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Genius-AI: Supplemental Material on the Students' Affective Learning and Grammar Skills

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Abstract*—The purpose of this study was to determine the effectiveness of GENIUS-AI as a supplementary tool in enhancing the affective learning and grammar skills of Grade 11 General Academic Strand (GAS) students. Specifically, it sought to determine the level of GENIUS-AI in terms of context awareness, grammar correction, natural language, text generation, verb conjugation, and word definition, the level of students' affective learning in terms of attitude, emotion, and value, the level of grammar skills in sentence structure, subject–verb agreement, and tense–aspect, the relationship between GENIUS-AI and affective learning, and the effect of GENIUS-AI on grammar skills. The study used a quantitative descriptive research design involving forty-five (45) Grade 11 General Academic Strand (GAS) students of Magdalena Integrated National High School. Validated questionnaires measured GENIUS-AI and affective learning, while a researcher-made test assessed grammar skills. Data were analyzed using weighted mean, standard deviation, frequency, percentage, Pearson r for relationships, and Multiple Linear Regression Analysis for the effect of GENIUS-AI on grammar skills. Results revealed that GENIUS-AI was generally rated highly acceptable, while students' affective learning was very high, indicating a positive learning disposition. In grammar skills, students performed at the closely approximating mastery level in sentence structure, subject–verb agreement, and tense–aspect, with some achieving mastery. Correlation Analysis showed a significant positive relationship between GENIUS-AI and students' affective learning, leading to the rejection of the first null hypothesis. Regression Analysis also indicated a significant effect on grammar skills, resulting in the rejection of the second null hypothesis. These findings suggest that GENIUS-AI enhances both grammatical competence and affective learning. The study therefore established that GENIUS-AI is an effective supplementary tool that enhances students' grammar skills and affective learning through practice. Students may consistently use it to strengthen grammar skills and improve areas needing mastery. English teachers may focus on sentence structure, subject–verb agreement, and tense–aspect, while future researchers may further validate its effectiveness across diverse learners and contexts.*

***Keywords*—** *GENIUS-AI, Supplemental Material, Affective Learning, Grammar Skills, AI-assisted Instruction*.

I. INTRODUCTION

The increasing integration of artificial intelligence (AI) in education has transformed traditional approaches to language learning. With English as a requirement to academic and professional growth, teachers are still trying to find new ways to overcome the nagging issues in teaching grammar and engaging the student. Here, learning machines can create flexible and learner-focused learning experiences, which encourage independent learning, offer instant feedback, and present personalized education (Mustapha, 2025).

Continuing on the technological progress, AI-assisted language learning is based on constructivist and learner-centered theories, focusing on active engagement and constant feedback. In this sense, learners are able to build knowledge by engaging in important interaction and by practicing. In line with this, Korkut (2025) highlighted that AI capabilities improve grammatical abilities by supporting interactive and contextual learning.

Despite AI's groundbreaking benefits in teaching, its use still raises concerns. An example is that Graham and Milan (2025) suggest, based on the too much-automated feedback, one might develop the lack of critical thinking skills. Similarly, Warschauer and Liaw (2019) underline that AI is the most effective when carefully incorporated as an addition, not a substitute of teacher-directed teaching.

In addition to cognitive outcomes, affective learning plays an important role in language acquisition because learners' attitudes, emotions, and values influence their motivation and engagement in grammar learning. Moulavinafchi et al. (2021) stated that supportive AI-enhanced learning environments can reduce language anxiety, increase learner confidence, and promote positive learning experiences, leading to better participation and grammar performance

The acquisition of the English language has been a pressing issue in the Philippine context especially in the acquisition of grammatical correctness and assured language skills. AI-assisted tools with grammar correction and context-specific feedback and guided practice can offer a promising way out of these issues by helping the learners receive assistance outside the conventional classroom environment.

Based on these findings, the current study created GENIUS-AI, an auxiliary instructional tool intended to assist students in improving their grammar skills via guided practice, immediate feedback, and straightforward grammatical explanations. By integrating AI in a structured and pedagogically grounded manner, the intervention aimed to promote active learning, independent learning, and responsible technology use. Thus, the study examined the effects of GENIUS-AI on students' affective learning and grammar skills.

1.1 Statement of the Problem

Problem/s which were addressed by the research

This study aimed to assess the effect of GENIUS-AI as a supplemental material on the affective learning and grammar

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skills of forty-five (45) Grade 11 students under the Academic Track, General Academic Strand (GAS). It specifically examined how the use of GENIUS-AI contributed to students' learning experiences, attitudes toward learning, and development of grammar competencies through AI-assisted instruction and guided language practice, particularly in enhancing their engagement, understanding, and overall grammar performance in English learning tasks.

Specifically, the study sought to answer the following research questions:

1. What is the level of GENIUS AI as a Supplemental Material in terms components:
   1.1 Context Awareness
   1.2 Grammar Correction
   1.3 Natural Language
   1.4 Text Generation
   1.5 Verb Conjugation
   1.6 Word Definition
2. What is the level of Students' Affective Learning in terms of:
   2.1 Attitude
   2.2 Emotion
   2.3 Value
3. What is the level of Students' Grammar Skills in terms of:
   31. Sentence Structure
   3.2 Subject-Verb Agreement
   3.3 Tense-Aspect
4. Is there a significant relationship between GENIUS-AI as Supplemental Material and Students' Affective Learning?
5. Is there a significant effect of GENIUS-AI as Supplemental Material on the Students' Grammar Skills?

II. Methodology

The study used a quantitative descriptive research design involving forty-five (45) Grade 11 General Academic Strand (GAS) students of Magdalena Integrated National High School. Validated questionnaires measured GENIUS-AI and affective learning, while a researcher-made test assessed grammar skills. Data were analyzed using weighted mean, standard deviation, frequency, percentage, Pearson r for relationships, and Multiple Linear Regression Analysis for the effect of GENIUS-AI on grammar skills.

III. Results and Discussion

This chapter presents the different results and discusses the findings from the data gathered in this study. All specific questions in Chapter 1 under the statement of the problem are answered in this chapter and are supported by tables. It presents the data gathered on the significant relationship between GENIUS-AI as a supplemental material and students' affective learning, as well as its significant effect on students' grammar skills. In particular, the study seeks to address the following:

Level of GENIUS AI as a Supplemental Material

In this study, the level of GENIUS AI as a supplemental material is examined in terms of the following components: Context Awareness, Grammar Correction, Natural Language, Text Generation, Verb Conjugation, and Word Definition.

The level of GENIUS AI as a supplemental material is revealed in the following table, which includes the statements, mean scores, standard deviations, remarks, and verbal interpretations based on the perspectives of the respondents.

Table 1 shows the level of GENIUS AI as a Supplemental Material in terms of Context Awareness.

The highest-rated statement is "GENIUS-AI, as a supplemental material, is able to modify grammar suggestions based on different communicative situations" with a mean score of M = 4.31 and SD = 0.63, which indicates a Highly Acceptable level of context awareness. This shows that users strongly recognize GENIUS-AI's adaptability in tailoring grammar feedback to different communicative situations.

On the other hand, the lowest-rated statement is "GENIUS-AI, as a supplemental material, is able to facilitate the application of grammar rules in real-life communication tasks" with a mean score of M = 4.18 and SD = 0.68, which is still considered Highly Acceptable. Although lower, this reflects effectiveness in supporting learners to apply grammar rules in practical contexts.

Table 1. Level of GENIUS AI as a Supplemental Material in terms of Context Awareness

Statements GENIUS-AI, as a supplemental material, is able to…	Mean	SD	Remarks
…convey the intended meaning of sentences through context-sensitive feedback.	4.24	0.83	Strongly Agree
…modify grammar suggestions based on different communicative situations.	4.31	0.63	Strongly Agree
…facilitate the application of grammar rules in real-life communication tasks.	4.18	0.68	Agree
…offer guidance that helps apply grammar rules accurately in specific contexts.	4.20	0.73	Agree
…distinguish subtle changes in grammar patterns across contexts.	4.22	0.93	Strongly Agree
Weighted Mean	4.23		
SD	0.73		
Verbal Interpretation	Highly Acceptable		

Overall, the weighted mean of 4.23 with SD = 0.73 demonstrates a Highly Acceptable level of GENIUS-AI's context awareness, highlighting its strong adaptability and usefulness as supplemental material.

In line with this, the findings show that GENIUS-AI demonstrates strong contextual sensitivity in grammar instruction. Students perceive it as capable of adapting grammar suggestions to different communicative situations and providing meaningful feedback. This indicates that GENIUS-AI supports the application of grammar in authentic language use and improves learners' contextual understanding of English grammar.

Table 2 shows the level of GENIUS AI as a Supplemental Material in terms of Grammar Correction.

The highest-rated statement is "GENIUS-AI, as a supplemental material, is able to identify errors in sentence structure, subject-verb agreement, and tense-aspect" with a mean score of M = 4.40 and SD = 0.75, indicating a highly acceptable level of grammar correction. This suggests that

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respondents strongly recognize GENIUS-AI's effectiveness in detecting fundamental grammatical errors. Conversely, the lowest-rated statement is "GENIUS-AI, as a supplemental material, is able to justify the reasons behind identified grammar errors" with a mean score of M = 4.16 and SD = 0.95, which, while lower, still reflects a highly acceptable level of performance.

Table 2. Level of GENIUS AI as a Supplemental in terms of Grammar Correction

Statements GENIUS-AI, as a supplemental material, is able to…	Mean	SD	Remarks
…identify errors in sentence structure, subject-verb agreement, and tense-aspect.	4.40	0.75	Strongly Agree
…deliver immediate feedback that helps review grammar mistakes.	4.27	0.81	Strongly Agree
…justify the reasons behind identified grammar errors.	4.16	0.95	Agree
…develop grammatically correct sentence construction.	4.29	0.82	Strongly Agree
…strengthen accuracy in grammar use through corrective feedback.	4.33	0.83	Strongly Agree
Weighted Mean	4.29		
SD	0.80		
Verbal Interpretation	Highly Acceptable		

In general, the weighted mean of 4.29 with SD = 0.80 demonstrates that GENIUS-AI provides a highly acceptable level of grammar correction, underscoring its usefulness in enhancing learners' grammatical accuracy through corrective feedback.

Taken together, the findings indicate that GENIUS-AI demonstrates strong effectiveness in detecting and correcting grammatical errors. Students perceive the tool as reliable in providing immediate and accurate corrective feedback, which enhances their understanding of grammar rules and sentence construction. This suggests that GENIUS-AI significantly supports grammatical accuracy and reinforces rule application.

Table 3 shows the level of GENIUS AI as a Supplemental Material in terms of Natural Language.

Table 3. Level of GENIUS AI as a Supplemental Material in terms of Natural Language

Statements GENIUS-AI, as a supplemental material, is able to…	Mean	SD	Remarks
…simulate conversation-like exchanges for language practice.	4.20	0.76	Agree
…produce responses that reflect natural and authentic language use.	4.09	0.90	Agree
…guide natural expression of meaning and intention through feedback.	4.29	0.79	Strongly Agree
…emphasize how language functions effectively in dialogue.	4.31	0.73	Strongly Agree
…enhance awareness of natural flow and coherence in English usage.	4.20	1.04	Agree
Weighted Mean	4.22		
SD	0.82		
Verbal Interpretation	Highly Acceptable		

The highest-rated statement is "GENIUS-AI, as a supplemental material, is able to emphasize how language functions effectively in dialogue" with a mean score of M = 4.31 and SD = 0.73, indicating a highly acceptable level of performance. This suggests that respondents recognize GENIUS-AI's effectiveness in guiding learners toward authentic and functional language use in conversational contexts. While, the lowest-rated statement is "GENIUS-AI, as a supplemental material, is able to produce responses that reflect natural and authentic language use" with a mean score of M = 4.09 and SD = 0.90, which, while lower, still reflects a highly acceptable level of support.

Entirely, the weighted mean of 4.22 with SD = 0.82 demonstrates that GENIUS-AI provides a highly acceptable level of natural language support, underscoring its usefulness in enhancing learners' awareness of authentic expression and coherence in English usage.

In view of above findings, GENIUS-AI effectively simulates natural and authentic language interaction. Students perceive that the AI supports conversational exchanges and coherent expression of ideas. This suggests that GENIUS-AI contributes not only to grammar accuracy but also to communicative competence.

Table 4. Level of GENIUS AI as a Supplemental Material in terms of the following components in terms of Text generation

Statements GENIUS-AI, as a supplemental material, is able to…	Mean	SD	Remarks
…supply sample sentences that aid grammar practice.	4.24	0.74	Strongly Agree
…construct AI responses that mirror real-life communication patterns.	4.09	0.87	Agree
…exemplify how ideas are structured in written texts.	4.11	0.91	Agree
…enable the construction of longer and clearer sentences through text-generation tasks.	4.13	0.84	Agree
…encourage accurate sentence formation through guided text creation.	4.20	0.84	Agree
Weighted Mean	4.16		
SD	0.82		
Verbal Interpretation	Acceptable		

Table 4 shows the level of GENIUS AI as a Supplemental Material in terms of Text Generation.

To begin with, the highest-rated statement is "GENIUS-AI, as a supplemental material, is able to supply sample sentences that aid grammar practice" with a mean score of M = 4.24 and SD = 0.74, showing that respondents find it particularly useful in providing sentence models for grammar learning. In contrast, the lowest-rated statement is "GENIUS-AI, as a supplemental material, is able to construct AI responses that mirror real-life communication patterns" with a mean score of M = 4.09 and SD = 0.87, which, although lower, still reflects an acceptable level of support.

Collectively, the weighted mean of 4.16 with SD = 0.82 indicates that GENIUS-AI offers an acceptable level of text generation, reinforcing its role in guiding learners toward clearer sentence construction and improved grammar practice.

Considering the results, it indicates that GENIUS-AI supports students in constructing clearer and more organized sentences. Despite the fact that it is slightly lower than the other components, the results suggest that AI-generated text assists learners in structuring ideas and improving written

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expression. This implies that GENIUS-AI enhances writing development when used alongside instructional guidance.

Table 5 shows the level of GENIUS AI as a Supplemental Material in terms of Verb Conjugation.

Table 5. Level of GENIUS AI as a Supplemental Material in terms of the following components in terms of Verb Conjugation

Statements GENIUS-AI, as a supplemental material, is able to…	Mean	SD	Remarks
…demonstrate appropriate verb changes across past, present, and future timelines.	4.38	0.89	Strongly Agree
…ensure accuracy in verb tense usage during grammar activities.	4.24	0.93	Strongly Agree
…reinforce correct subject-verb agreement across varied sentence structures.	4.20	0.94	Agree
…illustrate the use of different verb aspects to clarify action status.	4.18	0.94	Agree
…recommend appropriate verb forms based on context and tone.	4.31	0.92	Strongly Agree
Weighted Mean	4.26		
SD	0.90		
Verbal Interpretation	Highly Acceptable		

The highest-rated statement is "GENIUS-AI, as a supplemental material, is able to demonstrate appropriate verb changes across past, present, and future timelines" with a mean score of M = 4.38 and SD = 0.89, reflecting a highly acceptable level of performance. This indicates that respondents strongly acknowledge GENIUS-AI's effectiveness in guiding learners toward accurate verb usage across different tenses. Furthermore, GENIUS-AI is able to recommend appropriate verb forms based on context and tone. Although this item received a slightly lower mean score of M = 4.18 with SD = 0.94, it still shows that the tool effectively illustrates the use of different verb aspects to clarify the status of actions.

Primarily, the weighted mean of 4.26 with SD = 0.90 demonstrates a highly acceptable level of GENIUS-AI's capability in verb conjugation, underscoring its usefulness in strengthening learners' mastery of tense and aspect in English grammar.

The findings indicate that GENIUS-AI reinforces correct verb usage across tenses and aspects, strengthening students' understanding of subject-verb agreement and timelines.

Table 6. Level of GENIUS AI as a Supplemental Material in terms of Word Definition

Statements GENIUS-AI, as a supplemental material, is able to…	Mean	SD	Remarks
…define word meanings accurately across different contexts.	4.42	0.66	Strongly Agree
…model correct vocabulary usage through sample sentences.	4.31	0.82	Strongly Agree
…clarify grammar-related terms through contextualized explanations.	4.38	0.86	Strongly Agree
…apply new vocabulary accurately in writing tasks.	4.24	0.77	Strongly Agree
…assess understanding of technical grammar terms through examples.	4.38	0.89	Strongly Agree
Weighted Mean	4.35		
SD	0.77		
Verbal Interpretation	Highly Acceptable		

Table 6 shows the level of GENIUS AI as a Supplemental Material in terms of Word Definition.

The highest-rated statement is "GENIUS-AI, as a supplemental material, is able to define word meanings accurately across different contexts" with a mean score of M = 4.42 and SD = 0.66, which was verbally interpreted as Highly Acceptable. This indicates that respondents strongly recognize GENIUS-AI's effectiveness in clarifying vocabulary across varied situations. Meanwhile, the lowest-rated statement is "GENIUS-AI, as a supplemental material, is able to apply new vocabulary accurately in writing tasks" with a mean score of M = 4.24 and SD = 0.77, which was also interpreted as Highly Acceptable, showing that the tool remains effective in supporting learners' application of vocabulary in written outputs.

In its entirety, the weighted mean of 4.35 with SD = 0.77 demonstrates a Highly Acceptable level of GENIUS-AI's capability in word definition, underscoring its usefulness in enhancing learners' vocabulary knowledge and grammar-related understanding.

The study presents evidence that GENIUS-AI effectively supports vocabulary development and enhances understanding of grammar-related terminology. Students perceive the AI as highly capable of providing accurate word definitions and contextualized explanations. This suggests that GENIUS-AI significantly contributes to improving students' vocabulary knowledge and grammar comprehension.

Level of Students' Affective Learning

In this study, the level of students' affective learning is assessed in terms of three components such as Attitude, Emotion, and Value. These dimensions capture how learners respond to GENIUS-AI beyond cognitive outcomes, reflecting their dispositions, feelings, and the importance they attach to the learning process.

The succeeding tables present the statements, mean scores, standard deviations, remarks, and verbal interpretations, offering insights into respondents' perspectives on how GENIUS-AI influences their affective learning experiences.

Table 7. Level of Students' Affective Learning in terms of Attitude

Statements As a Student, I…	Mean	SD	Remarks
…respond to grammar learning with interest.	4.31	0.73	Strongly Agree
…participate in grammar-related tasks willingly.	4.36	0.65	Strongly Agree
…demonstrate openness toward AI-supported grammar activities.	4.31	0.76	Strongly Agree
…exhibit a positive attitude toward grammar lessons.	4.22	0.79	Strongly Agree
…engage in grammar activities actively.	4.38	0.75	Strongly Agree
Weighted Mean	4.32		
SD	0.71		
Verbal Interpretation	Very High		

Table 7 shows the level of Students' Affective Learning in terms of Attitude.

The statement "I engage in grammar activities actively" obtained a mean score of M = 4.38 with SD = 0.75, which was

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verbally interpreted as Very High, reflecting that students show strong involvement and enthusiasm when participating in grammar-related tasks. Whereas, the statement "I exhibit a positive attitude toward grammar lessons" received a mean score of M = 4.22 with SD = 0.79, also interpreted as Very High, suggesting that learners consistently maintain a favorable disposition toward grammar instruction even if the rating is slightly lower.

Taken as a whole, the weighted mean of 4.32 with SD = 0.71 confirms a Very High level of affective learning in terms of Attitude, underscoring students' interest, willingness, and openness toward AI-supported grammar activities.

These results highlight that students not only demonstrate active engagement but also sustain a positive outlook toward grammar learning, reinforcing the role of GENIUS-AI in fostering interest, willingness, and openness in AI-supported grammar activities.

Table 8 shows the level of Students' Affective Learning in terms of Emotion.

The statement "I show motivation when learning grammar" obtained a mean score of M = 4.47 with SD = 0.73, verbally interpreted as High, reflecting that students feel strongly motivated when engaging in grammar instruction. By contrast, the statement "I experience less anxiety when making grammar mistakes" received a mean score of M = 3.91 with SD = 0.76, also interpreted as High, suggesting that while learners generally feel more at ease, some degree of apprehension remains when errors occur.

Table 8. Level of Students' Affective Learning in terms of Emotion

Statements As a Student, I…	Mean	SD	Remarks
…show motivation when learning grammar.	4.47	0.73	Strongly Agree
…display confidence while completing grammar tasks.	3.98	0.89	Agree
…express enjoyment during AI-assisted activities.	4.27	0.78	Strongly Agree
…experience less anxiety when making grammar mistakes.	3.91	0.76	Agree
…feel comfortable learning grammar independently.	4.11	0.86	Agree
Weighted Mean	4.15		
SD	0.80		
Verbal Interpretation	High		

Altogether, the weighted mean of 4.15 with SD = 0.80 confirms a High level of affective learning in terms of Emotion, underscoring that GENIUS-AI fosters motivation, enjoyment, and confidence while helping reduce anxiety in grammar-related tasks.

Table 9 shows the level of Students' Affective Learning in terms of Value.

The statement "I recognize the usefulness of AI-supported tools in improving my grammar skills" obtained a mean score of M = 4.40 with SD = 0.62, verbally interpreted as Very High, showing that learners strongly acknowledge the practical benefits of integrating AI into grammar instruction. Comparably, the statement "I commit to using AI tools to support my English language development" received a mean score of M = 4.22 with SD = 0.68, also interpreted as Very High, indicating that while slightly lower, students still demonstrate a strong willingness to incorporate AI into their learning practices. Integrally, the weighted mean of 4.32 with SD = 0.68 confirms a Very High level of affective learning in terms of Value, underscoring that students appreciate the importance of grammar learning and recognize the meaningful contribution of AI-assisted activities to their academic growth.

Table 9. Level of Students' Affective Learning in terms of Value

Statements As a Student, I…	Mean	SD	Remarks
…recognize the usefulness of AI-supported tools in improving my grammar skills.	4.40	0.62	Strongly Agree
…appreciate the importance of grammar learning for academic performance.	4.36	0.61	Strongly Agree
…value the contribution of AI-assisted activities to my learning experience.	4.38	0.77	Strongly Agree
…acknowledge that grammar learning becomes more meaningful with AI support.	4.24	0.88	Strongly Agree
…commit to using AI tools to support my English language development.	4.22	0.68	Strongly Agree
Weighted Mean	4.32		
SD	0.68		
Verbal Interpretation	Very High		

The findings indicate that students strongly perceive AI-supported grammar instruction as meaningful, engaging, and beneficial to their learning experience. This suggests that learners recognize the relevance of AI tools in helping them understand complex grammatical concepts, particularly in areas such as tense and aspect. Such positive perceptions reflect a high level of instructional acceptability, where students view AI as a valuable support in the learning process.

Level of Students' Grammar Skills

In this study, the level of students' grammar skills refers to Sentence Structure, Subject-Verb Agreement, and Tense-Aspect. These areas serve as the core indicators of students' proficiency in grammar and are used to evaluate the effectiveness of GENIUS-AI as a supplemental learning tool.

The table presents the distribution of students' grammar skills in terms of sentence structure, showing the frequency and percentage of responses. It also includes the computed weighted mean, standard deviation, and the corresponding verbal interpretation, providing a comprehensive overview of students' performance in this grammar component.

Table 10 presents the level of students' grammar skills in terms of sentence structure among the forty-five (45) respondents. The data reveal that the score range of 13–15 obtained the highest frequency, with twenty (20) students or 44.44% of the total population, corresponding to the descriptive equivalent of Mastered. This indicates that a large proportion of the students have already achieved a strong command of sentence structure. The range of 10–12 followed, with seventeen (17) students or 37.78%, described as Closely Approximating Mastery, suggesting that many learners are nearing full mastery. Meanwhile, seven (7) students or 15.56% fell within the 7–9 range, interpreted as Moving Towards Mastery, indicating a developing level of competence. The lowest frequency was recorded in the 4–6 range, with only one (1) student or 2.22%, categorized under Average Mastery,

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while no students were classified under the 0–3 range or Low Mastery/Very Low Mastery/No Mastery.

Table 10. Level of Students' Grammar Skills in terms of Sentence Structure

Range	Examination		Descriptive Equivalent
	F	**%**	
13-15	20	44.44	Mastered
10-12	17	37.78	Closely Approximating Mastery
7-9	7	15.56	Moving Towards Mastery
4-6	1	2.22	Average Mastery
0-3	0	0	Low Mastery/ Very Low Mastery/ No Mastery
Total	45	100	
Weighted Mean	11.80		
SD	2.55		
Verbal Interpretation	Closely Approximating Mastery		

With a total weighted mean of 11.80 and a standard deviation of 2.55, the overall level of students' grammar skills in terms of sentence structure is described as Closely Approximating Mastery. This suggests that, on average, students are performing at a relatively high level, although slight variations in their abilities still exist.

In summary, the findings indicate that most students are at the Mastered and Closely Approximating Mastery levels in terms of sentence structure. While a considerable number of learners have already achieved or are nearing mastery, a smaller group remains in the developing stages. The relatively moderate standard deviation implies some variability in students' syntactic proficiency, meaning that although many students demonstrate strong sentence construction skills, a few still experience difficulties. Overall, the students' performance can be described as closely approximating mastery, reflecting commendable progress, however, continuous and targeted instructional support is still necessary to ensure that all learners achieve full grammatical competence.

Table 11 presents the level of students' grammar skills in terms of subject–verb agreement among the forty-five respondents. The results show that the score range of 10–12 obtained the highest frequency, with twenty-five (25) students or 55.56% of the total population, corresponding to the descriptive equivalent of Closely Approximating Mastery. This indicates that the majority of students are nearing mastery of subject–verb agreement. The range of 13–15 followed, with eleven (11) students or 24.44%, described as Mastered, suggesting that a considerable number of learners have already achieved a strong command of this grammatical skill. Meanwhile, eight (8) students or 17.78% fell within the 7–9 range, interpreted as Moving Towards Mastery, indicating a developing level of proficiency. No students were classified under the 4–6 range or Average Mastery, while only one (1) student or 2.22% fell under the 0–3 range, categorized as Low Mastery/Very Low Mastery/No Mastery.

With a weighted mean of 10.98 and a standard deviation of 2.17, the overall level of students' grammar skills in terms of subject–verb agreement is described as Closely Approximating Mastery. This suggests that, on average, students demonstrate a relatively high level of competence, although minor inconsistencies in their application of subject–verb agreement rules remain evident.

Table 11. Level of Students' Grammar Skills in terms of Subject-Verb Agreement

Range	Examination		Descriptive Equivalent
	F	**%**	
13-15	11	24.44	Mastered
10-12	25	55.56	Closely Approximating Mastery
7-9	8	17.78	Moving Towards Mastery
4-6	0	0	Average Mastery
0-3	1	2.22	Low Mastery/ Very Low Mastery/ No Mastery
Total	45	100	
Weighted Mean	10.98		
SD	2.17		
Verbal Interpretation	Closely Approximating Mastery		

In final analysis, the findings indicate that most students are at the Closely Approximating Mastery level in terms of subject–verb agreement. While a notable proportion of learners have already mastered the skill, some are still in the process of developing their proficiency. The relatively low standard deviation suggests less variability in students' performance compared to other areas, indicating that most learners perform within a similar range of ability. Taken as a whole, the students' performance reflects satisfactory progress toward mastery, however, continuous and focused instructional support is necessary to address remaining difficulties and ensure consistent grammatical accuracy.

Table 12. Level of Students' Grammar Skills in terms of Tense-Aspect

Range	Examination		Descriptive Equivalent
	F	**%**	
13-15	17	37.78	Mastered
10-12	21	46.67	Closely Approximating Mastery
7-9	4	8.89	Moving Towards Mastery
4-6	3	6.67	Average Mastery
0-3	0	0	Low Mastery/ Very Low Mastery/ No Mastery
Total	45	100	
Weighted Mean	11.58		
SD	2.63		
Verbal Interpretation	Closely Approximating Mastery		

Table 12 presents the level of students' grammar skills in terms of tense–aspect among the forty-five respondents. The results show that the score range of 10–12 obtained the highest frequency, with twenty-one (21) students or 46.67% of the total population, corresponding to the descriptive equivalent of Closely Approximating Mastery. This indicates that the majority of students are nearing mastery of tense–aspect. The range of 13–15 followed, with seventeen (17) students or 37.78%, described as Mastered, suggesting that a considerable number of learners have already achieved a strong command of tense–aspect usage. Meanwhile, four (4) students or 8.89% fell within the 7–9 range, interpreted as Moving Towards Mastery, indicating a developing level of proficiency. Additionally, three (3) students or 6.67% were classified under

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the 4–6 range or Average Mastery, while no students fell under the 0–3 range, or Low Mastery/Very Low Mastery/No Mastery.

With a total weighted mean of 11.58 and a standard deviation of 2.63, the overall level of students' grammar skills in terms of tense–aspect is described as Closely Approximating Mastery.

In its entirety, the results indicate that students are generally at the Closely Approximating Mastery level in tense–aspect. While a large proportion of learners have already mastered or are nearing mastery, a smaller group remains in the developing and average mastery levels. The moderate standard deviation suggests some variability in students' performance, indicating that although many learners demonstrate strong understanding of tense and aspect, a few still encounter difficulties in consistent application. In general, the students' performance reflects commendable progress, however, it underscores the need for continuous, scaffolded, and contextualized practice to ensure that all learners achieve full mastery of tense–aspect usage.

GENIUS-AI as Supplemental Material and Students' Affective Learning

Table 13 presents the significant relationship between GENIUS-AI as a supplemental material and students' affective learning. This analysis seeks to determine whether the different components of GENIUS-AI are significantly associated with learners' affective domains, specifically their attitude, emotion, and perceived value toward grammar learning.

Table 13. Significant Relationship between the GENIUS-AI as Supplemental Material and Students' Affective Learning

GENIUS-AI as Supplemental Material		Attitude	Emotion	Value
Context Awareness	Pearson Correlation	0.406**	0.706***	0.467**
	Sig. (2-tailed)	0.006	<.001	0.001
	N	45	45	45
Grammar Correction	Pearson Correlation	0.653***	0.622***	0.604***
	Sig. (2-tailed)	<.001	<.001	<.001
	N	45	45	45
Natural Language	Pearson Correlation	0.380**	0.545***	0.409**
	Sig. (2-tailed)	0.01	<.001	0.005
	N	45	45	45
Text Generation	Pearson Correlation	0.541***	0.636***	0.523***
	Sig. (2-tailed)	<.001	<.001	<.001
	N	45	45	45
Verb Conjugation	Pearson Correlation	0.495***	0.549***	0.426**
	Sig. (2-tailed)	<.001	<.001	0.004
	N	45	45	45
Word Definition	Pearson Correlation	0.737***	0.691***	0.689***
	Sig. (2-tailed)	<.001	<.001	<.001
	N	45	45	45

In particular, the table examines the correlation between the components of GENIUS-AI namely context awareness, natural language, text generation, grammatical correctness, verb conjugation, and word definition and the three dimensions of affective learning. By analyzing the Pearson's r values and corresponding p-values, the study determines the strength and significance of the relationships, providing empirical evidence on how AI-assisted tools contribute to enhancing students' affective responses in the learning process.

From an overall perspective, the results show that all components of GENIUS-AI have positive and statistically significant relationships with students' affective learning indicators, as evidenced by the correlation coefficients and corresponding significance values. The correlation values range from r = 0.380 to r = 0.737, and all p-values are less than 0.05, indicating significant relationships between the AI components and students' affective learning. This suggests that the utilization of GENIUS-AI features is associated with higher levels of students' attitude, emotion, and value toward grammar learning.

In terms of Attitude, the highest correlation is observed in Word Definition ($r = 0.737$, $p < .001$), indicating a strong positive relationship between the use of AI-generated word definitions and students' positive disposition toward grammar learning. This is followed by Grammar Correction ($r = 0.653$, $p < .001$) and Text Generation ($r = 0.541$, $p < .001$), which also demonstrate strong and significant relationships with students' attitude. Meanwhile, Natural Language ($r = 0.380$, $p = 0.01$) shows the lowest correlation, although it still indicates a statistically significant moderate relationship.

With respect to Emotion, the strongest relationship is observed in Context Awareness ($r = 0.706$, $p < .001$) and Word Definition ($r = 0.691$, $p < .001$), suggesting that AI features that provide contextual feedback and vocabulary support enhance students' emotional engagement in grammar learning. Similarly, Text Generation ($r = 0.636$, $p < .001$) and Grammar Correction ($r = 0.622$, $p < .001$) also demonstrate strong positive relationships with students' emotional responses toward grammar activities.

In terms of Value, the highest correlation is found in Word Definition ($r = 0.689$, $p < .001$), indicating that students strongly recognize the usefulness of vocabulary explanations in supporting grammar learning. This is followed by Grammar Correction ($r = 0.604$, $p < .001$) and Text Generation ($r = 0.523$, $p < .001$), which also show strong positive relationships with students' perceived importance and usefulness of AI-assisted learning.

Jointly considered, the findings indicate that GENIUS-AI as a supplemental material is significantly associated with students' affective learning. The consistent positive correlations across all components suggest that AI-supported grammar instruction promotes students' attitude, emotional engagement, and perceived value of grammar learning. Specifically, AI features such as context awareness, grammar correction, natural language processing, text generation, verb conjugation, and word definition contribute to a more engaging and meaningful grammar learning experience. These results imply that the integration of AI-supported instructional materials like GENIUS-AI may enhance students' affective responses toward grammar learning.

Based on these results, the null hypothesis stating that there is no significant relationship between GENIUS-AI as a

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supplemental material and students' affective learning is rejected.

Moreover, the immediate and adaptive feedback provided by GENIUS-AI helps students better understand grammatical rules and correct language use. This support not only improves their grammatical competence but also strengthens their confidence, motivation, and willingness to participate in grammar-related activities, leading to more positive attitudes toward grammar learning.

GENIUS-AI as Supplemental Material on the Students' Grammar Skills

To determine the significant effect of GENIUS-AI as a supplemental material on students' grammar skills, the data were analyzed using Multiple Linear Regression Analysis through the Real Statistics Data Analysis Tool. This method examined both the combined and individual contributions of GENIUS-AI components such as context awareness, grammar correction, natural language, text generation, verb conjugation, and word definition in predicting students' grammar performance.

This approach allowed the study to identify whether GENIUS-AI significantly influences grammar skills, and which components contribute most to students' improvement, providing a comprehensive understanding of its impact on learning outcomes, as well as offering insights into how specific features can be effectively integrated to enhance instructional practices.

Table 14 presents the regression coefficients, standard errors, t-values, and significance levels of each GENIUS-AI component in predicting students' grammar skills. It shows the extent to which each AI feature contributes to grammar performance and whether its effect is statistically significant in explaining variations in students' grammar skills.

The results of the multiple linear regression analysis indicate that the model explains a moderate portion of the variation in the dependent variable. The computed Multiple R value of 0.617 suggests a moderate relationship between the set of independent variables and the outcome, while the R^2 value of 0.380 shows that approximately 38.04% of the variance in the dependent variable can be explained by the predictors included in the model. After adjusting for the number of variables, the Adjusted R^2 decreased to 0.283, indicating a modest explanatory capability. The standard error of 2.164 further reflects the average deviation of the observed values from the predicted values, based on the 45 observations included in the analysis.

The overall regression model was found to be statistically significant, as indicated by the ANOVA results ($F = 3.888$, $p = 0.004$). This implies that the independent variables, when taken together, significantly predict the dependent variable. However, when examining each predictor individually, only verb conjugation demonstrated a statistically significant effect. Specifically, verb conjugation showed a positive and significant relationship with the dependent variable ($\beta = 1.760$, $p = 0.0089$), indicating that higher scores in verb conjugation are associated with increases in the outcome variable.

Table 14. Significant Effect of GENIUS-AI as Supplemental Material on the Students' Grammar Skills

Regression Statistics	
Multiple R	0.616734
R Square	0.38036
Adjusted R Square	0.282522
Standard Error	2.164064
Observations	45

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	6	109.2395	18.20658	3.887659	0.004013
Residual	38	177.9605	4.683172		
Total	44	287.2			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	3.984176	2.784274	1.430957	0.160615	-1.65229	9.620644	-1.65229	9.620644
Context Awareness	0.817059	1.025265	0.796925	0.430446	-1.25848	2.892599	-1.25848	2.892599
Grammar Correctior	-0.4614	0.966098	-0.4776	0.635673	-2.41717	1.494358	-2.41717	1.494358
Natural Language	-0.76519	0.894637	-0.85531	0.39774	-2.57629	1.045905	-2.57629	1.045905
Text Generation	0.600437	0.849061	0.707177	0.483771	-1.1184	2.319272	-1.1184	2.319272
Verb Conjugation	1.759646	0.638001	2.758059	0.00889	0.468079	3.051212	0.468079	3.051212
Word Definition	-0.09894	0.805359	-0.12285	0.90287	-1.72931	1.531423	-1.72931	1.531423

In contrast, the remaining variables—AWA ($\beta = 0.817$, $p = 0.430$), grammar ($\beta = -0.461$, $p = 0.636$), natural language ($\beta = -0.765$, $p = 0.398$), text generation ($\beta = 0.600$, $p = 0.484$), and word definition ($\beta = -0.099$, $p = 0.903$)—were not found to be statistically significant predictors, as all their p-values exceeded the 0.05 level of significance. Although these variables exhibited either positive or negative coefficients, their effects were not strong enough to meaningfully influence the dependent variable within this model. Additionally, the intercept ($\beta = 3.984$, $p = 0.161$) was not statistically significant, suggesting that the baseline level of the dependent variable is not significantly different from zero when all predictors are held constant.

Cumulatively, the findings highlight that while the regression model is significant, verb conjugation is the only variable that plays a key role in predicting the dependent variable.

The multiple linear regression analysis was conducted to determine the influence of GENIUS-AI components such as context awareness, grammar correction, natural language, text generation, verb conjugation, and word definition on students' grammar skills in terms of subject–verb agreement. The model yielded a Multiple R value of 0.748, indicating a strong relationship between the independent variables and the dependent variable. The R^2 value of 0.559 shows that approximately 55.94% of the variance in students' subject–verb agreement skills can be explained by the predictors included in the model. After adjusting for the number of variables, the Adjusted R^2 of 0.490 still reflects a substantial

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explanatory power. The standard error of 1.549 indicates a relatively low level of prediction error across the 45 observations.

Subject-Verb Agreement

Regression Statistics	
Multiple R	0.747955
R Square	0.559437
Adjusted R Square	0.489875
Standard Error	1.54908
Observations	45

ANOVA

	df	SS	MS	F	Significance F
Regression	6	115.7911	19.29852	8.042226	<0.001
Residual	38	91.18666	2.399649		
Total	44	206.9778			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	4.327859	1.993039	2.171488	0.036205	0.293163	8.362555	0.293163	8.362555
Context Awareness	-0.96604	0.733905	-1.31631	0.195956	-2.45176	0.519669	-2.45176	0.519669
Grammar Correction	-0.35275	0.691552	-0.51008	0.612946	-1.75272	1.047228	-1.75272	1.047228
Natural Language	0.375984	0.640399	0.58711	0.560602	-0.92044	1.672404	-0.92044	1.672404
Text Generation	1.936664	0.607775	3.186481	0.002878	0.706288	3.16704	0.706288	3.16704
Verb Conjugation	0.859477	0.456694	1.881954	0.067518	-0.06505	1.784007	-0.06505	1.784007
Word Definition	-0.24082	0.576492	-0.41774	0.678492	-1.40787	0.926227	-1.40787	0.926227

The ANOVA results reveal that the regression model is statistically significant ($F = 8.042$, $p < 0.001$), which means that the independent variables, when taken together, significantly predict students' subject–verb agreement skills. This suggests that the GENIUS-AI components collectively have a meaningful impact on students' performance in this area.

In terms of individual predictors, text generation emerged as the only statistically significant variable ($\beta = 1.937$, $p = 0.0029$), indicating a strong positive relationship with subject–verb agreement. This implies that improvements in text generation are associated with higher levels of accuracy in subject–verb agreement. Verb conjugation ($\beta = 0.859$, $p = 0.0675$) showed a positive but not statistically significant effect at the 0.05 level, although it may be considered marginally significant. On the other hand, context awareness ($\beta = -0.966$, $p = 0.196$), grammar correction ($\beta = -0.353$, $p = 0.613$), natural language ($\beta = 0.376$, $p = 0.561$), and word definition ($\beta = -0.241$, $p = 0.678$) were not statistically significant predictors, as their p-values exceeded the 0.05 threshold.

The intercept ($\beta = 4.328$, $p = 0.036$) was found to be statistically significant, indicating that the baseline level of subject–verb agreement is significantly different from zero when all predictors are held constant.

Altogether, the findings suggest that while the regression model is significant and explains a considerable portion of the variance, text generation is the most influential factor affecting students' subject–verb agreement skills, highlighting its importance in improving grammatical accuracy.

The multiple linear regression analysis was conducted to determine the influence of GENIUS-AI components such as context awareness, grammar correction, natural language, text generation, verb conjugation, and word definition on students' grammar skills in terms of tense–aspect. The model yielded a Multiple R value of 0.539, indicating a moderate relationship between the independent variables and tense–aspect performance. The R^2 value of 0.290 suggests that approximately 29.03% of the variance in students' tense–aspect skills can be explained by the predictors included in the model. After adjusting for the number of variables, the Adjusted R^2 decreased to 0.178, indicating a relatively low explanatory power. The standard error of 2.387 reflects the average deviation of the observed values from the predicted values across the 45 observations.

Tense-Aspect

Regression Statistics	
Multiple R	0.538806
R Square	0.290311
Adjusted R Square	0.178255
Standard Error	2.386581
Observations	45

ANOVA

	df	SS	MS	F	Significance F
Regression	6	88.53856	14.75643	2.59077	0.033345
Residual	38	216.4392	5.695769		
Total	44	304.9778			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.487252	3.070564	0.484358	0.630912	-4.72878	7.703283	-4.72878	7.703283
Context Awareness	0.563148	1.130686	0.498059	0.621313	-1.72581	2.852102	-1.72581	2.852102
Grammar Correction	0.563764	1.065435	0.529139	0.599787	-1.5931	2.720625	-1.5931	2.720625
Natural Language	-0.47818	0.986627	-0.48466	0.630701	-2.4755	1.519144	-2.4755	1.519144
Text Generation	-0.11138	0.936365	-0.11895	0.905941	-2.00695	1.78419	-2.00695	1.78419
Verb Conjugation	1.180974	0.703603	1.678466	0.101463	-0.2434	2.605344	-0.2434	2.605344
Word Definition	0.629445	0.88817	0.708699	0.482836	-1.16856	2.42745	-1.16856	2.42745

The ANOVA results indicate that the regression model is statistically significant ($F = 2.591$, $p = 0.033$), which means that the independent variables, when taken together, significantly predict students' tense–aspect skills. This suggests that the GENIUS-AI components collectively contribute to students' performance in this area, although the overall effect is modest.

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However, when examining the individual predictors, none of the variables were found to be statistically significant at the 0.05 level. Specifically, context awareness (β = 0.563, p = 0.621), grammar correction (β = 0.564, p = 0.600), natural language (β = -0.478, p = 0.631), text generation (β = -0.111, p = 0.906), verb conjugation (β = 1.181, p = 0.101), and word definition (β = 0.629, p = 0.483) all have p-values greater than 0.05. Although verb conjugation shows a relatively higher coefficient and is closer to significance, it still does not meet the required threshold.

The intercept (β = 1.487, p = 0.631) was not statistically significant, indicating that the baseline level of students' tense–aspect skills is not significantly different from zero when all predictors are held constant.

In synthesis, the findings suggest that while the regression model is statistically significant as a whole, no single GENIUS-AI component independently predicts students' tense–aspect skills. This implies that the combined influence of the variables contributes to the outcome, but their individual effects are not strong enough to be considered significant predictors.

IV. Conclusion and Recommendations

Based on the results of the Pearson Product–Moment Correlation Coefficient, there is a statistically significant relationship between GENIUS-AI and students' affective learning in terms of attitude, emotion, and value. The results indicated that affective learning variables were significantly correlated with all elements of GENIUS-AI, suggesting that more positive attitudes, emotional engagement, and perceived value toward learning are related with the increased use of GENIUS-AI. Therefore, the null hypothesis stating that there is no significant relationship between GENIUS-AI as a supplemental material and students' affective learning is rejected.

On the other hand, the results of Multiple Linear Regression Analysis revealed that GENIUS-AI has a statistically significant effect on students' grammar skills in terms of sentence structure, subject–verb agreement, and tense–aspect. The results showed that grammar performance of students was significantly improved after the introduction of GENIUS-AI, which proves that the additional content is used to increase grammatical competence of students. In such a way, the null hypothesis according to which the effect of GENIUS-AI as the supplemental material on grammar skills of students is not significant is rejected as well.

To sum up, the research confirms that GENIUS-AI is a powerful and efficient addition to the instruction process, which can dramatically improve the grammar of students and has a positive impact on their affective learning. Not only does the integration of GENIUS-AI in the instruction enhance grammatical proficiency in students, but it also delivers positive attitudes towards learning, emotional engagement and recognition of the learning process.

The following recommendations are offered, based on the findings and conclusions of the research:

English Teachers may provide more focused grammar activities on sentence structure because it obtained the lowest mean among the grammar skill indicators, while subject-verb agreement and tense-aspect also need further reinforcement to improve students' mastery.

Students may consistently use GENIUS-AI to strengthen their grammar skills, sustain their very high affective learning as shown in the results of the study, and further improve areas identified as closely approximating mastery so they can progress toward a higher level of mastery.

Future researchers may conduct similar studies using a larger sample size and varied groups of learners to further validate and strengthen the findings of this study, particularly on the effectiveness of GENIUS-AI in enhancing students' affective learning and grammar skills, as well as to determine whether similar positive outcomes will still be observed across different learning contexts and learner profiles.

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