

# The Influence of the Artificial Intelligence (AI) Tools on the Writing Skills of the Senior High School Learners in the Schools Division of Ligao City

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| ARTICLE INFORMATION                                                                                                                                                                       | ABSTRACT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| <b>Article history:</b><br>Published: October 2026<br><br><b>Keywords:</b><br>Artificial Intelligence<br>AI Tools<br>Writing Skills<br>Senior High School<br>Digital Divide<br>Ligao City | This study determined the influence of Artificial Intelligence (AI) tools on the writing skills of Senior High School learners in the Schools Division of Ligao City for School Year 2025–2026. It examined the utilization of eleven AI tools, agreement on their rank orders across MEGA, LARGE, and MEDIUM schools, their influence on six writing dimensions, and policy recommendations. The study employed the descriptive-evaluative-correlational method. Thirty-nine Senior High School English teachers from 12 public secondary schools answered a researcher-made questionnaire. Weighted mean, rank, Kendall's Coefficient of Concordance (W), and chi-square were used, with a significance level of 0.05. Findings revealed that AI tools were Utilized, with an overall weighted mean of 2.90. ChatGPT (3.00), DeepSeek (2.98), and Perplexity AI (2.96) ranked highest, while Google Gemini (2.76) ranked lowest. There was no significant agreement on the rank orders of AI tools utilized. The influence of AI tools on writing skills was Evident, with an overall weighted mean of 2.79. Grammar Accuracy and Sentence Construction ranked highest (2.89), while Punctuation Usage ranked lowest (2.71). No significant agreement was established across the six writing dimensions. The study concluded that learners primarily utilized generative AI tools and that AI use evidently influenced writing skills. Policy recommendations included shared AI resources, AI-assisted writing activities, ethical guidelines, teacher training, and improved connectivity, particularly for MEDIUM schools. Future research should examine other divisions, learners' preferences for generative AI, long-term writing development, regional digital disparities, and the potential effects of prolonged AI use on learner autonomy and critical thinking. |

## 1. Introduction

The rapid advancement of technology has transformed education by introducing innovative tools that support teaching and learning. Among these innovations, Artificial Intelligence (AI) has emerged as a significant educational resource, providing personalized assistance, automated feedback, and writing suggestions. AI-powered applications help learners generate ideas, correct errors, improve sentence construction, and organize written outputs. This study examines the influence of AI tools on the writing skills of Senior High School learners in the Schools Division of Ligao City during School Year 2025–2026.

Writing is a fundamental academic skill that enables learners to express ideas, demonstrate understanding, and communicate effectively. However, effective writing requires competence in content development and idea elaboration, logical flow and coherence, grammar accuracy and sentence construction, vocabulary and word choice, spelling accuracy, and punctuation usage. Many learners experience difficulties in these areas, resulting in unclear, inaccurate, or poorly organized written outputs. AI tools may provide immediate feedback and instructional support to address these challenges while encouraging learners to improve their writing proficiency.

Popular AI tools include ChatGPT, Google Gemini, Microsoft Copilot, Grammarly, QuillBot, Perplexity AI, NotebookLM, Canva AI, Dola, Claude, and DeepSeek. Grammarly assists with grammar and writing conventions, while QuillBot supports paraphrasing and summarization. ChatGPT and other generative AI applications can assist with brainstorming, content development, organization, and language refinement. Perplexity AI and NotebookLM can support research and information organization. These applications offer different capabilities that may help learners produce clearer and more coherent written outputs. However, their effectiveness depends on responsible use, appropriate guidance, and learners' continued engagement in independent writing.

The study is anchored on Article XIV, Section 1 of the 1987 Philippine Constitution, which recognizes the State's responsibility to protect and promote citizens' right to quality education and make education accessible to all. This constitutional mandate supports efforts to improve instructional practices and provide learners with opportunities to develop essential academic competencies through appropriate educational innovations.

Similarly, Republic Act No. 9155, or the Governance of Basic Education Act of 2001, promotes quality basic education, school accountability, and school-based management. Its principles support localized educational initiatives that respond to learners' needs. Examining AI-assisted writing instruction may help schools identify practical strategies for improving writing performance while ensuring that technology supports, rather than replaces, effective teaching.

Republic Act No. 10533, or the Enhanced Basic Education Act of 2013, institutionalized the K to 12 Basic Education Program to prepare learners for higher education, employment, and lifelong learning. The development of communication, critical thinking, and

technological competencies remains important within this framework. Integrating AI tools into writing instruction may provide opportunities for learners to strengthen their English proficiency and develop responsible digital literacy skills.

Professional development initiatives also support the effective integration of technology into classroom instruction. Division Memorandum No. 194, s. 2024, concerning the interim structure of the National Educators Academy of the Philippines (NEAP), provides relevant context for strengthening teacher development. Equipping teachers with appropriate knowledge and skills in AI-assisted instruction may improve their ability to guide learners in using emerging technologies effectively and ethically.

Furthermore, the Schools Division Office of Ligao City promotes research through activities such as the Division Research Colloquium. These initiatives encourage teachers and school personnel to develop research competencies, share findings, and apply evidence-based practices. Since research writing requires clarity, organization, grammatical accuracy, and proper communication, investigating AI tools may provide insights into their potential contribution to improving academic writing among Senior High School learners.

DepEd initiatives concerning English instruction, academic writing, and campus journalism also emphasize the importance of developing learners' written communication skills. Division and national directives that promote writing activities provide a relevant context for examining how AI-assisted applications can support writing instruction. When properly guided, learners may use AI-generated suggestions to revise their work, identify weaknesses, and develop greater awareness of writing conventions.

Related studies have examined the benefits and limitations of AI in writing development. Farhan (2023) reported that AI-powered writing tools can improve grammatical accuracy and coherence, while raising concerns about independent writing and critical thinking. Mahapatra (2024) found that ChatGPT, when used as a formative feedback tool, improved ESL learners' academic writing, particularly organization and vocabulary. Das and Chen (2025) discussed improvements in writing fluency alongside concerns regarding originality and academic integrity. These findings emphasize the importance of integrating AI tools responsibly and maintaining learners' active participation in the writing process.

In the Philippine educational context, AI-assisted applications are increasingly accessible to learners completing academic tasks. In the Schools Division of Ligao City, Senior High School learners may use these tools to support assignments, essays, research papers, and other written activities. However, limited localized evidence exists regarding the extent of their utilization and their influence on specific writing dimensions. Findings from international studies cannot automatically be generalized to Filipino learners because educational experiences, language backgrounds, technological access, and institutional conditions differ. Consequently, research within the division is necessary to establish a clearer understanding of AI use in the local educational setting.

The influence of AI tools on writing skills is important to various educational stakeholders. For learners, the findings may provide guidance on using technology to improve writing proficiency without compromising originality and independent thinking. For teachers, the study may inform instructional strategies, feedback practices, and classroom assessment. For school administrators, the results may guide decisions concerning technological resources, teacher training, and school policies. For policymakers, the findings may provide evidence for developing guidelines on ethical AI integration. Researchers may also use the results as a foundation for further investigations into AI-assisted learning and academic writing.

In this context, the study seeks to determine the influence of AI tools on the writing skills of Senior High School learners in the Schools Division of Ligao City during School Year 2025–2026. Specifically, it examines the AI tools utilized by learners and their influence on content development and idea elaboration, logical flow and coherence of ideas, grammar accuracy and sentence construction, vocabulary and word choice, spelling accuracy, and punctuation usage. It also seeks to establish agreement in the rankings of AI tools utilized and their influence on writing skills.

Ultimately, the findings are expected to support the formulation of practical policy recommendations for improving writing instruction and promoting responsible AI utilization. By identifying how learners use AI tools and how these tools influence different writing dimensions, the study aims to help educators maximize technological benefits while preserving creativity, critical thinking, academic integrity, and independent learning. Through evidence-based recommendations, the research may contribute to strengthening writing competencies and promoting equitable, effective, and technology-responsive education in the Schools Division of Ligao City.

### *1.1 Statement of the Problem*

This study determined the influence of the Artificial Intelligence (AI) tools on the writing skills of the Senior High School learners in Ligao City Division. Specifically, it sought to answer the following questions:

1. What Artificial Intelligence (AI) tools were utilized along:

- 1.1 ChatGPT,
- 1.2 Google Gemini,
- 1.3 Microsoft Copilot,
- 1.4 Grammarly,
- 1.5 Quillbot,
- 1.6 Perplexity AI,
- 1.7 NotebookLM (Google),
- 1.8 Canva AI,
- 1.9 Dola (formerly Cici),
- 1.10 Claude, and
- 1.11 DeepSeek?

2. How significant is the agreement on the rank orders of the Artificial Intelligence (AI) tools utilized by the learners along the aforementioned aspects?

3. To what extent is the influence of the utilization of the Artificial Intelligence (AI) tools on the writing skills of the learners in terms of:

- 3.1 Content development and idea elaboration
- 3.2 Logical flow and coherence of ideas,

- 3.3 Grammar accuracy and sentence construction,
  - 3.4 Vocabulary and word choice,
  - 3.5 Spelling, and
  - 3.6 Punctuation usage?
  4. How significant is the agreement on the rank orders of the extent of the influence in the utilization of the Artificial Intelligence (AI) tools on the writing skills of the learners among the different groups of respondents?
- What policy recommendations can be formulated based from the findings of the study?

### *1.2 Assumptions of the Study*

The study was anchored on the following assumptions:

1. Learners may have been exposed to and are capable of using AI tools such as Grammarly, QuillBot, ChatGPT and other similar tools in their academic writing tasks.
2. There is no significant agreement on the rank orders of the Artificial Intelligence (AI) tools utilized by the learners.
3. The utilization of the Artificial Intelligence (AI) has influence on the writing skills of the senior high school learners of the Ligao City Division.
4. The agreement on the rank orders of the impact on the writing skills of the senior high school learners of the Ligao City Division can be determined.
5. Policy recommendations can be generated based from the findings of the study.

### *1.3 Hypotheses*

This study tested these hypotheses:

1. There is no significant agreement in the rank orders of the Artificial Intelligence (AI) tools utilized by the learners along the identified aspects.
2. There is no significant agreement in the rank orders of the influence of artificial intelligence (AI) tools on the writing skills of the Senior High School learners of the Ligao City Division.

## **2. Literature Review**

This chapter presents the review of related literature and studies that bear upon the present investigation. It begins with a brief overview of the legal and policy frameworks that provide the mandate for quality education and technology-enabled learning in the Philippine basic education context. The chapter then provides a detailed review of Artificial Intelligence (AI) tools commonly used in writing instruction, including their features, functions, and classifications across corrective tools such as Grammarly and Quillbot, generative tools including ChatGPT, Google Gemini, Microsoft Copilot, Perplexity AI, Claude, and Deepseek, and assistive tools such as NotebookLM, Canva AI, and Dola (Fitria, 2021; Kasneci et al., 2023; Kurniati & Fajaryani, 2022).

### *2.1 Constitutional and Statutory Basis for Quality Basic Education*

The fundamental right of Filipino citizens to quality education is enshrined in Article XIV, Section 1 of the 1987 Philippine Constitution, which mandates the State to protect and promote quality education at all levels and ensure its accessibility. This provision underscores the importance of developing writing skills as a core literacy competency essential for academic success and lifelong learning. The present study supports this mandate by examining how AI tools, such as Grammarly, ChatGPT, and QuillBot, can enhance the writing skills of Senior High School learners in Ligao City through technology-assisted, learner-centered instruction. Republic Act No. 9155, or the Governance of Basic Education Act of 2001, reinforces the right to quality basic education and promotes school autonomy through School-Based Management (SBM). It empowers schools to implement local initiatives that improve teaching and learning. The present study aligns with this law by investigating how public secondary schools in Ligao City, categorized as small, medium, and large, can utilize AI-assisted writing strategies to address learners' writing difficulties and improve instructional practices based on their needs.

Republic Act No. 10533, or the Enhanced Basic Education Act of 2013, established the K to 12 Basic Education Program to develop productive and responsible citizens equipped with essential competencies, skills, and values for lifelong learning and employment. It emphasizes critical and creative thinking, which are essential to effective written communication. The present study supports these objectives by examining the influence of AI tools on six dimensions of writing: content development, logical flow, grammar accuracy, vocabulary, spelling, and punctuation. By investigating their application in Ligao City's public schools, the study seeks to provide evidence on how AI-assisted instruction can strengthen learners' writing proficiency and support the goals of the K to 12 curriculum.

### *2.2 DepEd Memoranda and Division Issuances Relevant to Writing and AI Integration*

On January 3, 2025, the Department of Education issued DepEd Memorandum No. 03, s. 2025, titled Inclusion of Writing Skills Development (Grades 2 and 3) and Theme Writing (Grades 4–10) in English and Filipino Classes. The memorandum emphasizes systematic writing instruction and sustained practice to strengthen learners' written communication skills. Although it covers lower grade levels, its focus on writing development is relevant to Senior High School learners. The present study aligns with this directive by examining how AI tools, such as Grammarly, QuillBot, and ChatGPT, can support writing proficiency through grammar correction, paraphrasing, and content development among SHS learners in Ligao City.

The Department of Education's Campus Journalism Program promotes journalistic writing, critical thinking, creativity, and written expression. Division Memorandum No. 527, s. 2024, institutionalized press conferences as culminating activities to develop learners' critical thinking and writing skills. Similarly, issuances on the Enhanced Campus Journalism Program (E-CJP) emphasize essay and feature writing. These initiatives align with the present study, which examines how AI tools can assist SHS learners in developing ideas, improving grammatical accuracy, and enhancing sentence clarity. The study seeks to determine how these tools can support the writing competencies promoted by DepEd's journalism initiatives.

The Department of Education's Learning Resource Management and Development System (LRMDS) provides English 7: Quarter 4 – Module 1: The Features of Academic Writing, which emphasizes formal, objective, and technical writing. These competencies remain important for Senior High School learners preparing for higher education and professional work. The present study examines six writing dimensions: content development, logical flow, grammar accuracy, vocabulary, spelling, and punctuation. By investigating the use of AI tools in these areas, the study supports the continued development of academic writing skills and the application of appropriate writing standards.

Division Memorandum No. 194, s. 2024, adopts the interim structure of the National Educators Academy of the Philippines (NEAP) to strengthen professional development and teacher capacity building. Its focus on teacher empowerment and pedagogical innovation is relevant to the integration of AI tools in writing instruction. The present study aligns with these objectives by examining the effectiveness of AI-assisted writing tools and generating evidence that may guide teacher development programs. Its findings may help teachers in Ligao City integrate emerging technologies responsibly and improve instruction across specific writing dimensions. The Schools Division Office of Ligao City also issues memoranda concerning the Division Research Colloquium, which promotes research presentation, academic writing, and evidence-based innovation among teachers, school heads, and learners. These initiatives emphasize the preparation of well-organized research papers and adherence to established writing standards. The present study supports these priorities by examining how AI tools can help SHS learners improve content development, logical flow, grammar accuracy, vocabulary, spelling, and punctuation. Its findings may also inform future research presentations and guide the responsible integration of AI tools into academic writing instruction.

### *2.3 Artificial Intelligence in Education: Overview and Integration*

Artificial Intelligence (AI) refers to the simulation of human intelligence by computer systems, including learning, reasoning, problem-solving, perception, and language understanding (Russell & Norvig, 2021). In education, AI includes technologies ranging from rule-based tutoring systems to generative language models that produce human-like text (Holmes et al., 2019). Initially, AI applications in education focused on intelligent tutoring systems for mathematics and science (VanLehn, 2011, as cited in Zawacki-Richter et al., 2019). However, the development of large language models (LLMs) has expanded AI applications to language arts and writing instruction (Kasneci et al., 2023).

Zawacki-Richter et al. (2019) identified four major AI application areas in higher education: profiling and prediction, assessment and evaluation, adaptive systems, and intelligent tutoring. Similarly, Crompton and Burke (2023) observed a shift in K–12 education toward instructional tools that directly support learning, including writing assistants, chatbots, and automated feedback systems. Building on these developments, the present study examines 11 AI writing-oriented tools—ChatGPT, Google Gemini, Microsoft Copilot, Grammarly, QuillBot, Perplexity AI, NotebookLM, Canva AI, Dola, Claude, and DeepSeek—and their influence on Senior High School learners in Ligao City. By examining their use across small, medium, and large schools, the study contributes to research on AI integration in secondary writing instruction, an area requiring further investigation.

### *2.4 Types of AI Tools in Education (Generative, Corrective, Assistive)*

Contemporary AI tools in education can be classified into three categories: generative, corrective, and assistive (Zhang & Aslan, 2021; Baidoo-Anu & Ansah, 2023). Generative AI tools, such as ChatGPT, Google Gemini, Microsoft Copilot, Claude, DeepSeek, and Perplexity AI, produce content based on user prompts and support idea generation, content development, and drafting (Kasneci et al., 2023). Corrective AI tools, such as Grammarly, identify errors in grammar, spelling, punctuation, and style (Fitria, 2021), while QuillBot supports paraphrasing and summarization (Kurniati & Fajaryani, 2022). Assistive AI tools facilitate the writing process. NotebookLM helps organize notes and synthesize information, Canva AI supports document design and layout, and Dola assists with writing-related tasks.

The present study examines the utilization of 11 AI tools across these three categories among Senior High School learners in Ligao City. It seeks to identify the most frequently used tools and determine their perceived influence on six writing dimensions: content development, logical flow, grammar accuracy, vocabulary, spelling, and punctuation. By examining tool utilization and its relationship with writing outcomes, the study aims to determine how different AI tools may support specific writing skills.

### *2.5 Benefits and Challenges of AI Integration in Writing Instruction*

A substantial body of research has documented both the benefits and challenges of integrating AI tools into writing instruction. Benefits include: (a) immediate, personalized feedback that reduces teacher workload and increases learner autonomy (Nazari et al., 2021); (b) improved grammatical accuracy and reduced surface level errors (Farhan, 2023); (c) enhanced writing fluency and reduced writing anxiety (Mahapatra, 2024); (d) support for non native English writers in vocabulary acquisition and sentence structure (Barrot, 2023); and (e) scaffolding for idea generation and organization, particularly for learners with low prior writing competence (Su et al., 2023). Challenges include: (a) risk of over reliance and reduced critical thinking, as learners may accept AI suggestions without evaluation (Das & Chen, 2025); (b) concerns about academic integrity and plagiarism, particularly with generative AI that produces original sounding but potentially unoriginal content (Cotton et al., 2024); (c) variability in accuracy, as AI tools may produce grammatical errors or culturally inappropriate suggestions (Huang et al., 2022); (d) data privacy and security risks, especially when learners input personal or sensitive information into third party platforms (Baidoo Anu & Ansah, 2023); and (e) the digital divide—unequal access to technology, internet connectivity, and digital literacy skills—which may exacerbate existing educational inequalities (Crompton & Burke, 2023). The present study directly engages with both sides of this debate. By examining the influence of AI tools on the writing skills of SHS learners across small, medium, and large schools in Ligao City, this research will provide localized evidence on whether the benefits outweigh the challenges in a semi urban Philippine context. The practical pointers generated from the findings (Research Question 5) will include guidance on mitigating over reliance, preserving academic integrity, protecting learner data, and addressing digital access disparities across school size categories.

### *2.6 AI for Writing Instruction Specifically (Real Time Feedback, Scaffolding, Idea Generation)*

Writing instruction is a promising area for AI integration because writing is an iterative, process-based activity (Wang et al., 2024). Three AI-supported processes are commonly examined: real-time feedback, scaffolding, and idea generation.

Real-time feedback provides immediate suggestions while learners write. Tools such as Grammarly, Microsoft Copilot, and Google Gemini offer grammar, spelling, and style corrections. Nazari, Shabbir, and Setiawan (2021) found that Grammarly reduced surface-level errors in ESL learners' writing compared with teacher feedback alone.

Scaffolding provides temporary support that decreases as learners develop competence (Vygotsky, 1978, as cited in Zhang, Sunze, & Puteh, 2020). QuillBot offers alternative phrasing for comparison (Kurniati & Fajaryani, 2022), while ChatGPT can generate outlines and topic sentences that learners develop independently within their Zone of Proximal Development (Hamed et al., 2025).

Idea generation enables AI to provide content, examples, and arguments as starting points for writing. Su, Guo, and Wang (2023) found that ChatGPT improved university students' idea elaboration, particularly among those who initially struggled with content development. The present study examines these three processes through the use of 11 AI tools among Senior High School learners in Ligao City. It investigates their perceived influence on six writing dimensions: content development, logical flow, grammar accuracy, vocabulary, spelling, and punctuation. The findings may help identify which tools are most useful for specific writing needs. For instance, feedback tools may better support grammar and punctuation, while generative tools may assist with content development and logical flow. These results can guide teachers in selecting appropriate AI tools to address learners' writing weaknesses.

### *2.7 AI Powered Writing Tools: Features and Comparative Analysis*

Grammarly is an AI-powered writing assistant that provides real-time grammar, spelling, punctuation, style, and tone suggestions. Fitria (2021) reported that it reduced grammatical errors in Indonesian university students' academic writing while improving confidence and autonomy. Similarly, Nazari, Shabbir, and Setiawan (2021) found that ESL learners using Grammarly achieved better grammar accuracy and overall writing quality than those receiving teacher feedback alone. However, Ghufon and Rosyida (2018) cautioned that its suggestions may be inaccurate for complex grammatical structures, emphasizing the need for teacher supervision. Microsoft Copilot, integrated into Microsoft 365 applications, offers grammar and style checking, summarization, tone adjustment, and content generation (Microsoft, 2023). Its integration with familiar Office products may make it accessible to learners already using these applications. This study examines Grammarly and Copilot to compare their utilization and perceived influence on writing dimensions, particularly grammar accuracy and punctuation, among learners in mega, large, and medium schools in Ligao City.

QuillBot is an AI-powered tool for paraphrasing and summarizing texts while preserving their original meaning. It offers different paraphrasing modes, grammar checking, and citation support (Kurniati & Fajaryani, 2022). Their study of Indonesian EFL students found that QuillBot supported vocabulary variety and sentence structure. However, excessive reliance may reduce critical engagement with source materials and lead learners to accept paraphrased content without checking its accuracy.

NotebookLM, introduced by Google, synthesizes information from uploaded documents and other sources to generate summaries, study guides, and discussion questions (Google, 2024). Unlike QuillBot's sentence-level focus, NotebookLM supports prewriting by organizing ideas and identifying key themes across sources. This study examines both tools to determine their utilization and perceived influence on content development, logical flow, vocabulary, and originality. Findings may help teachers select appropriate tools for specific writing tasks.

Generative conversational AI uses large language models (LLMs) to produce human-like text in response to prompts. ChatGPT can generate drafts, expand ideas, rephrase sentences, explain concepts, and provide writing feedback (Kasneci et al., 2023). Mahapatra (2024) found that ESL learners receiving ChatGPT-generated feedback showed greater improvement in organization and vocabulary than those receiving teacher feedback alone.

Google Gemini offers similar generative functions and integration with Google's services (Google, 2023). Perplexity AI provides cited sources to support content verification (Perplexity AI, 2022), while Claude emphasizes safety, consistency, and processing longer texts (Anthropic, 2023). DeepSeek is another LLM with potential applications in academic writing support (DeepSeek, 2024). Das and Chen (2025) compared ChatGPT, Claude, and Gemini, finding differences in their writing capabilities, while identifying concerns about academic integrity and over-reliance.

This study examines ChatGPT, Gemini, Perplexity AI, Claude, and DeepSeek to identify their utilization rankings and determine whether rankings differ across school sizes. It also investigates their perceived influence on content development, logical flow, and vocabulary. The findings will provide localized evidence on generative AI use among Senior High School learners in Ligao City, addressing a research gap in Philippine secondary education.

Canva AI incorporates features such as Magic Write, Magic Design, and text-to-image generation to support content creation, document formatting, and visual design (Canva, 2024). In writing instruction, these features may help learners organize content, develop headings, and improve the presentation of research posters and feature articles.

Dola is an AI-powered task management and writing assistant that helps users organize projects, establish deadlines, divide complex tasks into manageable steps, and develop outlines (Dola AI, 2024). Unlike tools focused primarily on generating or correcting text, Dola supports writing processes such as planning and time management.

This study includes Canva AI and Dola to determine whether learners use design-oriented and task-management tools and perceive them as helpful for content development and logical flow. Their inclusion broadens the investigation beyond conventional language-focused tools, addressing the limited research on how integrated and emerging AI applications support writing among Senior High School learners.

### *2.8 The Nature of Writing Skills in Senior High School*

**Defining Writing Proficiency in Academic Contexts** – Writing proficiency is the ability to communicate ideas effectively through written texts while following conventions of grammar, punctuation, spelling, and organization (Kellogg, 2008, as cited in Graham, 2019). In academic contexts, it also involves developing evidence-based arguments, synthesizing sources, and demonstrating critical thinking (Graham, 2019). Graham (2019) identified three core components of writing competence: text generation, transcription,

and executive functions, including planning, revising, and monitoring. For Senior High School (SHS) learners, writing proficiency influences academic achievement, college readiness, and future employability (Applebee & Langer, 2011, as cited in Barrot, 2018). In the Philippines, Barrot (2018) found that many of 320 Filipino SHS learners struggled with coherence, grammatical accuracy, and vocabulary due to limited academic writing practice, insufficient feedback, and large class sizes. Addressing these challenges, the present study investigates whether 11 AI tools can support SHS learners in Ligao City by assessing their influence on six writing dimensions and generating localized evidence on the potential of AI-assisted writing instruction to address identified proficiency gaps.

### *2.9 Six Dimensions of Writing Skills*

Building on Jacobs et al. (1981) and subsequent studies (Weigle, 2002; Barrot, 2018; Graham, 2019), the present study examines six dimensions of writing proficiency recognized as core components of English academic writing competence (Sermsook et al., 2017). These dimensions are discussed below in relation to the potential contributions of AI tools.

Content Development and Idea Elaboration refers to generating relevant ideas and supporting them with details, examples, and evidence (Jacobs et al., 1981). This higher-order skill requires knowledge, creativity, and critical thinking (Graham, 2019). Sermsook et al. (2017) found that content underdevelopment was a common writing difficulty among Thai university students. Generative AI tools, such as ChatGPT, Google Gemini, Claude, and DeepSeek, may address this challenge through idea prompts, outlines, and examples. This study will assess their perceived influence on content development among learners in Ligao City.

Logical Flow and Coherence of Ideas involves organizing sentences, paragraphs, and entire texts logically, using appropriate transitions and clear structures (Barrot, 2018). Incoherent writing often contains abrupt topic shifts and weak connections between ideas (Crossley & McNamara, 2016). Tools such as Grammarly, Microsoft Copilot, and ChatGPT may improve coherence by identifying unclear transitions and suggesting revisions. This study will examine learners' perceptions of AI's influence on coherence and whether these vary according to school size.

Grammar Accuracy and Sentence Construction refers to applying grammatical rules correctly, including subject-verb agreement, verb tense consistency, word order, and sentence structure (Sermsook et al., 2017). Grammar remains a common challenge among ESL/EFL learners. Grammarly and Microsoft Copilot can identify and explain grammatical errors, with studies reporting Grammarly's effectiveness in reducing such errors (Nazari et al., 2021; Fitria, 2021). This study will assess the use and perceived influence of these tools on grammar accuracy among SHS learners in Ligao City.

Vocabulary and Word Choice encompasses the range, precision, and appropriateness of words used to communicate meaning effectively (Weigle, 2002). Limited vocabulary can result in repetitive, vague, or simplistic writing (Barrot, 2018). QuillBot offers alternative expressions, while ChatGPT can suggest more appropriate academic vocabulary. Kurniati and Fajaryani (2022) and Mahapatra (2024) reported improvements in vocabulary use and reduced repetition among learners using these tools. This study will examine whether similar benefits occur in Ligao City and whether perceived effectiveness differs by school size.

Spelling Accuracy refers to correctly sequencing letters according to standard English spelling conventions (Sermsook et al., 2017). Although considered a lower-order transcription skill, spelling errors can affect readability and perceptions of writing quality (Graham, 2019). Tools such as Grammarly, Microsoft Copilot, ChatGPT, Google Gemini, and Canva AI provide spelling suggestions. However, excessive reliance on automated corrections may limit independent learning. This study will assess the perceived influence of AI on spelling accuracy and compare findings across school sizes.

Punctuation Usage involves correctly using punctuation marks, including periods, commas, question marks, quotation marks, apostrophes, semicolons, and colons, to clarify meaning and structure (Sermsook et al., 2017). Common ESL writing errors include comma misuse and apostrophe confusion (Lee, 2020). Grammarly and Microsoft Copilot can identify punctuation errors and suggest corrections. This study will determine the perceived influence of AI tools on punctuation usage compared with other writing dimensions, considering that rule-based punctuation errors may be relatively easy for corrective AI tools to address.

### *2.10 Common Writing Difficulties Among SHS Learners (Philippine Context)*

Several studies have identified common writing difficulties among Filipino Senior High School (SHS) learners. Barrot (2018) surveyed 320 learners from public and private schools and found problems with grammar, vocabulary, coherence, organization, and punctuation. Similarly, Lucas and Suñiga (2022) found that over 70% of 210 Grade 11 learners in a public school in Batangas had at least three types of grammatical errors, particularly in verb tense consistency. These difficulties were attributed to large class sizes, limited reading exposure, insufficient individualized feedback, and low confidence in English writing. Situated within this context, the present study examines whether AI tools can help address these persistent writing challenges among SHS learners in Ligao City, considering differences in school size and resources. The findings may provide evidence on the potential of AI as a scalable intervention for improving writing proficiency in under-resourced educational settings.

### *2.11 Traditional Writing Instruction vs. Technology Mediated Approaches*

Traditional writing instruction in Philippine public schools follows the process-oriented approach of pre-writing, drafting, revising, editing, and publishing. However, teacher workload, large class sizes, and limited time often restrict feedback to one or two drafts per semester (Barrot, 2018). Peer feedback may also vary in quality because learners have limited writing knowledge (Rollinson, 2005, as cited in Nazari et al., 2021). AI-assisted writing offers complementary support. Li, Chen, and Xu (2024), in a review of 58 studies, found that AI-assisted instruction had the strongest effects on grammar, spelling, and punctuation, while its effects on content and coherence varied depending on instructional integration. Thus, AI should complement rather than replace teacher feedback by providing immediate, personalized support. The present study aims to develop practical recommendations for integrating AI tools into writing instruction in Ligao City, such as using Grammarly for initial error correction before teacher review, bridging traditional and technology-assisted approaches.

### 2.12 Empirical Studies on AI and Writing Development Global Systematic Reviews and Meta-Analyses

Several systematic reviews have examined the influence of AI on writing instruction. Feng, Li, and Zhang (2025) reviewed 112 studies published from 2014 to 2024, finding that research primarily focused on undergraduate EFL learners, argumentative essays, and short-term interventions, with limited attention to longitudinal studies and AI literacy. Perkasa, Akyuningrum, and Sadiyah (2025), reviewing 23 articles, found that AI improves surface-level writing quality, while its effectiveness depends on AI literacy, educational context, and teacher guidance. They also highlighted concerns about plagiarism and fairness, recommending combined teacher-AI feedback. Shaqila and Ilham (2025) reviewed studies published from 2015 to 2025 and found that ChatGPT, QuillBot, and Grammarly can improve writing self-efficacy, motivation, and competence through immediate feedback. However, overdependence, reduced critical thinking, and academic integrity remain concerns. Similarly, Sarica and Deneme Gençoğlu (2025) analyzed 19 studies and found that AI supports writing efficiency, accuracy, idea generation, and personalized learning, emphasizing teacher training, AI literacy, and ethical guidelines. Putri (2025), reviewing 20 articles published from 2021 to 2025, reported improvements in writing quality, grammatical accuracy, and motivation through tools such as ProWritingAid, Grammarly, and ChatGPT, while identifying concerns about overreliance, ethical use, and data privacy.

These reviews highlight a research gap concerning SHS learners, particularly in Philippine secondary schools. Addressing this gap, the present study examines AI tool utilization across small, medium, and large schools in Ligao City to provide localized evidence on how school size and educational context relate to AI-assisted writing instruction.

### 2.13 Empirical Studies on Individual AI Writing Tools

Grammarly. Fitria (2021) found that Grammarly reduced grammatical errors in Indonesian university students' academic writing and increased confidence and autonomy. Nazari, Shabbir, and Setiawan (2021) reported improved grammar accuracy and writing quality among ESL learners, although Grammarly's suggestions were sometimes inaccurate for complex structures. In the Philippine context, Ramirez and Dela Cruz (2023) found that Grammarly use was positively associated with grammatical accuracy and spelling, but raised concerns about overreliance and reduced attention to teacher feedback.

ChatGPT. Mahapatra (2024) found that ChatGPT positively influenced undergraduate ESL students' academic writing and was well received as a formative feedback tool, particularly in large classes when supported by proper training. Das and Chen (2025) emphasized that AI can promote self-directed learning, writing fluency, personalized support, and easier drafting and revision when properly integrated. Similarly, Raisinghani and Sharma (2023) highlighted ChatGPT's potential for idea generation, content development, and language refinement.

QuillBot. Kurniati and Fajaryani (2022) surveyed 87 Indonesian EFL students and found that 82% regularly used QuillBot for academic paraphrasing, reporting improved vocabulary variety and sentence structure. However, excessive reliance could reduce critical engagement with source texts. Raheem, Anjum, and Ghafar (2023) reviewed QuillBot, Grammarly, and ChatGPT, highlighting their real-time grammar and style support alongside ethical concerns involving plagiarism, authorship, and intellectual property.

Comparative Studies. Alpar (2025) compared ChatGPT-4, Google Gemini, and Microsoft Copilot in opinion essay writing among B+ level EFL students. The tools performed similarly across most criteria, but ChatGPT-4 provided more actionable feedback. Participants preferred Gemini for brainstorming and outlining, ChatGPT-4 for detailed feedback, and Copilot for organization. The study supported flexible AI tool selection in writing instruction.

Extending this comparative approach, the present study examines 11 AI tools—ChatGPT, Google Gemini, Microsoft Copilot, Grammarly, QuillBot, Perplexity AI, NotebookLM, Canva AI, Dola, Claude, and DeepSeek—among SHS learners in a semi-urban Philippine division. Unlike Alpar's (2025) study of Turkish higher education students, this research investigates AI tool utilization and rank-order agreement across small, medium, and large schools, providing localized evidence on differences in AI-assisted writing instruction across school contexts.

### 2.14 Studies on AI Influence on Specific Writing Dimensions

Emerging research has examined AI's influence across specific writing dimensions. Liu and Wang (2025) found that ChatGPT had the strongest positive effects on vocabulary and organization, followed by content development, while grammatical accuracy depended more on prompt quality. Oakley (2024) reviewed digital technologies, including AI, for teaching reading and fluency, although writing-specific research remains limited. Studies on spelling and punctuation are also scarce, but Zhang, Sunze, and Puteh (2020) suggested that digital scaffolding can support lower-order skills through immediate corrective feedback, consistent with the Zone of Proximal Development (ZPD) framework.

The present study addresses this gap by examining AI utilization and its perceived influence across six writing dimensions: content development, logical flow, grammar accuracy, vocabulary, spelling, and punctuation. It will determine whether corrective tools, such as Grammarly and QuillBot, are perceived as more influential in lower-order skills, while generative tools, such as ChatGPT, Claude, and DeepSeek, support higher-order skills, particularly content development and coherence. This approach responds to calls for more detailed analyses of specific writing skills identified in systematic reviews by Feng et al. (2025) and Perkasa et al. (2025).

### 2.15 The Philippine Context: Local Studies on AI and Writing

Research on AI-assisted writing in the Philippines is growing but remains limited, particularly in public secondary schools. Lumapas and Fernandez (2024) found that junior high school students in a private Philippine school primarily used AI for paraphrasing and grammar checking but had limited awareness of ethical guidelines. A study involving Senior High School TVL students reported immediate and sustained writing improvements through AI-assisted instruction, while highlighting concerns about overreliance. A 2026 poll also reported widespread dependence on generative AI for paraphrasing, raising concerns about academic integrity. Similarly, a study by Davao Doctors College found a significant relationship between AI writing tool usage and SHS students' writing competence.

However, no existing study has simultaneously examined 11 AI tools across public secondary schools of different sizes within a single Philippine division. The present study addresses this gap by focusing on Ligao City Division and examining how school size, infrastructure, teacher training, and digital access relate to AI tool utilization and perceived influence on writing skills. It also responds to calls for localized, context-specific research that considers institutional and demographic factors in AI-assisted writing instruction (Feng et al., 2025; Perkasa et al., 2025).

#### *2.16 Dual Role of AI Tools in Writing Development*

The reviewed literature highlights the dual role of AI in writing development. Corrective tools, such as Grammarly and QuillBot, improve grammar, spelling, punctuation, and vocabulary (Farhan, 2023; Fitria, 2021; Nazari et al., 2021; Kurniati & Fajaryani, 2022), while generative tools like ChatGPT support content development and idea elaboration (Mahapatra, 2024; Das & Chen, 2025; Alpar, 2025). However, concerns about overreliance, reduced critical thinking, and academic integrity persist (Perkasa et al., 2025; Shaqila & Ilham, 2025; Feng et al., 2025). Research emphasizes that AI is most effective as a supplementary learning tool when combined with independent writing, ethical guidance, and AI literacy (Sarica & Deneme Gençoğlu, 2025; Putri, 2025).

The present study contributes to this literature by (1) focusing on SHS learners in Philippine public schools, (2) examining 11 AI tools across corrective, generative, and assistive categories, (3) assessing six specific writing dimensions, and (4) comparing findings across small, medium, and large schools. The practical recommendations generated will guide teachers, school heads, and policymakers in responsibly integrating AI tools into writing instruction in Philippine basic education.

#### *2.17 The Philippine Context: AI Integration in Basic Education Current State of AI Tool Use in Philippine Public Schools*

The integration of AI tools in Philippine basic education is still developing, particularly in urban and semi-urban divisions with better digital infrastructure (Lumapas & Fernandez, 2024). A 2024 nationwide survey reportedly found that 38% of public secondary schools had implemented AI-assisted learning, mainly in English and Science (Albert & Raymundo, 2024). In Ligao City Division, SHS learners increasingly use tools such as Grammarly, QuillBot, and ChatGPT through teacher initiatives and independent exploration (Ligao City Division Research Office, 2025). Cruz and Lopez (2025) also reported differences in AI utilization by school size, with larger schools benefiting from better connectivity and more resources, while smaller rural schools faced limited devices, unreliable electricity, and insufficient teacher training. Addressing these disparities, the present study compares the utilization of 11 AI tools across small, medium, and large schools in Ligao City. By examining usage patterns and rank-order agreement across school sizes, it aims to determine whether local differences reflect broader regional digital divides and whether school size relates to learners' AI tool preferences.

#### *2.18 DepEd Digital Transformation Initiatives and Research Culture*

The Department of Education has introduced digital transformation initiatives that support the potential integration of AI in education. The DepEd Computerization Program (DCP) provides public schools with ICT equipment, including computers and laptops (DepEd, 2020). The National Academy of Educators for the Digital Age (NEADE) and Division Memorandum No. 194, s. 2024, also promote digital pedagogy, teacher development, and innovative teaching practices, although AI-specific training remains limited. Furthermore, division research colloquia encourage teacher- and learner-led studies addressing local educational challenges through evidence-based approaches (Schools Division Office of Ligao City, 2024; Ligao City Division Research Office, 2023). In line with these priorities, the present study will generate empirical evidence on AI tool utilization and writing skills among SHS learners, supporting responsible instructional innovation and contributing to the division's research culture.

#### *2.19 Local Studies on AI and Writing*

Despite growing policy support for digital transformation, peer-reviewed research on AI integration in Philippine basic education remains limited. A search of Philippine EJournals and Google Scholar using relevant keywords reportedly yielded fewer than ten empirical studies published between 2020 and 2025. Existing research includes Barrot (2018) on SHS learners' writing difficulties and Lumapas and Fernandez (2024) on AI utilization in a private high school. A 2026 poll also reported widespread use of generative AI for paraphrasing among Filipino students (Santos & Garcia, 2026). Meanwhile, Reyes and Mendoza (2025) found that many public school teachers in the Bicol Region lacked formal AI training and were uncertain about integrating AI into writing instruction while maintaining academic integrity.

These findings highlight the need for localized research on AI-assisted writing in Philippine public secondary schools, particularly outside Metro Manila. The present study addresses this gap by examining the utilization and perceived influence of 11 AI tools on SHS learners' writing skills across 12 public secondary schools in the Schools Division of Ligao City. By comparing mega, large, and medium schools, the study aims to generate context-specific findings that can inform writing instruction and responsible AI integration in similar Philippine school divisions.

#### *2.20 Unique Cultural, Linguistic, and Institutional Factors*

Several Filipino-specific factors influence AI-assisted writing instruction. Linguistically, learners often speak a local language, such as Bicolano, Filipino, and English as a second or third language. Barrot (2018) noted that code-switching and first-language transfer can contribute to English writing errors, including article omissions and subject-verb agreement problems. AI tools such as Grammarly may not fully account for these language-transfer patterns (Huang et al., 2022). Culturally, respect for authority may encourage learners to accept AI suggestions without critical evaluation (Lumapas & Fernandez, 2024), potentially increasing overreliance (Das & Chen, 2025). Institutionally, large classes, limited teacher feedback time, and unequal technology access constrain writing instruction (Albert & Raymundo, 2024), making AI an attractive source of immediate writing support. Recognizing these linguistic, cultural, and institutional factors, the present study aims to develop practical recommendations suited to the realities of Ligao City rather than simply adopting approaches from Western contexts.

### 2.21 *Synthesis of the State-of-the-art*

The review of related literature and studies has established that AI writing tools fall into three functional categories. These are corrective tools such as Grammarly and Quillbot, generative tools including ChatGPT, Google Gemini, Microsoft Copilot, Perplexity AI, Claude, and Deepseek, and assistive tools such as NotebookLM, Canva AI, and Dola. Each category offers distinct benefits for writing instruction, ranging from real-time error correction and paraphrasing to content generation and task management (Fitria, 2021; Kasneci et al., 2023; Kurniati & Fajaryani, 2022). The utilization of these tools, however, is not uniform across educational contexts. The digital divide and school size significantly shape adoption patterns, with larger schools reporting higher usage rates due to better infrastructure and teacher training. Smaller schools, in contrast, face challenges such as limited devices, unreliable connectivity, and lack of AI literacy among teachers (Cruz & Lopez, 2025; Espinosa et al., 2025; Muñoz, 2025). In terms of writing skills, the literature consistently identifies six core dimensions: content development, logical flow, grammar accuracy, vocabulary, spelling, and punctuation. It also documents persistent difficulties among Filipino SHS learners, including grammatical errors, limited vocabulary, and poor coherence, which are often attributed to large class sizes, insufficient feedback, and limited reading exposure (Barrot, 2018; Graham, 2019; Lucas & Suñiga, 2022). While AI tools have demonstrated effectiveness in addressing these challenges, particularly for surface-level errors, concerns about over-reliance, reduced critical thinking, and academic integrity persist. The literature emphasizes that AI is most effective when used as a supplementary scaffold rather than a substitute for independent writing. These findings are supported by a robust policy environment, including the 1987 Constitution, RA 9155, RA 10533, DepEd orders and memoranda, and the SDGs, which collectively mandate quality education, 21st-century skills, and technology-enabled learning (Congress of the Philippines, 2001, 2013; Department of Education, 2019, 2025; United Nations, 2015). Despite the growing body of research, significant gaps remain. Most studies have been conducted in Western or higher education contexts, and SHS learners in Philippine public schools are understudied. No study has compared 11 AI tools across small, medium, and large schools within a single division, and few have differentiated AI's impact across six specific writing dimensions. Furthermore, no prior research has applied Kendall's W to measure rank-order agreement across school sizes or generated practical, context-specific pointers for educators and policymakers. The present study addresses these gaps by focusing on SHS learners in Ligao City Division and stratifying respondents by school size. It examines 11 AI tools and measures their perceived impact on six writing dimensions. It also computes Kendall's W for rank-order agreement and generates actionable pointers as an explicit research output. In doing so, the study provides localized, methodologically rigorous evidence that responds to calls from multiple systematic reviews for more context-specific research on AI in writing instruction within under-represented educational settings. The following chapter presents the research methodology in full detail, including the research design, respondents, sampling procedure, research instruments, data gathering procedure, and statistical treatment.

### 2.22 *Gap Bridged by the Study*

Most studies on AI and writing have been conducted in Western countries or in Asian universities. Very little research has been done in Philippine public high schools, and no study has focused specifically on the Schools Division of Ligao City. This geographic gap matters because Filipino learners have unique characteristics—they speak multiple languages (Bicolano, Filipino, English), have different cultural values, and face large class sizes and limited resources. These factors are not the same as those in the countries where most AI writing research has been done.

In addition, existing research has mostly targeted university students. Senior High School learners, especially those in Grades 11 and 12 who are preparing for college or work, remain understudied. Even when high school students have been included, they usually came from private schools or well equipped urban public schools. No known study has compared AI tool use across public SHS learners from small, medium, and large schools within a single division, even though school size affects access to technology and teacher training. The present study fills these geographic and population gaps by focusing on SHS learners in Ligao City's public schools and comparing responses across three school size categories.

### 2.23 *Theoretical Framework of the Study*

This study is anchored on several interrelated theories that explain how learners adopt, utilize, and benefit from artificial intelligence (AI) tools in strengthening metacognitive reading strategies and writing skills. By combining perspectives from cognitive psychology, constructivist pedagogy, motivational theory, and technology integration models, the framework provides a holistic lens for examining Senior High School learners' engagement with AI tools such as Grammarly, QuillBot, and ChatGPT. Specifically, the study draws upon Metacognition Theory, Constructivist Learning Theory, the Technology Acceptance Model (TAM), Self-Determination Theory (SDT), Connectivism Theory, and the Technology Pedagogical Content Knowledge (TPACK) Framework. Together, these theories highlight the cognitive, social, motivational, and pedagogical dimensions of AI integration in education. Metacognition Theory (Flavell, 1979) emphasizes learners' ability to monitor, regulate, and evaluate their own cognitive processes. In reading and writing, metacognitive strategies involve planning, monitoring comprehension, and evaluating textual output. AI tools provide immediate feedback and scaffolding that support these processes, enabling learners to reflect on their choices and refine strategies more effectively. For example, Grammarly highlights grammatical errors, while ChatGPT suggests alternative sentence structures, allowing learners to evaluate and adjust their writing in real time.

In the context of Senior High School learners in Ligao City, metacognition is particularly relevant because many students are still developing the ability to self-regulate their writing. By integrating AI tools, they gain external aids that strengthen metacognitive awareness, helping them refine drafts and monitor their progress more effectively. This theory thus situates AI as an extension of learners' cognitive regulation, bridging internal monitoring with external technological support.

Constructivist Learning Theory (Piaget, 1972; Vygotsky, 1978) posits that learners actively construct knowledge through interaction with tools, peers, and teachers. Vygotsky's concept of the Zone of Proximal Development (ZPD) shows that scaffolds—like AI

feedback—help learners accomplish tasks they could not do independently. AI platforms function as scaffolds that extend the learner's ZPD, offering guidance in grammar, vocabulary, and coherence.

For Senior High School learners in Ligao City, AI platforms act as scaffolds that extend their writing competence. Grammarly highlights grammar errors, while ChatGPT suggests coherent structures. When students engage critically with these suggestions, they co-construct meaning and strengthen writing competence. Constructivism therefore aligns with the study's focus on guided versus self-explored utilization of AI tools, underscoring the balance between autonomy and structured support.

Technology Acceptance Model (TAM) (Davis, 1989) identifies perceived usefulness and ease of use as primary determinants of technology acceptance. Learners are more likely to integrate AI tools into their reading and writing practices when they perceive them as effective and accessible. Research in Philippine education (Dela Cruz, 2024) shows that pre-service teachers' willingness to use AI is shaped by self-efficacy and institutional support, suggesting similar factors influence secondary learners in Ligao City. In practice, TAM explains why Senior High School learners choose to use Grammarly, QuillBot, or ChatGPT. If they perceive these tools as useful for improving grammar and coherence, and easy to access on mobile devices, they are more likely to integrate them into their writing practices. TAM thus provides a lens for understanding the drivers and barriers of AI tool utilization in the local context. Self-Determination Theory (SDT) (Deci & Ryan, 1985) emphasizes the role of intrinsic and extrinsic motivation in learning. Guided use of AI tools may foster competence and relatedness by providing structured feedback, while self-explored use may enhance autonomy and creativity. Motivation determines whether learners engage deeply or superficially with AI tools.

In Ligao City, Senior High School learners may feel more competent when Grammarly corrects errors, more autonomous when they explore ChatGPT independently, and more connected when teachers scaffold AI use. SDT helps explain the motivational dynamics behind their engagement with AI in writing, showing that technology adoption is not merely functional but also motivational, shaping learners' attitudes toward reading and writing.

Connectivism (Siemens, 2005) explains learning in the digital age, where knowledge is distributed across networks of people, tools, and information sources. For Senior High School learners, AI platforms act as nodes in these networks, enabling access to diverse perspectives and immediate feedback.

In Ligao City, learners are part of digital learning networks where AI tools serve as knowledge nodes. Their ability to critically connect AI outputs to their own writing development reflects Connectivist principles, showing how learning extends beyond the classroom into broader digital ecosystems. Connectivism situates AI not just as a tool but as part of a broader learning ecosystem where critical discernment and networked thinking are essential.

The TPACK framework (Technological Pedagogical Content Knowledge)(Mishra & Koehler, 2006) emphasizes the intersection of content knowledge (CK), pedagogical knowledge (PK), and technological knowledge (TK). In the context of AI writing tools, teachers must understand the mechanics of writing (CK), effective strategies for teaching literacy (PK), and the affordances and limitations of AI platforms (TK).

For Senior High School classrooms in Ligao City, TPACK underscores the need for educators to scaffold AI use responsibly, ensuring that learners benefit from error correction and coherence support while still developing independent writing competence. This framework highlights the teacher's role in balancing technology integration with pedagogical strategies that foster sustainable skill development. Taken together, these six theories provide a comprehensive framework for examining AI tool utilization in education. Metacognition Theory explains cognitive regulation, Constructivism situates AI as a scaffold for knowledge construction, TAM clarifies adoption factors, and SDT highlights motivational dynamics. Connectivism extends the framework by situating AI within broader learning networks, while TPACK emphasizes the teacher's role in integrating technology effectively.

Collectively, they converge on the idea that AI tools should function as scaffolds that enhance competence, autonomy, and integrity, while being guided by pedagogical strategies that ensure sustainable skill development. In the Senior High School context of Ligao City, this integrated framework justifies the study's focus on how learners adapt to AI tools within their cultural and institutional environment, bridging global theories with localized realities.

### 3. Methodology

This chapter presents the process on how the research was undertaken. It illustrates and discusses the research design, respondents of the study, research instrument, the procedures in the conduct of the study, and the statistical treatment of the data. It provides readers with perspective on how this study was done.

#### 3.1 Research Design

This study employed the descriptive-evaluative-correlational research design to examine the utilization of AI tools and their influence on the writing skills of Senior High School learners in the Schools Division of Ligao City. The researcher considered the responses of the English teacher in the public senior high schools in Ligao City Division who answered the self made survey questionnaire patterned from the statement of the problem.

This research was non-experimental since it dealt with relationship. It involved a semi-structured questionnaire which served as the instrument used in gathering the data.

#### 3.2 Sampling Technique

This study employed a purposive sampling technique in selecting the locale and grade level to ensure that the research context was directly aligned with its objectives. The locale chosen was the Schools Division of Ligao City, which was deliberately selected because it represents the educational environment where AI tool utilization and writing skills among Senior High School learners are most relevant to the study. Likewise, the grade level was purposely limited to Senior High School, as this stage of learning emphasizes advanced academic writing and critical thinking, making it the most appropriate group for examining the integration of AI tools in writing instruction. This purposive approach ensured that the study focused on a population that could provide meaningful insights into the research problem.

Within this purposely chosen context, the study then applied total enumeration sampling to include all English teachers in the Division who were handling Senior High School learners. Instead of selecting only a subset, every English teacher in the locale was considered part of the sample, thereby maximizing the reliability and comprehensiveness of the data. This technique ensured that the perspectives and practices of the entire population of English teachers were represented, eliminating sampling bias and strengthening the validity of the findings. By combining purposive sampling for the locale and grade level with total enumeration for the teacher respondents, the study achieved both focus and inclusiveness in its methodology.

### 3.3 Respondents of the Study

the respondents of the study, which are composed of Senior High School English teachers from medium, large, and mega schools in Ligao City Division. These three groups will help in determining the influence of artificial intelligence (AI) on the writing skills of the Senior High School learners in the Public Secondary Schools in Ligao City Division for the School Year 2025-2026, specifically among the areas of content development and idea elaboration, logical flow and coherence of ideas, grammar accuracy and sentence construction, vocabulary and word choice, spelling, and punctuation usage. A total of 39 English teachers served as respondents, classified according to the size of their respective schools to ensure a comprehensive representation of diverse educational settings.

### 3.4 Research Instruments

This study made use of a semi-structured survey questionnaire as the main instrument of the researcher in gathering and collecting of data needed in the study. The questionnaire was based from the statement of the problem and composed of two parts: Part 1 is for the utilization of AI tools in terms of the types of tools used; Part 2, is for the perceived influence of AI utilization in the different writing skills along the areas of content development and idea elaboration, logical flow and coherence of ideas, grammar accuracy and sentence construction, vocabulary and word choice, spelling and punctuation usage.

### 3.5 Statistical Tools

Weighted mean was used to determine the influence of the utilization of artificial intelligence (AI) tools in the writing skills of the Senior High School learners in the Public Secondary Schools in Ligao City Division for the School Year 2025-2026

The Kendal Coefficient of Concordance W and Chi-Square was used to test the significant agreement on the rank orders of the influence of utilization of artificial intelligence (AI) to the writing skills along the areas of content development and idea elaboration, logical flow and coherence of ideas, grammar accuracy and sentence construction, vocabulary and word choice, spelling, and punctuation usage.

The response of the three groups of respondents was computed using the following formula (Kendall Coefficient of Concordance W, (Siegel, 1988). The significance of the extent of agreement among the respondents will be tested using the following formula (Siegel, 1988).

## 4. Findings

This chapter deals with the presentation, analysis, and interpretation of the gathered data in this study. This enabled the researcher to interpret the data in order to answer specific questions.

### 4.1 The Utilization of the Artificial Intelligence (AI) Tools

| INDICATORS                   | MEGA SCHOOLS |           |      | LARGE SCHOOLS |          |      | MEDIUM SCHOOLS |           |      | AVERAGE     |          |      |
|------------------------------|--------------|-----------|------|---------------|----------|------|----------------|-----------|------|-------------|----------|------|
|                              | Wx           | Int       | Rank | Wx            | Int.     | Rank | Wx             | Int.      | Rank | Wx          | Int.     | Rank |
| 1. CHATGPT                   | 4.27         | MU        | 2.5  | 3.60          | MU       | 1    | 1.13           | NA        | 7.5  | 3.00        | U        | 1    |
| 2. GOOGLE GEMINI             | 4.20         | MU        | 5.5  | 3.07          | U        | 7.5  | 1.00           | NA        | 10   | 2.76        | U        | 11   |
| 3. MICROSOFT COPILOT         | 4.27         | MU        | 2.5  | 3.20          | U        | 5    | 1.00           | NA        | 10   | 2.82        | U        | 9    |
| 4. GRAMMARLY                 | 4.20         | MU        | 5.5  | 3.00          | U        | 10.5 | 1.20           | NA        | 6    | 2.80        | U        | 10   |
| 5. QUILLBOT                  | 4.13         | MU        | 8.5  | 3.40          | U        | 2    | 1.13           | NA        | 7.5  | 2.89        | U        | 8    |
| 6. PERPLEXITY AI             | 4.20         | MU        | 5.5  | 3.07          | U        | 7.5  | 1.60           | FU        | 3.5  | 2.96        | U        | 3    |
| 7. NOTEBOOKLM (GOOGLE)       | 4.13         | MU        | 8.5  | 3.07          | U        | 7.5  | 1.60           | FU        | 3.5  | 2.93        | U        | 5    |
| 8. CANVA AI                  | 4.33         | MU        | 1    | 3.33          | U        | 3    | 1.00           | NA        | 10   | 2.89        | U        | 7    |
| 9. DOLA (FORMERLY CICI)      | 4.07         | MU        | 10.5 | 3.27          | U        | 4    | 1.47           | NA        | 5    | 2.93        | U        | 4    |
| 10. CLAUDE                   | 4.07         | MU        | 10.5 | 3.00          | U        | 10.5 | 1.67           | FU        | 1.5  | 2.91        | U        | 6    |
| 11. DEEPSEEK                 | 4.20         | MU        | 5.5  | 3.07          | U        | 7.5  | 1.67           | FU        | 1.5  | 2.98        | U        | 2    |
| <b>AVERAGE WEIGHTED MEAN</b> | <b>4.19</b>  | <b>MU</b> |      | <b>3.19</b>   | <b>U</b> |      | <b>1.32</b>    | <b>NA</b> |      | <b>2.90</b> | <b>U</b> |      |

The utilization of Artificial Intelligence (AI) tools in writing tasks represents an emerging pedagogical practice that has gained traction among Senior High School learners. AI tools, ranging from generative chatbots such as ChatGPT and Google Gemini to corrective platforms like Grammarly and Quillbot, offer varying degrees of support for idea generation, grammar checking, paraphrasing, and task organization. This section examines the utilization of the Senior High School learners in the Schools Division of Ligao City of the eleven (11) AI tools across three school size categories: MEGA, LARGE, and MEDIUM. In this study, AI utilization is measured based on the degree or frequency of use of these tools, and is treated as a single construct representing learners' overall engagement with AI technologies. The study does not categorize utilization according to specific functions or purposes, such as brainstorming, paraphrasing, grammar correction, summarization, or content generation, as AI tools vary in features and may be used for multiple purposes by different learners. By analyzing the utilization patterns and rank orders of these tools, this section provides insights into which AI tools are most commonly adopted by learners and whether school size influences access to and preference for specific AI assisted writing platforms.

The Artificial Intelligence (AI) tools utilized by the Senior High School learners in the Schools Division of Ligao City. Eleven AI tools were assessed. Overall, the average weighted mean across all tools is 2.90, interpreted as Utilized (U). Across school sizes, the average weighted means were 4.19 (Much Utilized) for MEGA schools, 3.19 (Utilized) for LARGE schools, and 1.32 (Not at All) for MEDIUM schools. This pattern reveals a clear gradient in AI tool utilization, with MEGA schools demonstrating the highest level of use and MEDIUM schools the lowest.

The tools are presented in descending order of overall weighted mean, revealed as follows: ChatGPT, 3.00; Deepseek, 2.98; Perplexity AI, 2.96; Dola (formerly Cici), 2.93; NotebookLM (Google), 2.93; Claude, 2.91; Canva AI, 2.89; Quillbot, 2.89; Microsoft Copilot, 2.82; Grammarly, 2.80; and Google Gemini, 2.76.

The top three most utilized AI tools were ChatGPT (3.00), Deepseek (2.98), and Perplexity AI (2.96). ChatGPT ranked first overall, indicating that generative conversational AI is the most commonly adopted writing assistant among SHS learners in Ligao City. This finding aligns with Kasneci et al. (2023) and Mahapatra (2024), who reported that ChatGPT is widely used for idea generation, drafting, and formative feedback. The presence of Deepseek (2.98) and Perplexity AI (2.96) among the top three suggests that learners are also exploring alternative generative AI platforms, possibly due to their efficiency, cited sources (Perplexity), or strong reasoning performance (Deepseek), as noted by Das and Chen (2025) and the Deepseek (2024) release documentation.

The lowest rated tools were Google Gemini (2.76) and Grammarly (2.80). Google Gemini received the lowest overall mean (2.76), interpreted as Utilized, but notably lower than ChatGPT. This may reflect learners' greater familiarity with ChatGPT, which was released earlier and has received more media attention. Grammarly (2.80), despite being a well established corrective tool, ranked near the bottom. This finding contrasts with Fitria (2021) and Nazari et al. (2021), who found high Grammarly usage among university ESL learners. One possible explanation is that SHS learners in Ligao City may prioritize generative tools for content creation over corrective tools for polishing, or they may not be fully aware of Grammarly's advanced features. Another possibility, raised by Ramirez and Dela Cruz (2023), is that Filipino learners sometimes perceive Grammarly as less necessary when they already receive teacher feedback on grammar.

A clear pattern emerges across school sizes. In MEGA schools, all eleven AI tools were rated Much Utilized (MU), with an average weighted mean of 4.19 across all tools, and individual tool means ranging from 4.33 (Canva AI) to 4.07 (Dola, Claude). Canva AI ranked first (4.33) among MEGA schools, followed by ChatGPT and Microsoft Copilot (both 4.27). This high level of utilization in MEGA schools suggests that larger schools have better digital infrastructure, internet access, and teacher exposure to AI tools, consistent with Cruz and Lopez (2025), who found that larger schools in the Bicol region reported higher AI usage rates. In LARGE schools, most tools were rated Utilized (U), with an average weighted mean of 3.19 and individual means between 3.00 and 3.60. ChatGPT ranked first (3.60), followed by Quillbot (3.40) and Canva AI (3.33). The lower utilization in LARGE schools compared to MEGA schools may reflect more limited access to devices or less teacher encouragement. In MEDIUM schools, the vast majority of tools were rated Not at All (NA) or Fairly Utilized (FU), with an average weighted mean of only 1.32 and individual means as low as 1.00. Only three tools—Claude (1.67, FU), Deepseek (1.67, FU), and Perplexity AI (1.60, FU)—received Fairly Utilized ratings. The extremely low utilization in MEDIUM schools indicates that learners in the smallest school category have very limited access to or awareness of AI writing tools. This disparity supports Albert and Raymundo (2024), who found that only 38% of public secondary schools nationwide have implemented any form of AI assisted learning, with usage concentrated in larger, better resourced schools.

The variation across school sizes underscores the digital divide within the Ligao City Division. Learners in MEGA schools have near ubiquitous access to a wide range of AI tools, while those in MEDIUM schools remain largely disconnected from AI assisted writing support. This finding has direct implications for policy: if AI tools are to be leveraged to improve writing skills across all learners, targeted interventions—such as providing devices, offline capable AI tools, or teacher training—must be directed toward smaller schools.

#### *4.2 The Test of the Significant Agreement on the Rank Orders Of the Artificial Intelligence Tools Utilized by the Senior High School Learners*

The significant agreement on the rank orders of the utilization of the Artificial Intelligence (AI) tools was tested employing Kendall's Coefficient of Concordance (W). Table 4 reveals the results. The summation of squares of the agreement was 101.00. The Coefficient of Concordance (W) and the computed  $\chi^2$  values yielded 0.10 and 3.00, respectively, with a degree of freedom of 10. Since the computed  $\chi^2$  (3.00) is considerably less than the tabular  $\chi^2$  value of 18.31 at the 0.05 significance level ( $p > 0.05$ ), the null hypothesis is accepted. Thus, there is no significant agreement on the rank orders of the utilization of AI tools among the MEGA, LARGE, and MEDIUM school groups.

The very low coefficient of concordance ( $W = 0.10$ ) indicates that the three groups of respondents do not share a consistent perception of which AI tools are more or less utilized by Senior High School learners. This statistical finding aligns with Cruz and Lopez (2025), who documented that AI tool utilization in the Bicol region varied significantly by school size, with larger schools reporting higher usage rates and greater awareness of emerging tools such as ChatGPT and Canva AI, while smaller schools had limited exposure. Reyes and Mendoza (2025) further found that 85% of public school teachers had never received formal AI training, a gap that disproportionately affects smaller schools.

| INDICATORS                                             | AI Tools |
|--------------------------------------------------------|----------|
| Summation of the squared deviation from the difference | 101      |
| No. of Cases                                           | 11       |
| No. of Judges                                          | 3        |
| Coefficient of Concordance W                           | 0.10     |
| Computed Chi-Square ( $\chi^2$ )                       | 3.00     |
| Degree of Freedom                                      | 10       |
| Tabular values at                                      |          |
| 0.05                                                   | 18.31    |
| 0.025                                                  | 21.16    |
| 0.01                                                   | 23.21    |
| 0.005                                                  | 25.19    |
| 0.001                                                  | 29.59    |
| Decision on the Null Hypothesis ( $H_0$ )              | Accepted |
| Significance of the Agreement                          | NS       |

Consequently, the rank order of AI tool utilization in MEGA schools (where ChatGPT, Canva AI, and Copilot ranked highest) differs markedly from that in MEDIUM schools (where even basic tools like Grammarly were rated as "Not at All" utilized). The lack of agreement on rank orders reflects the persistent digital divide within the Ligao City Division: MEGA schools have common access to a wide range of AI tools, while MEDIUM schools remain largely disconnected, leading to divergent perceptions of which tools are actually used by learners. This statistical finding underscores the reality that teachers' perceptions are shaped by their direct experiences with learners' access to technology; those in MEGA schools witness regular AI use, while those in MEDIUM schools rarely, if ever, see learners engage with AI tools. The disparity is not merely perceptual but reflects genuine differences in infrastructure, with MEDIUM schools lacking the basic connectivity and devices necessary for AI integration. Therefore, any effort to standardize AI integration across all school sizes must first address these foundational inequalities through targeted investments in hardware, internet access, and teacher training for the most disadvantaged schools. This finding underscores the need for targeted interventions, such as infrastructure investment and teacher training, directed specifically toward smaller schools to bridge the gap in AI access and awareness.

#### 4.3 The Extent of the Influence of the Artificial Intelligence (AI) Tools on the Writing Skills of the Learners

The utilization of Artificial Intelligence (AI) tools in writing instruction represents a strategic pedagogical approach to address challenges in learners' writing proficiency, including content development and idea elaboration, logical flow and coherence of idea, grammar accuracy and sentence construction, vocabulary and word choice, spelling, and punctuation usage. AI tools, ranging from generative chatbots like ChatGPT and Google Gemini to corrective platforms like Grammarly and Quillbot, incorporate natural language processing and machine learning algorithms into the writing process to create more interactive, supportive, and effective learning experiences.

##### 4.3.1 The Extent of the Influence of the Utilization of the Artificial Intelligence (AI) Tools on the Writing Skills of the Senior High School Learners in Terms of Content Development and Idea Elaboration

**Content Development and Idea Elaboration.** This refers to the ability to generate relevant, substantive ideas and elaborate on them with specific details, examples, or evidence. This dimension is considered a higher order writing skill because it requires prior knowledge, creativity, and critical thinking. In this study, twelve (12) indicators were used to assess the extent to which AI tools influence learners' content development and idea elaboration. These indicators were rated by Senior High School English teachers based on their observations of learners' writing outputs. The results are presented in descending order of weighted mean to highlight which specific aspects of content development are most and least influenced by AI tools.

The extent of the influence of AI tools on Content Development and Idea Elaboration. Based on the responses of Senior High School English teachers in the Schools Division of Ligao City, twelve indicators were assessed. Overall, this aspect was rated as Evident (E) with an average weighted mean of 2.79. Across school sizes, the average weighted means were 3.88 (Much Evident) for MEGA schools, 3.34 (Evident) for LARGE schools, and 1.16 (Not at All) for MEDIUM schools, indicating a consistent decline in perceived influence as school size decreases. The indicators are presented in descending order of overall weighted mean, revealed as follows: Developing a clear and arguable thesis statement, 2.89; Addressing counterarguments or alternative perspectives, 2.87; Sustaining focus on the main topic throughout the text, 2.87; Using examples to illustrate concepts, 2.84; Elaborating on main points with explanation, 2.82; Demonstrating depth of critical thinking, 2.80; Connecting ideas to broader contexts or implications, 2.78; Generating relevant and focused topic ideas, 2.78; Providing sufficient supporting details and evidence, 2.78; Avoiding superficial or vague content, 2.76; Drawing from multiple sources to support claim, 2.69; and Demonstrating originality and creative thinking, 2.64.

The top three indicators were: developing a clear and arguable thesis statement (2.89), addressing counterarguments or alternative perspectives (2.87), and sustaining focus on the main topic throughout the text (2.87). This finding aligns with Mahapatra (2024) and Das & Chen (2025), who found that generative AI tools such as ChatGPT significantly improve idea elaboration and content organization. Su, Guo, and Wang (2023) similarly reported that AI assisted scaffolding enhances learners' ability to generate and sustain focused arguments.

The lowest rated indicator was demonstrating originality and creative thinking (2.64). This suggests that while AI tools help with structural and content organization, they may not sufficiently foster original or creative output. Das & Chen (2025) cautioned that over reliance on AI can limit divergent thinking, and Perkasa, Akyuningrum, and Sadiyah (2025) noted that AI contributes little to higher order abilities such as critical thinking and originality.

A clear pattern across school sizes emerged: MEGA schools reported Much Evident (ME) influence with an average weighted mean of 3.88 across all indicators, LARGE schools rated Evident (E) with an average of 3.34, while MEDIUM schools rated Not at All (NA) with an average of only 1.16. This disparity indicates that AI tools are perceived as progressively more influential in larger schools, with MEGA schools showing nearly three times the perceived influence of MEDIUM schools. The gap between MEGA and LARGE schools (a difference of 0.54) is notable, but the chasm between LARGE and MEDIUM schools (a difference of 2.18) is far more striking, suggesting that learners in MEDIUM schools are essentially excluded from AI assisted content development. This may be due to better access to technology and training in larger schools, consistent with Cruz and Lopez (2025), who found that in the Bicol region, larger schools reported higher AI usage rates due to better internet connectivity and teacher training, while smaller schools faced challenges including unreliable electricity and limited devices.

#### *4.3.2 The Extent of the Influence of the Utilization of the Artificial Intelligence (AI) Tools on the Writing Skills of the Senior High School Learners in Terms of Logical Flow and Coherence of Ideas*

Logical Flow and Coherence of Ideas. This concerns with the organization of written text at both the paragraph level (topic sentences, supporting details, transitions) and the whole text level (introduction, body, conclusion, sequencing). Coherence problems often manifest as abrupt topic shifts, absent or unclear connections between sentences, and poor paragraph structure. In this study, twelve (12) indicators were used to assess the extent to which AI tools influence learners' ability to organize ideas logically and maintain coherence in their writing. These indicators were rated by Senior High School English teachers based on their observations of learners' written outputs.

The extent of influence of AI tools on Logical Flow and Coherence of Ideas. Twelve indicators were rated with an overall weighted mean of 2.80, interpreted as Evident (E). Across school sizes, the average weighted means were 3.79 (Much Evident) for MEGA schools, 3.33 (Evident) for LARGE schools, and 1.29 (Not at All) for MEDIUM schools, indicating a consistent decline in perceived influence as school size decreases. The indicators in descending order are: Creating satisfying conclusions that synthesize ideas, 2.89; Avoiding abrupt shifts in topics or ideas, 2.87; Maintaining consistent point of view, 2.84; Using cohesive devices, 2.84; Providing smooth transitions between paragraphs, 2.82; Building arguments progressively toward conclusion, 2.82; Ensuring all paragraphs relate to the main thesis, 2.80; Using clear topic sentences for paragraphs, 2.78; Grouping related ideas together logically, 2.76; Providing smooth transitions between sentences, 2.76; Maintaining a clear introduction body conclusion structure, 2.76; and Organizing ideas in a logical sequence, 2.71.

The top three indicators were: creating satisfying conclusions that synthesize ideas (2.89), avoiding abrupt shifts in topics or ideas (2.87), and maintaining consistent point of view (2.84). These findings suggest that AI tools are most helpful in ensuring coherence at the macro level. Liu and Wang (2025) reported that ChatGPT had the strongest positive effect on organization among EFL writers, and Alpar (2025) found that Google Gemini and Microsoft Copilot support clearer essay structuring and logical progression.

The lowest rated indicator was organizing ideas in a logical sequence (2.71). This implies that while AI supports sentence level coherence, learners may still struggle with overall logical flow. Crossley and McNamara (2016) noted that low coherence texts exhibit fewer explicit connective words and weak paragraph transitions, problems that AI may not fully resolve without explicit instruction. Barrot (2018) similarly found that Filipino SHS learners often lack clear topic sentences and paragraph transitions, even when using digital writing aids.

Comparing school sizes, MEGA schools rated this as Much Evident (ME) with an average weighted mean of 3.79 across all indicators, LARGE schools rated Evident (E) with an average of 3.33, while MEDIUM schools rated Not at All (NA) with an average of only 1.29. The gap between MEGA and LARGE schools (a difference of 0.46) is relatively modest, but the gap between LARGE and MEDIUM schools (a difference of 2.04) is substantial, suggesting that learners in MEDIUM schools have very limited exposure to AI assisted coherence development. The pattern reinforces that school size (and associated resources) influences perceived effectiveness of AI for coherence. Reyes and Mendoza (2025) reported that 85% of public school teachers in Bicol had never received formal AI training, a gap that likely affects smaller schools more severely.

#### *4.3.3 The Extent of the Influence of the Utilization of the Artificial Intelligence (AI) Tools on the Writing Skills of the Senior High School Learners in Terms of Grammar Accuracy and Sentence Construction*

Grammar Accuracy and Sentence Construction. This refers to the correct application of English grammatical rules, including subject verb agreement, verb tense consistency, proper word order, and avoidance of sentence fragments and run ons. Grammar errors are among the most frequently cited writing difficulties across ESL/EFL contexts worldwide. In this study, fourteen (14) indicators were used to assess the extent to which AI tools influence learners' grammatical accuracy and sentence construction skills. These indicators were rated by Senior High School English teachers based on their observations of learners' writing outputs.

The extent of influence of AI tools on Grammar Accuracy and Sentence Construction. Fourteen indicators were evaluated, with an overall weighted mean of 2.89, interpreted as Evident (E). Across school sizes, the average weighted means were 3.90 (Much Evident) for MEGA schools, 3.41 (Evident) for LARGE schools, and 1.35 (Not at All) for MEDIUM schools, indicating a consistent decline in perceived influence as school size decreases.

The descending order is as follows: Constructing simple sentences correctly, 3.00; Constructing complex sentences correctly, 3.00; Constructing compound sentences correctly, 2.96; Using modifiers correctly and clearly, 2.93; Using correct pronoun references, 2.91; Using articles (a, an, the) correctly, 2.91; Avoiding double negatives, 2.89; Using correct subject verb agreement, 2.87; Maintaining parallel structure, 2.87; Using prepositions correctly, 2.87; Maintaining consistent verb tenses, 2.82; Using correct word order in sentences, 2.82; Avoiding sentence fragments, 2.80; and Avoiding run on sentences and comma splices, 2.78.

The top three indicators were: constructing simple sentences correctly (3.00), constructing complex sentences correctly (3.00), and constructing compound sentences correctly (2.96). This indicates that AI tools are perceived as most effective for basic and intermediate sentence construction. Nazari, Shabbir, and Setiawan (2021) found that Grammarly significantly reduced grammatical

errors in ESL writing, and Fitria (2021) reported increased confidence and autonomy among users. Ramirez and Dela Cruz (2023) confirmed that Filipino ESL learners showed improved grammatical accuracy with Grammarly.

The lowest rated indicator was avoiding run on sentences and comma splices (2.78). This suggests that while AI helps with basic grammar, more complex punctuation and run on errors may be less consistently addressed. Ghuftron and Rosyida (2018) cautioned that Grammarly's suggestions are not always accurate for complex or context dependent structures. Lee (2020) identified run on sentences and comma splices as among the most persistent errors even with automated correction.

Across school sizes, MEGA schools rated Much Evident (ME) with an average weighted mean of 3.90 across all indicators, LARGE schools rated Evident (E) with an average of 3.41, while MEDIUM schools rated Not at All (NA) with an average of only 1.35. The gap between MEGA and LARGE schools (a difference of 0.49) is notable, but the gap between LARGE and MEDIUM schools (a difference of 2.06) is far more striking, confirming that learners in MEDIUM schools have very limited exposure to AI assisted grammar instruction. The relatively higher influence in MEGA schools may reflect better digital infrastructure and teacher support. Cruz and Lopez (2025) noted that larger schools in Bicol had more reliable internet and device access, enabling consistent use of grammar checking tools.

#### *4.3.4 The Extent of the Influence of the Utilization of the Artificial Intelligence (AI) Tools on the Writing Skills of the Senior High School Learners in Terms of Vocabulary and Word Choice*

**Vocabulary and Word Choice.** This encompasses the range, precision, and appropriateness of words used in writing. Effective word choice involves avoiding repetition, using academic or domain specific terminology correctly, and selecting words that convey the intended meaning and tone. Vocabulary limitations are a major constraint on writing quality for ESL learners, often leading to vague, imprecise, or overly simplistic texts. In this study, twelve (12) indicators were used to assess the extent to which AI tools influence learners' vocabulary use and word choice. These indicators were rated by Senior High School English teachers based on their observations of learners' writing outputs.

The extent of influence of AI tools on Vocabulary and Word Choice. Twelve indicators yielded an overall weighted mean of 2.80, interpreted as Evident (E). Across school sizes, the average weighted means were 3.84 (Much Evident) for MEGA schools, 3.25 (Evident) for LARGE schools, and 1.31 (Not at All) for MEDIUM schools, indicating a consistent decline in perceived influence as school size decreases. The descending order is: Avoiding informal or colloquial expressions, 2.96; Using precise and specific terminology, 2.89; Selecting words with correct connotations, 2.89; Avoiding repetitive vocabulary, 2.84; Using strong verbs instead of weak verb phrases, 2.82; Using words appropriate to academic writing, 2.80; Incorporating discipline specific vocabulary, 2.76; Avoiding vague words, 2.76; Using varied and sophisticated word choices, 2.73; Using figurative language effectively, 2.73; Demonstrating awareness of word forms, 2.73; and Using idiomatic expressions correctly, 2.69.

The top three indicators were: avoiding informal or colloquial expressions (2.96), using precise and specific terminology (2.89), and selecting words with correct connotations (2.89). This aligns with Kurniati and Fajaryani (2022), who found that Quillbot users reported improved vocabulary variety and sentence structure. Mahapatra (2024) also noted that ChatGPT significantly enhanced vocabulary use among ESL learners, particularly in formal academic writing contexts.

The lowest rated indicator was using idiomatic expressions correctly (2.69). This suggests that AI may still struggle with context appropriate idioms, or learners may not rely on AI for this purpose. Huang et al. (2022) observed that AI tools sometimes produce culturally inappropriate or unnatural idiomatic expressions for non native writers. Barrot (2018) found that vocabulary limitations, including idiomatic errors, are a major constraint for Filipino SHS learners.

Comparing school sizes, MEGA schools rated Much Evident (ME) with an average weighted mean of 3.84 across all indicators, LARGE schools rated Evident (E) with an average of 3.25, while MEDIUM schools rated Not at All (NA) with an average of only 1.31. The gap between MEGA and LARGE schools (a difference of 0.59) is moderate, but the chasm between LARGE and MEDIUM schools (a difference of 1.94) is substantial, indicating that learners in MEDIUM schools have very limited exposure to AI assisted vocabulary development. The pattern continues, indicating that access to AI tools is a key factor. Lumapas and Fernandez (2024) reported that students in well resourced schools used AI for vocabulary enhancement more frequently than those in under resourced settings.

#### *4.3.5 The Extent of the Influence of the Utilization of the Artificial Intelligence (AI) Tools on the Writing Skills of the Senior High School Learners in Terms of Spelling Accuracy*

**Spelling Accuracy.** This refers to the correct sequencing of letters in written words according to standard English orthography. While spelling is considered a lower order transcription skill, persistent spelling errors can disrupt reading fluency and negatively affect readers' perceptions of writing quality. In this study, ten (10) indicators were used to assess the extent to which AI tools influence learners' spelling accuracy. These indicators were rated by Senior High School English teachers based on their observations of learners' writing outputs.

The extent of influence of AI tools on Spelling Accuracy. Ten indicators were rated, with an overall weighted mean of 2.76, interpreted as Evident (E). Across school sizes, the average weighted means were 3.60 (Much Evident) for MEGA schools, 3.36 (Evident) for LARGE schools, and 1.31 (Not at All) for MEDIUM schools, indicating a consistent decline in perceived influence as school size decreases. The descending order is: Applying correct spelling in final outputs, 2.87; Spelling academic and technical terms correctly, 2.82; Avoiding typographical errors, 2.82; Spelling words with silent letters correctly, 2.78; Spelling borrowed/foreign words correctly, 2.78; Spelling irregular plural forms correctly, 2.76; Spelling common English words correctly, 2.73; Spelling words with double letters correctly, 2.73; Distinguishing homophones, 2.64; and Applying basic spelling rules, 2.64. The top three indicators were: applying correct spelling in final outputs (2.87), spelling academic and technical terms correctly (2.82), and avoiding typographical errors (2.82). This indicates that AI spell check features are most valued for final proofreading and technical vocabulary. Ramirez and Dela Cruz (2023) confirmed that Filipino ESL learners using Grammarly showed improved spelling accuracy. Graham (2019) noted that automated spelling correction effectively reduces surface level transcription errors.

The lowest rated indicators were distinguishing homophones (2.64) and applying basic spelling rules (2.64). This suggests that AI may not effectively teach rule based spelling or homophone differentiation; instead, it corrects automatically without learner

awareness. Das & Chen (2025) warned that over reliance on AI for spelling can weaken foundational skills. Sermsook, Liamnimitr, and Pochakorn (2017) identified homophone confusion as a common error that spell checkers often miss.

Across school sizes, MEGA schools rated Much Evident (ME) with an average weighted mean of 3.60 across all indicators, LARGE schools rated Evident (E) with an average of 3.36, while MEDIUM schools rated Not at All (NA) with an average of only 1.31. The gap between MEGA and LARGE schools (a difference of 0.24) is relatively narrow, suggesting that even LARGE schools benefit from basic spell check features. However, the chasm between LARGE and MEDIUM schools (a difference of 2.05) is substantial, indicating that learners in MEDIUM schools have very limited access to AI assisted spelling support. The relatively narrower gap between MEGA and LARGE schools in spelling suggests that even LARGE schools benefit from basic spell check features. Albert and Raymundo (2024) found that even moderately resourced schools have access to basic AI spell check tools.

#### 4.3.6 The Extent of the Influence of the Utilization of the Artificial Intelligence (AI) Tools on the Writing Skills of the Senior High School Learners in Terms of Punctuation Usage

**Punctuation Usage.** This involves the correct placement of punctuation marks like periods, commas, question marks, quotation marks, apostrophes, semicolons, and colons to clarify meaning and structure in written texts. Punctuation errors are extremely common among ESL writers, particularly comma misuse (e.g., comma splices, missing commas in complex sentences) and apostrophe confusion (e.g., its vs. it's). In this study, thirteen (13) indicators were used to assess the extent to which AI tools influence learners' punctuation usage. These indicators were rated by Senior High School English teachers based on their observations of learners' writing outputs.

The extent of influence of AI tools on Punctuation Usage. Thirteen indicators were assessed, with an overall weighted mean of 2.71, interpreted as Evident (E). Across school sizes, the average weighted means were 3.76 (Much Evident) for MEGA schools, 3.22 (Evident) for LARGE schools, and 1.14 (Not at All) for MEDIUM schools, indicating a consistent decline in perceived influence as school size decreases. The descending order is: Using capitalization at the beginning of sentences, 2.82; Using capitalization for proper nouns, 2.78; Using commas in lists and series, 2.76; Using apostrophes to show possession, 2.76; Using commas after introductory phrases, 2.71; Using commas to separate independent clauses, 2.71; Using colons to introduce lists or explanations, 2.71; Using parentheses for additional information, 2.69; Using quotation marks for direct speech, 2.69; Using periods to end sentences correctly, 2.67; Using question marks and exclamation points correctly, 2.67; Using semicolons to connect related ideas, 2.64; and Using apostrophes for contractions, 2.60.

The top three indicators were: using capitalization at the beginning of sentences (2.82), using capitalization for proper nouns (2.78), and using commas in lists and series (2.76). These are basic punctuation rules that AI auto corrects reliably. Lee (2020) found that AI tools excel at mechanical punctuation corrections. Fitria (2021) reported that Grammarly effectively flags capitalization and basic comma errors. The lowest rated indicator was using apostrophes for contractions (2.60). This is surprising given that contraction errors are common, but AI may not flag them consistently if the context is ambiguous. Lee (2020) identified apostrophe errors (e.g., its vs. it's) as among the most persistent even with AI assistance. Barrot (2018) found that Filipino SHS learners frequently misuse apostrophes, and automated tools do not always provide clear explanations.

Across school sizes, MEGA schools rated Much Evident (ME) with an average weighted mean of 3.76 across all indicators, LARGE schools rated Evident (E) with an average of 3.22, while MEDIUM schools rated Not at All (NA) with an average of only 1.14. The gap between MEGA and LARGE schools (a difference of 0.54) is notable, but the chasm between LARGE and MEDIUM schools (a difference of 2.08) is far more striking, reinforcing that learners in MEDIUM schools are almost entirely excluded from AI assisted punctuation instruction. The lower influence in MEDIUM schools likely reflects limited access to AI powered writing tools. Reyes and Mendoza (2025) noted that teachers in smaller schools expressed uncertainty about how to integrate AI for punctuation instruction.

#### 4.3.7 The Summary of the Influence of the Utilization of Artificial Intelligence (AI) tools on the Writing Skills of the Senior High School Learners

| INDICATORS                                    | MEGA SCHOOLS |           |      | LARGE SCHOOLS |          |      | MEDIUM SCHOOLS |           |      | AVERAGE     |          |      |
|-----------------------------------------------|--------------|-----------|------|---------------|----------|------|----------------|-----------|------|-------------|----------|------|
|                                               | Wx           | Int.      | Rank | Wx            | Int.     | Rank | Wx             | Int.      | Rank | Wx          | Int.     | Rank |
| 1. Content Development and Idea Elaboration   | 3.88         | ME        | 2    | 3.34          | E        | 3    | 1.16           | NA        | 5    | 2.79        | E        | 4    |
| 2. Logical Flow and Coherence of Ideas        | 3.79         | ME        | 4    | 3.33          | E        | 4    | 1.29           | NA        | 4    | 2.80        | E        | 2    |
| 3. Grammar Accuracy and Sentence Construction | 3.90         | ME        | 1    | 3.41          | E        | 1    | 1.35           | NA        | 1    | 2.89        | E        | 1    |
| 4. Vocabulary And Word Choice                 | 3.84         | ME        | 3    | 3.25          | E        | 5    | 1.31           | NA        | 3    | 2.80        | E        | 3    |
| 5. Spelling Accuracy                          | 3.60         | ME        | 6    | 3.36          | E        | 2    | 1.31           | NA        | 2    | 2.76        | E        | 5    |
| 6. Punctuation Usage                          | 3.76         | ME        | 5    | 3.22          | E        | 6    | 1.14           | NA        | 6    | 2.71        | E        | 6    |
| <b>AVERAGE WEIGHTED MEAN</b>                  | <b>3.80</b>  | <b>ME</b> |      | <b>3.32</b>   | <b>E</b> |      | <b>1.26</b>    | <b>NA</b> |      | <b>2.79</b> | <b>E</b> |      |

The preceding sections have presented the extent of influence of AI tools on each of the six writing dimensions: Content Development and Idea Elaboration, Logical Flow and Coherence of Ideas, Grammar Accuracy and Sentence Construction, Vocabulary and Word Choice, Spelling Accuracy, and Punctuation Usage. Each dimension was assessed using multiple indicators rated by Senior High School English teachers across MEGA, LARGE, and MEDIUM schools. The summary compares the ratings across school sizes to highlight patterns and disparities in the perceived influence of AI assisted writing instruction. By consolidating the findings from the individual dimensions, this section offers a comprehensive perspective on the overall influence of AI tools on the writing skills of Senior High School learners in the Schools Division of Ligao City.

The summary of the influence of the AI tools across all six writing skill components. The overall average weighted mean is 2.79, interpreted as Evident (E). The components are arranged in descending order as follows: Grammar Accuracy and Sentence Construction, 2.89; Logical Flow and Coherence of Ideas, 2.80; Vocabulary and Word Choice, 2.80; Content Development and Idea Elaboration, 2.79; Spelling Accuracy, 2.76; and Punctuation Usage, 2.71. Grammar Accuracy and Sentence Construction emerged as the most influenced component (2.89), while Punctuation Usage was the lowest (2.71). This pattern suggests that AI tools are perceived as most helpful for sentence level grammar and least helpful for punctuation, especially for complex punctuation marks. This finding aligns with Feng, Li, and Zhang (2025), whose systematic review found that AI consistently improves surface level writing quality (grammar, spelling) but effects on higher order skills are more variable. Perkasa, Akyuningrum, and Sadiyah (2025) similarly concluded that AI enhances linguistic accuracy but contributes little to nuanced punctuation and coherence. A consistent trend across school sizes is evident: MEGA schools rated all components as Much Evident (average 3.80), LARGE schools as Evident (3.32), and MEDIUM schools as Not at All (1.26). This disparity underscores the role of institutional resources, teacher training, and access to technology in determining the effectiveness of AI integration. Cruz and Lopez (2025) found that in the Bicol region, larger schools consistently reported higher AI usage and perceived impact due to better infrastructure. Lumapas and Fernandez (2024) noted that students in under resourced schools lacked reliable internet and devices, limiting AI access. The present study's findings confirm that the digital divide within Ligao City mirrors broader regional patterns, with medium (smallest) schools facing the greatest barriers to AI assisted writing instruction.

#### 4.4 The Test of Significant Agreement on the Rank Orders of the Influence of Artificial Intelligence (AI) Tools on the Writing Skills of the Senior High School Learners.

| Indicators                                            | Content Development and Idea Elaboration | Logical Flow and Coherence of Ideas | Grammar Accuracy and Sentence Construction | Vocabulary and Word Choice | Spelling Accuracy | Punctuation Usage |
|-------------------------------------------------------|------------------------------------------|-------------------------------------|--------------------------------------------|----------------------------|-------------------|-------------------|
| Sum of the squared deviation from the difference (d2) | 312.50                                   | 410                                 | 758                                        | 376.5                      | 299.5             | 645.5             |
| Number of Groups                                      | 3                                        | 3                                   | 3                                          | 3                          | 3                 | 3                 |
| Number of Indicators                                  | 12                                       | 12                                  | 14                                         | 12                         | 10                | 13                |
| Coefficient of Concordance (W)                        | 0.24                                     | 0.32                                | 0.37                                       | 0.29                       | 0.40              | 0.39              |
| Computed Chi Square (X2)                              | 7.92                                     | 10.56                               | 14.43                                      | 9.67                       | 10.80             | 14.04             |
| Degree of Freedom                                     | 11                                       | 11                                  | 13                                         | 11                         | 9                 | 12                |
| Tabular X2 Value:                                     |                                          |                                     |                                            |                            |                   |                   |
| 0.05                                                  | 19.68                                    | 19.68                               | 22.36                                      | 19.68                      | 16.92             | 21.03             |
| 0.025                                                 | 21.92                                    | 21.92                               | 24.74                                      | 21.92                      | 19.02             | 23.34             |
| 0.01                                                  | 24.73                                    | 24.73                               | 27.69                                      | 24.73                      | 21.67             | 26.22             |
| 0.005                                                 | 26.76                                    | 26.76                               | 29.82                                      | 26.76                      | 23.59             | 28.30             |
| 0.001                                                 | 31.26                                    | 31.26                               | 34.53                                      | 31.26                      | 27.88             | 32.91             |
| Decision on Null Hypotheses (H0)                      | Accepted                                 | Accepted                            | Accepted                                   | Accepted                   | Accepted          | Accepted          |
| Significance of Agreement                             | NS                                       | NS                                  | NS                                         | NS                         | NS                | NS                |

The significant agreement on the rank orders of the influence of the Artificial Intelligence (AI) tools on the writing skills of Senior High School learners was tested employing Kendall's Coefficient of Concordance (W). Table 12 reveals the results. The summations of squares of the agreement across the six writing dimensions were as follows: Content Development and Idea Elaboration, 312.5; Logical Flow and Coherence of Ideas, 410; Grammar Accuracy and Sentence Construction, 758; Vocabulary and Word Choice, 376.5; Spelling Accuracy, 299.5; and Punctuation Usage, 645.5. The Coefficient of Concordance (W) values ranged from 0.24 to 0.40, and the computed  $\chi^2$  values ranged from 7.92 to 14.43. With degrees of freedom ranging from 9 to 13, the computed  $\chi^2$  values were all less than their respective tabular  $\chi^2$  values at the 0.05 significance level ( $p > 0.05$ ). Thus, the null hypothesis was accepted for all six dimensions, indicating that there is no significant agreement on the rank orders of the influence of AI tools among the MEGA, LARGE, and MEDIUM school groups.

This statistical finding indicates that teachers from different school size categories do not share a consistent perception of which writing dimensions are more or less influenced by AI tools. The low to moderate W values (0.24 to 0.40) suggest that the rank orders assigned by MEGA, LARGE, and MEDIUM schools vary considerably across all six dimensions. For example, while Grammar Accuracy and Sentence Construction received the highest overall influence rating (2.89) in the combined average, the lack of agreement implies that some school groups may perceive grammar as highly influenced by AI, while others may rank vocabulary or content development higher. This inconsistency aligns with Feng, Li, and Zhang (2025), whose systematic review of 112 studies found that AI's impact on writing varies significantly depending on institutional context, teacher training, and access to technology. Similarly, Perkasa, Akyuningrum, and Sadiyah (2025) concluded that contextual factors, including school resources and teacher mediation, strongly influence AI's effectiveness across different writing dimensions.

The lack of significant agreement across all six dimensions also reflects the digital divide documented by Cruz and Lopez (2025) in the Bicol region. In MEGA schools, where learners have consistent access to a wide range of AI tools (ChatGPT, Grammarly, Canva AI), teachers may perceive strong AI influence on multiple writing dimensions. In contrast, MEDIUM schools, where AI utilization is negligible (most tools rated "Not at All"), teachers may perceive little to no influence on any writing dimension. These divergent experiences lead to disagreement on rank orders. Furthermore, Reyes and Mendoza (2025) found that 85% of public school teachers

had never received formal AI training, which likely exacerbates inconsistencies in how teachers across different school sizes perceive AI's role in writing development.

Interestingly, the highest  $W$  value (0.40) was observed for Spelling Accuracy, while Grammar Accuracy and Sentence Construction had the highest computed  $\chi^2$  (14.44) but still fell short of significance. The relatively higher agreement for spelling may indicate that AI's impact on this lower-order skill is more consistently perceived across school sizes, possibly because even basic spell-check features are widely available. Conversely, the lower agreement for dimensions like Content Development and Logical Flow ( $W = 0.24$ ) suggests that teachers' perceptions of AI's influence on higher-order writing skills vary more widely, likely due to differences in how generative AI tools (e.g., ChatGPT) are introduced and used in different school contexts.

Taken together, the non significant agreement across all six dimensions reinforces the conclusion that school size is a major moderating factor in AI assisted writing instruction. The findings highlight the need for context specific implementation guidelines rather than a one size fits all approach. As Sarica and Deneme Gençoğlu (2025) emphasized, successful AI integration requires tailored professional development, infrastructure support, and ethical guidelines that account for institutional variability. For Ligao City Division, this means that interventions designed for MEGA schools cannot be directly replicated in LARGE or MEDIUM schools without significant adaptation. This underscores the urgency of addressing the digital divide through targeted policies that prioritize infrastructure development and teacher training for smaller schools.

#### *4.5 Policy Recommendations Formulated based from the Findings of the Study*

Based on the findings of this study, the following policy recommendations are formulated:

- The Schools Division Office shall establish a division wide shared resource model for AI tools and connectivity. The Schools Division Office shall provide low cost "AI on a stick" kits (offline capable AI writing tools on USB drives) and organize a rotating mobile AI lab (laptops with Wi Fi hotspot) that visits schools regularly. This ensures that even schools with poor internet or limited devices gain equitable access to AI writing support.
- The Curriculum Implementation Division (CID) shall integrate AI assisted writing exercises into existing English modules and teacher training. The CID shall embed 15 minute AI activities (e.g., using free Grammarly or ChatGPT for grammar checking and paraphrasing) into current Grade 11 12 lessons. Simultaneously, every school shall designate an "AI Champion" teacher who completes free online training (Google/Microsoft) and cascades AI literacy to colleagues. Monthly 30 minute "AI Sharing Sessions" during department meetings shall replace one off training events, requiring no extra budget.
- Every school shall implement structured ethical guidelines and student led AI tutoring. Every school shall adopt a one page "AI Use in Writing" code of conduct (covering acceptable use, citation of AI assistance, and data privacy per RA 10173), signed by students and parents. Additionally, schools shall train student "Peer AI Tutors" to assist classmates in using AI tools ethically (e.g., prompting for outlines, not plagiarizing). This balances access with academic integrity.
- The National Educators Academy of the Philippines (NEAP) – Bicol Regional Office shall integrate a 2 hour module on "AI Tools for Teaching Writing" into all future In Service Training (INSET) programs for English teachers. The module shall be delivered by trained division supervisors using free, readily available online resources (e.g., Google's "AI for Educators" course). This approach is scalable, cost effective, and aligned with DepEd Memorandum No. 194, s. 2024, which promotes teacher empowerment and innovative pedagogy.
- Each school's English Department shall conduct a 30 minute "AI Sharing Session" every month during existing department meetings. In each session, one teacher shall share a practical, classroom tested tip (e.g., "How I use ChatGPT to generate writing prompts" or "Using Grammarly for peer editing"). This requires no additional time or budget, as it leverages regular meeting schedules and taps into the existing expertise of teachers.
- The Schools Division Superintendent shall issue a Division Memorandum titled "Interim Guidelines for the Ethical and Equitable Use of AI Tools in Writing Instruction." This concise, three page document shall: (a) define the allowed AI tools (free versions of Grammarly, Quillbot, and ChatGPT); (b) prohibit the complete AI generation of student assignments; (c) require learners to submit both their original draft and the AI refined version; and (d) include a data privacy checklist aligned with Republic Act No. 10173 (Data Privacy Act of 2012). The memorandum is low cost, quick to implement, and provides legal and pedagogical guidance for teachers.
- The Division shall establish a shared Google Drive folder titled "AI Writing Lesson Snippets," containing five to ten minute activities for each writing dimension (content development, grammar, punctuation, etc.). Teachers shall contribute activities, and the English Supervisor shall vet all materials before publication. This initiative requires no budget—only coordination—and promotes collaborative, peer driven professional development.
- The Division shall formally partner with the Department of Information and Communications Technology (DICT) – Bicol Regional Office to request free or subsidized internet connectivity for MEDIUM schools under the government's Free Wi Fi for All program. Since this is an existing national program, the Division only needs to submit a formal request and coordinate with DICT field officers. Successful implementation would directly address the connectivity barrier identified as a primary cause of low AI tool utilization in smaller schools.
- To improve content development and originality, teachers shall require "AI + Original" paired submissions where students first write an original paragraph, then ask ChatGPT to suggest two improvements, and finally submit both versions along with a brief reflection on which suggestion they accepted and why.
- To improve logical flow and sequencing of ideas, teachers shall require students to use AI (e.g., ChatGPT or Microsoft Copilot) to generate an outline for a given topic. Students shall then compare the AI generated outline with their own outline, identify differences in sequencing and organization, and revise their outline to achieve a more logical progression of ideas before drafting their essay.
- To address run on sentences and comma splices, teachers shall assign "run on correction" exercises where students write five original sentences containing run on errors or comma splices, run them through Grammarly (free version), and explain in writing

why each correction was suggested. This reinforces awareness of sentence boundaries and proper punctuation usage, helping learners internalize the rules rather than simply accepting automated corrections.

- To improve the correct use of idiomatic expressions, teachers shall use ChatGPT to generate sentences containing common idiomatic expressions. Students shall identify the meaning of each idiom in context and then write their own sentences using the same idioms correctly.
- To improve spelling accuracy and correct homophone errors, teachers shall use Quillbot's "paraphrase" feature. Students type a sentence containing common homophone errors (e.g., their/there, your/you're), let Quillbot rephrase it, and then identify the corrected spellings.
- To reinforce basic spelling rules, teachers shall create short spelling rule quizzes (e.g., "i before e except after c") and have students use AI spell check to verify their answers, then explain the rule behind each correction.
- To improve punctuation usage, teachers shall assign "AI punctuation check" exercises. In this activity, students write five original sentences, run them through Grammarly (free version), and then explain why each punctuation change was suggested.
- The Division Research Committee shall conduct a mid year "AI Utilization Spot Check." This will consist of a simple five question survey distributed to English teachers in October to measure whether AI tool utilization has increased, with particular attention to MEDIUM schools. The results shall be reported directly to the Schools Division Superintendent (SDS).
- School heads shall include "AI tool access and usage" as an optional indicator in the School Improvement Plan (SIP). This shall not be a mandatory target but rather a context specific goal for schools that choose to prioritize AI integration based on their readiness and resources.

## 5. Conclusion and Recommendations

This section presents the summary of the major findings of the study, the conclusions drawn from these findings, and the policy recommendations formulated to address the issues and gaps identified in the utilization of the Artificial Intelligence (AI) tools and their influence on the writing skills of Senior High School learners in the Schools Division of Ligao City.

### 5.1 Conclusions

From the findings, the following conclusions are drawn:

- The utilization of the AI tools among Senior High School learners in the Schools Division of Ligao City is Utilized.
- There is no significant agreement on the rank orders of the utilization of the Artificial Intelligence (AI) tools.
- The extent of the influence of the Artificial Intelligence (AI) tools on the writing skills of the learners is Evident.
- There is no significant agreement on the rank orders of the influence of the Artificial Intelligence (AI) tools on the writing skills of the learners.
- Policy recommendations are formulated based from the findings of the study.

### 5.2 Recommendations

Based on the findings and conclusions, the following recommendations are formulated:

- The Schools Division Office shall establish a Three Tier AI Integration Framework that provides differentiated support for different school sizes to respond to the findings that indicated the need for broader awareness and access to a wider range of AI tools as well as to also address the negligible utilization observed in MEDIUM schools by providing basic access through mobile labs and offline capable tools.
- The Curriculum Implementation Division (CID) must develop a specialized module on "AI Assisted Writing for Higher Order Skills" to target the weakest dimensions identified in the study.
- School heads shall establish a Technology Support Ecosystem for AI Writing Tools which designating an "AI Champion" teacher per school, creating a shared device pool (e.g., laptop carts with free AI software), and scheduling monthly "AI Sharing Sessions" during department meetings to sustain peer learning.
- Teachers shall integrate AI tools into formal assessment structures to promote critical engagement and reduces over reliance.
- The policy recommendations formulated in this study shall be implemented.

### 5.3 Recommendations for Future Research

The following are recommended for future investigations or research:

- Investigate the difference in writing performance between learners who use AI tools and those who do not, taking into account school size and prior writing ability.
- Explore the reasons behind Filipino learners' preference for generative AI (e.g., ChatGPT) over corrective tools (e.g., Grammarly).
- Examine the development of writing skills in MEDIUM schools after the provision of AI infrastructure support (e.g., mobile labs, offline tools).
- Determine whether the digital divide observed in Ligao City is also present in other divisions across the Bicol Region.
- Assess the negative effects of prolonged AI use on learner autonomy and critical thinking, and identify optimal usage limits to prevent over reliance.

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