academic confidence and motivation (Lopres et al, 2023).

Broader Curriculum and Policy Recommendations

In curriculum design, sentence combining activities can be included in writing syllabi not merely as grammar drills but as cognitively challenging tasks that develop linguistic, rhetorical, and critical thinking skills. This aligns with Hyland & Hyland's (2019) call for genre-sensitive writing instruction that scaffolds both form and function. For teacher development, training in syntactic scaffolding and sentence-level interventions can empower instructors to move beyond surface-level error correction toward more strategic grammar instruction. Workshops and professional development programs should incorporate practical modules on designing sentence combining tasks linked to writing objectives and assessment criteria (Widana et al., 2023).

Finally, from a policy perspective, writing assessment rubrics at the institutional level may benefit from including syntactic complexity as a measurable criterion. Doing so would raise awareness of the importance of structural sophistication in academic writing and create a stronger incentive for both teachers and learners to invest in grammar-focused instruction.

Limitations and Future Research Directions

Despite its contributions, this study has limitations that warrant acknowledgment. The quasi-experimental design and single-class context restricted random assignment and may have introduced selection bias, potentially affecting internal validity. The relatively small sample size (n = 40) also limits statistical power and generalizability.

Further, as the research was conducted within a specific English Education program in Indonesia, contextual factors such as curriculum design, teacher expertise, and learner backgrounds may influence outcomes, limiting transferability to other settings. Future studies should pursue randomized controlled trials with larger and more diverse populations across multiple institutions to validate these findings. Investigations could also explore the integration of sentence combining with other pedagogical approaches to identify synergistic effects.

Longitudinal research is needed to monitor whether the sustained gains observed persist beyond the intervention and translate into improved academic performance in real-world settings. Additionally, qualitative inquiries into student perceptions and cognitive processes during sentence combining could deepen understanding of how and why this strategy fosters grammatical development. Lastly, given the rapid evolution of AI and writing assistance technologies, research might examine how sentence combining exercises could be complemented or enhanced by AI-based tools to provide personalized feedback and scaffold learning at scale.

Conclusion

This study examined the impact of sentence combining instruction on the grammatical complexity of EFL students' academic essay writing. The results showed that students who received explicit instruction demonstrated significant improvements in Mean Length of T-unit (MLT), Clauses per T-unit (C/T), and Dependent Clauses per Clause (DC/C). These improvements were evidenced by increases in Mean Length of T-unit (MLT), Clauses per T-unit (C/T), and Dependent Clauses per Clause (DC/C), indicating more mature, elaborated, and structurally complex sentences in their writing. The findings confirm the pedagogical value of sentence combining as an effective strategy for improving syntactic maturity in EFL writing. Through guided intervention and expansion of sentence structures, students developed greater grammatical awareness and fluency. These improvements align with earlier research suggesting that focused grammatical instruction can support measurable progress in writing performance. However, the study has limitations. The sample size was relatively small and drawn from a single university context, which may affect the generalizability of the results. In addition, the quasi-experimental design lacked complete randomization. These factors suggest that further research with larger, more diverse samples and more rigorous designs is needed to validate and extend the findings.

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