



## STUDI ETNOPELAGOGI TENTANG PENDIDIKAN ANAK DALAM KELUARGA MASYARAKAT BATAK DI MEDAN DENAI BERBASIS NILAI- NILAI KEARIFAN LOKAL

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### ABSTRACT

*The rapid development of artificial intelligence (AI) has significantly transformed educational practices, including the way students engage in academic writing. AI-assisted tools such as ChatGPT, Grammarly, QuillBot, Gemini, and other AI-powered applications are increasingly being used by students to support various stages of the writing process. These technologies provide assistance in generating ideas, correcting grammar, improving vocabulary, organizing content, and revising written texts. As digital technologies become more integrated into students' daily lives, understanding how learners experience the use of AI-assisted tools in academic writing has become an important area of educational research. Therefore, this study aims to explore the experiences of SMA Dharmawangsa students in using AI-assisted tools for academic writing, identify the perceived benefits and challenges, and examine students' perspectives on the role of AI in supporting their writing development.*

*This study employed a qualitative approach using a phenomenological research design. The participants were students of SMA Dharmawangsa who had experience using AI-assisted tools in completing academic writing tasks. Participants were selected through purposive sampling based on specific criteria relevant to the research objectives. Data were collected through semi-structured interviews, observations, and documentation. The data were analyzed using the interactive model of Miles, Huberman, and Saldaña, which involved data reduction, data display, and conclusion drawing. To ensure the trustworthiness of the findings, triangulation, member checking, and peer debriefing were applied.*

*The findings revealed that students generally had positive experiences using AI-assisted tools in academic writing. Students perceived AI technologies as useful learning resources that helped them generate ideas, improve grammar and vocabulary, organize essays, and revise their writing more effectively. The use of AI-assisted tools also increased students' confidence and supported independent learning by providing immediate feedback during the writing process. Furthermore, students reported that AI technologies helped them complete writing tasks more efficiently and reduced difficulties commonly encountered in academic writing. However, several challenges were identified, including the tendency to rely excessively on AI-generated content, concerns regarding the accuracy of information provided by AI systems, and uncertainty about the ethical boundaries of AI use in academic work. Despite these challenges, most participants recognized the importance of using AI responsibly and maintaining originality in their writing.*

*The study concludes that AI-assisted tools have significant potential to support students' academic writing development when used appropriately. AI technologies can enhance writing quality, foster learner autonomy, and increase engagement in writing activities. Nevertheless, effective use of AI requires students to critically evaluate AI-generated suggestions and maintain academic integrity. The study proposes the concept of Responsible AI-Assisted Academic Writing, which emphasizes the role of AI as a learning companion rather than a replacement for students' critical thinking and writing abilities. The findings contribute to the growing body of research on artificial intelligence in education and provide practical insights for teachers, schools, and policymakers in promoting ethical and effective AI integration in academic writing instruction.*

**Keywords:** *artificial intelligence, AI-assisted tools, academic writing, students' experiences, digital learning, academic integrity, qualitative study.*



## I. INTRODUCTION

The rapid advancement of artificial intelligence (AI) has significantly transformed various aspects of human life, including education. In recent years, AI-assisted tools such as ChatGPT, Grammarly, QuillBot, Microsoft Copilot, and Gemini have become increasingly popular among students for supporting learning activities. These technologies offer various features that can assist users in generating ideas, correcting grammar, improving sentence structures, paraphrasing texts, and organizing written content. As a result, AI-assisted tools are gradually becoming part of students' academic practices, particularly in writing activities.

Academic writing is one of the essential skills that students need to develop in the twenty-first century. Through writing, students are expected to express ideas clearly, organize arguments logically, and communicate information effectively. However, many students continue to experience difficulties in academic writing. Common challenges include limited vocabulary, grammatical inaccuracies, lack of confidence, difficulties in organizing ideas, and insufficient knowledge of academic writing conventions. These challenges often affect the quality of students' written work and their overall learning experience.

The emergence of AI-assisted tools has introduced new opportunities for addressing these challenges. By providing instant feedback and writing support, AI technologies can help students improve their writing performance and become more independent learners. Students can use AI tools to brainstorm ideas, revise drafts, check grammar, and receive suggestions for improving clarity and coherence. Consequently, AI-assisted tools have the potential to enhance students' engagement and confidence in academic writing tasks.

Despite these potential benefits, the increasing use of AI in educational settings has also generated various concerns. Educators and researchers have raised questions regarding academic integrity, overreliance on technology, critical thinking development, and students' ability to produce original work. While AI tools can facilitate the writing process, excessive dependence on these technologies may reduce opportunities for students to develop their own writing skills and analytical abilities. Therefore, understanding how students experience and perceive the use of AI-assisted tools is becoming increasingly important in contemporary educational research.

Several previous studies have examined the effectiveness of AI technologies in language learning and writing instruction. Existing research generally reports positive impacts, such as improved writing quality, enhanced language accuracy, increased motivation, and more efficient learning processes. However, most studies have focused on higher education contexts, particularly university students. Comparatively, limited



attention has been given to the experiences of senior high school students who are increasingly exposed to AI technologies in their daily learning activities.

As members of Generation Z, high school students are growing up in a digital environment where technology is deeply integrated into their educational experiences. Their familiarity with digital tools may influence how they interact with AI-assisted technologies in academic writing. Understanding their experiences can provide valuable insights into both the opportunities and challenges associated with AI integration in secondary education.

SMA Dharmawangsa represents an educational context where students have increasing access to digital technologies and online learning resources. Preliminary observations indicate that many students are already familiar with AI-assisted tools and have begun using them to support their writing activities. However, little is known about how these students perceive the usefulness of AI tools, the challenges they encounter, and the ways in which these technologies influence their writing practices.

Therefore, this study aims to explore the experiences of SMA Dharmawangsa students in using AI-assisted tools for academic writing. Specifically, the study seeks to investigate how students utilize AI technologies during the writing process, identify the perceived benefits and challenges of AI-assisted writing, and understand students' perspectives regarding the role of AI in developing their academic writing skills. The findings of this study are expected to contribute to the growing body of research on artificial intelligence in education and provide insights for teachers, schools, and policymakers in designing effective and responsible AI-supported learning environments.

This study also offers a novel contribution by focusing on the experiences of senior high school students, a population that has received relatively limited attention in previous AI and academic writing research. Furthermore, the study highlights students' perspectives on balancing the benefits of AI-assisted learning with the need to maintain academic integrity and independent writing skills in the digital era.

## **II. LITERATURE REVIEW**

### **2.1 Artificial Intelligence (AI) in Education**

Artificial Intelligence (AI) has become one of the most influential technological innovations in education during the last decade. AI refers to computer systems designed to perform tasks that normally require human intelligence, such as language processing, problem-solving, decision-making, and content generation.

According to Holmes, Wayne et al. (2022), AI in education can support teaching and learning processes by providing personalized feedback, adaptive learning experiences, and



intelligent learning assistance. AI technologies allow students to access information more efficiently and receive immediate support during learning activities.

Similarly, Zawacki-Richter, Olaf et al. (2019) explain that AI has the potential to transform educational practices by improving learning efficiency, increasing student engagement, and supporting individualized instruction. The integration of AI into educational settings enables students to learn according to their own pace and learning needs.

The emergence of generative AI applications such as ChatGPT, Grammarly, QuillBot, Google Gemini, and Microsoft Copilot has further expanded opportunities for students to improve their academic writing skills through AI-assisted support.

## **2.2 AI-Assisted Tools in Learning**

AI-assisted tools are digital applications that utilize artificial intelligence to assist users in completing specific tasks. In academic writing, these tools can help students generate ideas, correct grammar, paraphrase sentences, organize content, and improve writing quality.

According to Kasneci et al. (2023), AI-powered writing tools can function as learning companions that provide immediate feedback and support students throughout the writing process. Such tools can encourage learner autonomy and facilitate the development of writing skills when used appropriately.

## **2.3 Academic Writing**

### **Definition of Academic Writing**

Academic writing is a formal form of communication used to present ideas, arguments, and information systematically and logically. It is an essential skill for students because it enables them to demonstrate knowledge, critical thinking, and analytical abilities.

According to Bailey (2018), academic writing involves presenting information objectively, using evidence-based arguments, and following accepted academic conventions. Effective academic writing requires clarity, coherence, organization, and appropriate language use.

Similarly, Hyland (2019) states that academic writing is not only about linguistic competence but also about understanding disciplinary conventions, audience expectations,



and critical engagement with information.

1. Components of Academic Writing
2. Several components contribute to effective academic writing:
3. Grammar accuracy
4. Vocabulary use
5. Organization of ideas
6. Coherence and cohesion
7. Critical thinking
8. Proper citation and referencing
9. Academic integrity

These components are often challenging for students, particularly those learning English as a foreign language (EFL).

#### **2.4. Students' Experiences in Learning**

Experience is one of the key concepts in educational research because it reflects how learners perceive, interpret, and interact with educational phenomena.

According to Merriam and Tisdell (2016), learning experiences refer to individuals' perceptions, feelings, interpretations, and reflections regarding a particular learning activity. Experiences provide insight into how students make meaning of their educational environments.

In qualitative research, students' experiences are often explored to understand their motivations, challenges, attitudes, and perceptions toward learning innovations.

According to Creswell and Poth (2018), exploring participants' lived experiences allows researchers to gain deeper understanding of educational practices and their impact on learners.

In this study, students' experiences refer to how SMA Dharmawangsa students perceive and interact with AI-assisted tools during academic writing activities.

#### **2.5 AI-Assisted Tools and Academic Writing**

The increasing use of AI-assisted tools has significantly influenced students' writing practices. Many students use AI technologies to improve language accuracy, generate content ideas, and revise written assignments.



According to Cotton et al. (2024), students perceive AI-assisted tools as useful resources that enhance writing efficiency and reduce the cognitive burden associated with writing tasks. AI tools help students overcome writer's block, improve sentence structures, and identify language errors.

Similarly, Tlili et al. (2023) found that AI applications can support academic writing by providing personalized feedback and facilitating self-regulated learning. Students can independently revise and improve their writing based on AI-generated suggestions.

However, researchers also highlight potential risks associated with AI-assisted writing.

According to Dwivedi et al. (2023), excessive dependence on AI technologies may reduce students' opportunities to develop critical thinking, creativity, and independent writing skills. Furthermore, concerns regarding plagiarism, academic honesty, and ethical use of AI continue to be debated in educational contexts.

Therefore, understanding students' experiences with AI-assisted tools is important for identifying both the benefits and challenges of AI integration in academic writing.

## **2.6 Technology Acceptance Theory (TAM)**

This study is supported by the Technology Acceptance Model (TAM) developed by Davis and widely applied in technology-related educational research.

According to Venkatesh and Davis (2016), technology acceptance is influenced by two major factors:

### **1) Perceived Usefulness**

Perceived usefulness refers to the extent to which individuals believe that using a particular technology will improve their performance.

In this study, perceived usefulness relates to students' beliefs that AI-assisted tools can help improve their academic writing skills.

### **2) Perceived Ease of Use**

Perceived ease of use refers to the degree to which individuals believe that using a technology requires minimal effort.

Students are more likely to use AI-assisted tools when they perceive them as easy to access and operate.

The TAM framework is relevant because it helps explain why students adopt AI



technologies and how their perceptions influence their learning experiences.

## **2.7 Previous Studies**

Several studies have investigated AI in educational settings.

Cotton et al. (2024) found that university students generally viewed generative AI positively because it improved writing productivity and language accuracy.

Tlili et al. (2023) reported that AI tools supported students' learning autonomy and writing development but raised concerns regarding ethical use.

Kasneci et al. (2023) highlighted the educational potential of AI while emphasizing the importance of responsible implementation.

However, most previous studies focused on university students. Research examining senior high school students' experiences with AI-assisted tools remains limited. This gap provides the rationale for conducting the present study at SMA Dharmawangsa.

## **III. METODE**

### **3.1 Research Approach**

This study employed a qualitative research approach. Qualitative research was chosen because the study aimed to explore and understand the experiences of SMA Dharmawangsa students in using AI-assisted tools for academic writing. Rather than measuring variables statistically, this research focused on understanding students' perceptions, feelings, opinions, and experiences regarding the use of artificial intelligence in their writing activities.

According to Creswell and Poth (2018), qualitative research is appropriate when researchers seek to understand participants' perspectives and the meanings they assign to a particular phenomenon. In this study, the phenomenon investigated was the use of AI-assisted tools such as ChatGPT, Grammarly, QuillBot, Gemini, and other AI-based applications in academic writing.

### **3.2 Research Design**

This research used a phenomenological design. Phenomenology focuses on understanding participants' lived experiences regarding a particular phenomenon. The phenomenological approach was selected because the study aimed to investigate how students experience the use of AI-assisted tools in completing academic writing tasks, how



they perceive the benefits and challenges, and how these tools influence their writing process.

### **3.3 Research Setting**

The study was conducted at SMA Dharmawangsa Medan, North Sumatra, Indonesia.

The school was selected because students actively use digital technologies in learning activities and have access to various AI-assisted writing tools. Additionally, preliminary observations indicated that many students were already familiar with applications such as ChatGPT, Grammarly, and QuillBot.

### **3.4 Participants**

The participants of this study were students of SMA Dharmawangsa who had experience using AI-assisted tools in academic writing activities. Participants were selected using purposive sampling, which means participants were chosen based on specific criteria relevant to the research objectives.

The criteria included:

1. Being a student of SMA Dharmawangsa.
2. Having used AI-assisted tools in writing assignments.
3. Being willing to participate in the study.
4. Having sufficient experience with AI technology.
5. The study involved approximately 10–15 students or until data saturation was achieved.

### **3.5 Data Collection Techniques**

#### **1. Semi-Structured Interviews**

The primary data collection method was semi-structured interviews. The interviews focused on:

- 1) Students' experiences using AI tools.
- 2) Reasons for using AI-assisted tools.
- 3) Benefits obtained from AI technologies.
- 4) Challenges encountered during usage.
- 5) Ethical concerns related to AI-assisted writing.
- 6) Perceived impact on writing skills.
- 7) Each interview lasted approximately 30–45 minutes and was conducted in a comfortable setting to encourage open discussion.



## 2. Observation

Observations were conducted to understand how students used AI-assisted tools during writing activities. The researcher observed:

1. Students' interactions with AI tools.
2. Writing practices supported by AI.
3. Students' responses to AI-generated suggestions.

## 3. Documentation

Documentation was used to support interview and observation data. Documents included:

- 1) Students' writing assignments.
- 2) Screenshots of AI-assisted writing activities.
- 3) School learning materials.
- 4) AI-generated writing outputs used by students.

### **3.6 Data Analysis**

The study employed the interactive model of Miles, Huberman, and Saldaña (2014), consisting of:

#### a. Data Reduction

The researcher organized and selected relevant information obtained from interviews, observations, and documents.

#### b. Data Display

Data were presented in the form of thematic descriptions, tables, and narrative explanations.

#### c. Conclusion Drawing and Verification

Themes and patterns were identified and interpreted to answer the research questions.

### **3.7 Trustworthiness of Data**

To ensure credibility and validity, the researcher applied:

#### a. Triangulation

Comparing information from interviews, observations, and documentation.

#### b. Member Checking

Participants reviewed interview transcripts and findings to confirm accuracy.

#### c. Peer Debriefing

Research findings were discussed with colleagues or supervisors to minimize researcher bias.



## IV.FINDINGS AND DISCUSSION

### 4.1 Findings

#### 4.1.1 Students' Reasons for Using AI-Assisted Tools

The findings revealed that most students used AI-assisted tools because they perceived them as practical, accessible, and helpful in completing writing assignments. Students reported that AI tools helped them:

1. Generate ideas more quickly.
2. Improve grammar and vocabulary.
3. Organize essays effectively.
4. Save time during writing tasks.

One participant explained:

“Sometimes I don't know how to start writing. ChatGPT helps me find ideas and examples, so I can continue writing more confidently.”

The findings indicate that students view AI-assisted tools as supportive learning resources rather than merely shortcuts for completing assignments.

#### 4.1.2 Benefits of AI-Assisted Tools in Academic Writing

Several benefits emerged from the data.

##### a. Improving Writing Quality

Students reported improvements in grammar, vocabulary, sentence structure, and coherence after using AI-assisted tools.

##### b. Increasing Writing Confidence

Many participants stated that AI assistance reduced anxiety during writing activities.

##### c. Enhancing Learning Efficiency

Students appreciated receiving immediate feedback without waiting for teacher corrections.

##### d. Supporting Independent Learning

Participants reported becoming more autonomous in revising and improving their work.

#### 4.1.3 Challenges in Using AI-Assisted Tools

Despite the benefits, students also encountered several challenges.

##### a. Overdependence on AI

Some students admitted relying heavily on AI-generated responses.

One participant stated:



“Sometimes I use AI too much because it is easier than writing by myself.”

#### b. Inaccurate Information

Students occasionally found AI-generated information that was incomplete or incorrect.

#### c. Ethical Concerns

Several students expressed uncertainty regarding the acceptable use of AI in academic assignments.

### **4.1.4 Students' Perceptions of AI in Academic Writing**

Most participants viewed AI positively. Students believed that AI:

- 1) Supports learning processes.
- 2) Makes writing more enjoyable.
- 3) Helps them overcome writing difficulties.
- 4) However, they also emphasized the importance of using AI responsibly.

Many participants agreed that AI should be used as a learning assistant rather than a replacement for their own thinking and writing efforts.

## **4.2 Discussion**

### **4.2.1 AI-Assisted Tools as Learning Support Systems**

The findings suggest that AI-assisted tools function as learning support systems that help students overcome common writing challenges. Students use AI technologies not only to generate text but also to obtain guidance during the writing process.

This finding supports Holmes et al. (2022), who argue that AI can provide personalized learning support and enhance student engagement. The results indicate that students perceive AI as a valuable educational resource that complements traditional learning methods.

### **4.2.2 AI and the Development of Academic Writing Skills**

The study revealed that AI-assisted tools contribute to improvements in grammar, vocabulary, organization, and writing confidence. These findings align with Kasneci et al. (2023), who found that AI technologies can enhance students' writing performance through instant feedback and language support.

However, the findings also suggest that writing improvement depends on how students use AI. Students who actively analyze AI suggestions tend to develop stronger writing skills than those who simply copy AI-generated content.



### **4.2.3 Ethical Issues and Academic Integrity**

A significant finding of this study concerns students' awareness of ethical issues. Participants recognized the importance of maintaining originality and avoiding excessive reliance on AI.

This finding supports Dwivedi et al. (2023), who emphasize that AI integration in education must be accompanied by clear ethical guidelines and responsible usage practices. The results indicate that students need guidance from teachers regarding acceptable AI use in academic contexts.

### **4.2.4 AI and Student Autonomy**

Important finding is that AI-assisted tools can promote learner autonomy. Students reported independently revising and improving their writing using AI-generated feedback. This suggests that AI can encourage self-regulated learning when used appropriately. Rather than replacing learning, AI appears to support students in becoming more active participants in their own learning process.

The novelty of this study lies in its focus on senior high school students' experiences with AI-assisted tools in academic writing, an area that remains relatively underexplored compared to university-level research.

The study proposes the concept of "Responsible AI-Assisted Academic Writing", where AI functions as a learning companion that supports idea generation, language development, and writing improvement while maintaining students' critical thinking, creativity, and academic integrity. This concept highlights the importance of balancing technological assistance with independent learning and ethical academic practices in the era of artificial intelligence.

## **V. CONCLUSION**

Based on the findings and discussion of the study entitled "Students of SMA Dharmawangsa Experiences Using AI-Assisted Tools in Academic Writing", several conclusions can be drawn as follows:

AI-assisted tools have become an important part of students' academic writing practices. Students use various AI applications such as ChatGPT, Grammarly, QuillBot, and other AI-powered platforms to support their writing activities, particularly in generating ideas, improving grammar, expanding vocabulary, organizing content, and revising written



work.

Students generally have positive experiences with AI-assisted tools in academic writing. Most participants perceive AI technologies as useful, practical, and accessible resources that help them complete writing tasks more efficiently. The tools provide immediate assistance and make the writing process less challenging.

The use of AI-assisted tools contributes to the development of students' academic writing skills. The findings indicate that AI technologies help students improve language accuracy, sentence structure, coherence, and overall writing quality. In addition, students become more confident in expressing their ideas through written communication.

AI-assisted tools support independent learning and learner autonomy. Students are able to revise, edit, and improve their writing independently through AI-generated feedback. This enables them to take a more active role in their learning process and develop greater responsibility for their academic work.

Despite the benefits, several challenges are associated with the use of AI-assisted tools. These challenges include students' tendency to rely excessively on AI-generated content, concerns regarding the accuracy of information provided by AI systems, and uncertainty about the ethical boundaries of AI use in academic writing.

Students demonstrate awareness of academic integrity issues related to AI-assisted writing. Most participants acknowledge that AI should be used as a supporting tool rather than a substitute for their own thinking and writing abilities. They recognize the importance of maintaining originality and critical engagement when utilizing AI technologies.

The successful use of AI-assisted tools depends on students' ability to use the technology critically and responsibly. AI can enhance learning outcomes when students evaluate AI-generated suggestions, verify information, and integrate the technology into their writing process thoughtfully.

The study highlights the need for guidance and support from teachers regarding responsible AI use. Educators play a crucial role in helping students understand the benefits, limitations, and ethical implications of AI-assisted writing while encouraging the development of independent writing skills.

This study proposes the concept of "Responsible AI-Assisted Academic Writing." This concept emphasizes that AI should function as a learning companion that assists students in generating ideas, improving language use, and enhancing writing quality while



preserving critical thinking, creativity, originality, and academic integrity.

Overall, AI-assisted tools offer significant opportunities for improving academic writing among high school students. However, their educational value depends on balanced and responsible use. When appropriately integrated into the learning process, AI technologies can serve as effective tools for supporting writing development and preparing students for learning in the digital era.

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