“THE USE OF POE CHATBOT FOR ENHANCING NARRATIVE WRITING SKILLS”

A Thesis

By:

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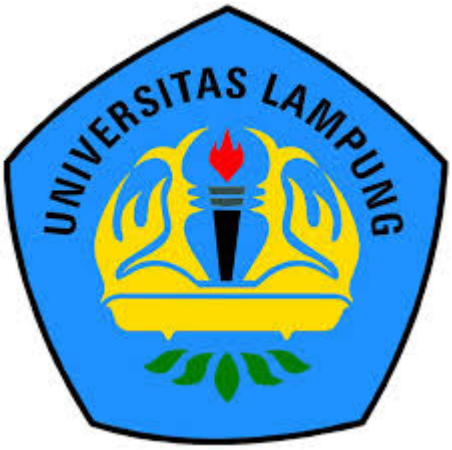

MASTER OF ENGLISH EDUCATION PROGRAM
TEACHER TRAINING AND EDUCATION FACULTY
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BANDAR LAMPUNG
2025

ABSTRACT

THE USE OF POE CHATBOT FOR ENHANCING NARRATIVE WRITING SKILLS

BY

MARWAN BATUBARA

This study examined the effectiveness of a TPACK-informed educational intervention utilizing the POE chatbot to improve narrative writing skills among Indonesian EFL learners. The study had three distinct objectives: (1) to assess whether a notable enhancement in narrative writing proficiency was observed following the implementation of the RCTS-Scaffolded AI Dialogue Framework, (2) to determine which elements of writing exhibited the greatest improvement, and (3) to investigate students' perceptions of the chatbot-assisted learning experience. A one-group pretest-post-test design was conducted with 24 eleventh-grade students at SMA PGRI Tumijajar. Quantitative analysis demonstrated a statistically significant enhancement in total writing scores, with mean scores rising from 83.83 (pretest) to 86.58 (post-test) ($p = 0.007$). The most significant improvements were observed in text organization and vocabulary. Qualitative data from perception questionnaires revealed favourable student responses, emphasizing the framework's contribution to enhancing engagement and alleviating writing fear. The results indicate that explicitly instructing AI interaction tactics within a systematic educational framework can convert generative AI into a proficient dialogic partner in the EFL writing classroom. This study advances Technology-Enhanced Language Learning (TELL) by offering a reproducible framework for incorporating AI literacy into genre-based writing teaching in resource-limited environments.

Keywords: *POE Chatbot, Narrative Composition, RCTS Framework, Lexical Advancement, EFL Composition, Artificial Intelligence in Education*

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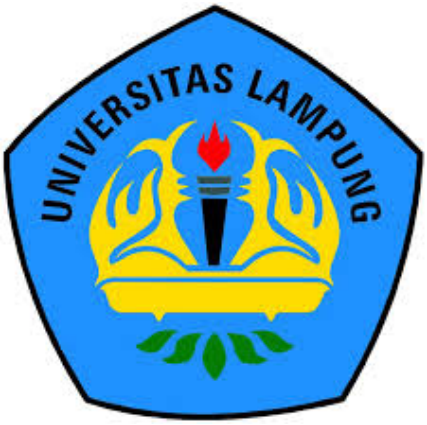
A Thesis

Submitted in partial fulfilment of
The requirements for the S-2 Degree

in

Master Of English Education Program
Teacher Training and Education Faculty
Language And Arts Education Department
University Of Lampung



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UNIVERSITY OF LAMPUNG
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2025

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Bandar Lampung, Januari 2026

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CURRICULUM VITAE

The writer is Marwan Batubara. He was born on April 26th, 1984, in Mesuji. He is the first son of Mr. A.Suandi Batubara and Ms. Holida Nasution. The writer has only one brother, Ade Saputra, and no sisters.

My scholastic experience commenced in my birthplace of Tulang Bawang Barat, where I attended elementary school at SD Negeri 3 Dayamurni (now SDN 6 Tumijajar), culminating in 1998. I subsequently attended SLTP Negeri 1 Tumijajar (now SMPN 2 Tulang Bawang Barat), graduating in 2001, and then continued to SMA Negeri 1 Tumijajar, from which I graduated in 2004. I obtained a bachelor's degree from the English Department at SKIP – PGRI Bandar Lampung, graduating in 2009. I enhanced my academic credentials by obtaining a Master's in English Education from the University of Lampung in 2025 through the RPL Program.

My professional career in education commenced directly following the completion of my undergraduate studies. Since 2009, I have been employed as an English teacher at SMA PGRI Tumijajar, a position I have maintained for almost 15 years. In addition to my teaching responsibilities, I have participated in national professional development initiatives. I am a graduate of the inaugural batch of the National Driving Teacher Program (Pendidikan Guru Penggerak Nasional). Drawing from this knowledge and expertise, I was designated as a Pengajar Praktik (Practitioner Teacher) for the 7th and 11th cohorts of the esteemed program.

DEDICATION

In The Name of ALLAH The Most Merciful, The Most Graceful. The writer dedicates this work to :

1. My Beloved Parents, A.Suandi Batubara & Holida Nasution, for always praying, supporting, loving, and saving me.
2. My beloved wife, Riska Afrida, thanks for always supporting, guiding, teaching, and praying for me.
3. My Almamater University of Lampung
4. My friends, both in the Master of English Education Program batch 2024 and the RPL Program.
5. English Teacher

MOTTO

"What If I Had Never Tried It"

(Valentino Rossi)

ACKNOWLEDGEMENTS

Firstly, the writer thanks ALLAH Swt, the most merciful, the most gracious, who has given His Blessing, Guidance, and love on and on in finishing this thesis entitled "The Use Of Poe Chatbot For Enhancing Narrative Writing Skills". This thesis is presented to the Language and Arts Education Department of Teacher Training and Education Faculty of Lampung University as partial fulfillment of the requirements for the S-2 degree. From making until finishing this paper, the writer got many guidances and advice from others. So the writer would like to say his deep gratitude to:

1. Dr.Feni Munifatullah, M.Hum., as his first advisor, for her patience, encouragement, and willingness to spend her time to assist him in accomplishing this Thesis.
2. Dr.Budi Kadaryanto, M.A., as his second advisor, who has contributed and given him endless support, evaluation, comments, motivations, and suggestions during the completion of this thesis.
3. Prof.Dr. Patuan Raja, M.Pd., as his first examiner, for his encouragement, evaluation, suggestions, and contribution during the seminar until this thesis was finished.
4. Prof.Dr. Muhammad Sukirlan, M.A., as his second examiner, who has given his suggestions and criticisms in improving the content of this thesis.
5. All lecturers and administration staff of the English Education Study program who have aided in completing the requirements to finish this thesis.
6. Abdul Rohim Pasaribu, S.Or., M.M., as The Head Master of SMA PGRI Tumijajar and his staff, who have given the writer the chance to conduct the research in his school. Special to student XI grade for the cooperation during the research processes.
7. My Beloved Parents, A.Suandi Batubara & Holida Nasution, for always praying, supporting, loving, and saving me.
8. My beloved wife, Riska Afrida, thanks for always supporting, guiding, teaching, and praying for me.

9. My beloved sons, Faruq, Luthfi, Tsabit, and Taqi, for always praying for my health and success.
10. My Almamater University of Lampung
11. My friends, in the Master of English Education Program batch 2024 and the RPL Program, who always support and motivate me to complete this thesis

At last, the writer was fully aware that this paper is far from being perfect. Of course, there are so many weaknesses to be found. Therefore, the writer expects suggestions for its improvement. So that this paper will be useful for the reader, especially for teaching English.

Bandar Lampung, January 2026

MARWAN BATUBARA

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I. INTRODUCTION

This chapter highlights the problems and judgments on the appropriate empirical foundations for conducting the research. The research questions, objectives, use, scope, and definition of key terms are clearly explained by the researcher at the end of this chapter**.**

1.1 Background of the Study

Writing is regarded as a crucial skill among all competencies. We can convey our opinions, ideas, thoughts, sentiments, and feelings to others through writing. Many individuals feel that writing is an innate skill; nonetheless, it requires instruction. Writing is an acquirable and instructable skill (Perumal & Ajit, 2020). Students frequently endeavour to enhance their writing skills in English; however, achieving perfection in these skills can be challenging, as writing is inherently a complex task. Developing writing skills requires many years of dedication to achieve accuracy, proficiency, and fluency. Regardless of the student's exceptional talents and abilities in other areas, it is essential for them to improve their writing skills. This presents a significant challenge for both native and non-native users. The challenges faced may lead students to develop an unfavourable view of writing. Currently, there is a noticeable lack of curiosity regarding writing.

A weak foundation in writing may result in significant detriments to pupils' academic success. Writing is essential for enhancing academic performance, and it fosters social and emotional growth (Moses & Mohamad, 2019). Furthermore, in this competitive environment, writing is an essential talent for success. Their lack of writing proficiency may hinder their prospects of obtaining employment in the

future. Consequently, this issue must be addressed efficiently. Teaching writing has become challenging due to students' difficulties acquiring writing skills.
They encountered challenges in content, organization, vocabulary, language usage, and mechanics (Muamaroh et al., 2020). Moreover, students' deficiencies in vocabulary and grammar compel teachers to invest considerable effort in elucidating the appropriate grammatical structures in accordance with lesson objectives (Hong Ngoc, 2021). This study indicated that the primary obstacles hindering their English writing were associated with their proficiency in grammar and vocabulary.

Writing activities in educational institutions enhance penmanship and foster overall academic advancement through problem-solving and critical thinking skills. The purpose is to teach English within an Emancipated Curriculum in Indonesia. Upon completion of phase E, students compose diverse fiction and non-fiction writings through structured tasks, demonstrating an understanding of purpose and audience. They strategize, compose, evaluate, and revise several text forms, demonstrating some indication of self-correction techniques, including punctuation and capitalization. They articulate concepts and employ everyday words and verbs in their writing. They provide information through various styles of presentation to accommodate diverse audiences and fulfil distinct objectives, in both print and digital formats.

While writing is a cornerstone of English language proficiency, EFL learners face distinct and persistent challenges. In the Indonesian context, learners often struggle not only with grammatical accuracy but also with text-level features such as coherence, narrative structure, and lexical variety—skills essential for composing genres like narratives as outlined in the Emancipated Curriculum (Phase F) (Rahmatunisa, 2014), (Hartono et al, 2020). A primary bottleneck in developing these competencies is the scarcity of timely, individualized feedback. Teachers in large classes find it difficult to provide sustained, interactive guidance during the writing process, often leading to a focus on product over process.

Generative AI chatbots have emerged as a potential source of immediate feedback. However, their application in EFL contexts remains problematic. Research indicates that without guidance, learners often engage with AI in superficial or unproductive ways, receiving feedback that may be generic, linguistically inaccurate, or culturally misaligned (Lingaiah et al., 2024; Rudolph et al., 2023). This points to a critical pedagogical gap: merely providing access to AI tools is insufficient. There is a pressing need for structured instructional frameworks that empower EFL learners to use these tools strategically to address their specific language development needs.

This study, therefore, is situated within the domain of Technology-Enhanced Language Learning (TELL), a core sub-discipline of TEFL. Its primary aim is not to evaluate a chatbot per se, but to design and test a pedagogical intervention that integrates AI into EFL writing instruction. The intervention combines two key elements: (1) the RCTS prompt formula, adapted into a teachable metacognitive strategy for students, and (2) its embedding within the stages of the process writing approach. This creates a scaffolded AI dialogue framework where the chatbot acts as a continual dialogic partner, offering feedback on content and language tailored to students' evolving drafts.

One of the texts is a narrative. Narrative texts are compositions that convey a tale or recount an experience, and proficiency in writing them can enhance students' critical thinking, creativity, and communication skills. Nonetheless, numerous students have difficulties in composing narrative writings. The preceding paragraph elucidates several prevalent obstacles encountered by students in composing narrative writings. Students sometimes employ AI to surmount writing obstacles. Students utilize AI to augment their learning motivation, ignite interest, vary learning modalities, and enhance academic success (Zhang, 2024). AI provides rapid responses and operates continuously, enabling students to communicate anytime and anywhere according to their requirements (Baskara, 2023). A prevalent application of AI utilized by students is chatbots.

A chatbot is a program endowed with a degree of artificial intelligence that interacts with an individual or another chatbot, creating the illusion for the observer that the exchange resembles a discussion with a genuine person (Zemčík, 2019). These programs facilitate communication with customers in online retail, encompassing customer care, marketing, advertising, the entertainment sector, and data collection, while also serving as instruments for hybrid threats aimed at influencing public opinion. Chatbots offer various advantages for immersive education. It can offer tailored assistance to learners by addressing inquiries, delivering feedback on assignments, and generating individualized learning suggestions based on their own educational needs and preferences (F. R. Baskara, 2023). The chatbot is available without temporal restrictions and can be accessed from any location with internet connectivity. It can aid learners in acquiring knowledge according to their requirements. Chatbots can simulate natural language conversations, enhancing the learning experience by making it more interactive and engaging. Conversational interactions enable learners to refine language abilities, elucidate concepts, and enhance their comprehension of course content (Labadze et al., 2023).

Vygotsky posits that language and culture are fundamental to human cognitive development and influence human perception of the world (Akpan et al., 2020). The social constructivist hypothesis asserts that learning is a social phenomenon that transpires via interactions with others. Chatbots can enhance this process by offering students opportunities to converse and obtain feedback on their writing. This theory endorses the notion that chatbots can facilitate a collaborative learning environment that enhances student engagement and motivation. Chatbots are currently employed in multiple domains, including education. The majority of contemporary intelligent AI chatbots are web-based platforms that adjust to the actions of both educators and students, hence improving the educational experience (Chassignol et al., 2018). AI chatbots have been utilized in both teaching and learning in the education industry. Chatbots excel in individualized teaching, homework assistance, conceptual understanding, standardized exam preparation, collaborative discussions, and mental health support.

The purpose of employing chatbots in education is not to supplant the instructor but to alleviate the stress of repetitive and low-level cognitive tasks performed by the teacher, hence enhancing their efficiency (Brustenga et al., 2018). In the realm of education, the application of chatbots can be categorized as those employed for instructional purposes and those utilized without educational objectives. When employed for educational purposes, they can function as virtual assistants or tutors, exercise and practice programs, etc., to enhance productivity, and hence can be built based on socioconstructivist learning theories. Chatbots, when employed without instructional objectives, can address frequently asked concerns pertaining to various components of the syllabus or course, and can manage numerous recurring inquiries from students concerning project parameters, deliverables, deadlines, grades, and so forth (Lakshmi & Majid, 2022).

Chatbots may engage in diverse functions such as textbook design, course content delivery, test question development, response evaluation, online conversation monitoring, and student tutoring. The efficacy of chatbots is contingent upon the skill, ingenuity, and inventiveness of their developers (Lakshmi & Majid, 2022).
Prior research established that the chatbot enhanced the writing process and that chatbot-assisted writing practice improved writing proficiency (Keong & Lee, 2023). Chatbot-mediated writing practice offers various favorable effects to young L2 learners in terms of their writing performance and affective perspectives. Meanwhile, some researchers suggested that AI-driven chatbots can dramatically boost written proficiency by offering fast feedback, reducing student fear, and raising confidence. However, challenges include the lack of cultural sensitivity in comments and difficulties in retaining long-term learner involvement (Lingaiah et al., 2024). The study discovered that by offering prompt feedback, lowering student fear, and boosting confidence, AI-driven chatbots can greatly improve writing fluency. By offering ongoing practice, real-time language use, and helpful feedback, the chatbot can enhance written language proficiency (Klemens et al., 2024).

Nevertheless, certain studies identified several deficiencies. Students were unable to engage with a chatbot due to an incomplete sentence (Qinghua & Satar, 2020). They face difficulty communicating with the chatbot because the students lack the competency to arrange clear instructions or prompts while chatting with the chatbot. Meanwhile, (Rudolph et al., 2023) disclosed that the chatbot system delivers erroneous information or responses to kids. Occasionally, students may feel dissatisfied when the Chatbot fails to understand their inquiries or needs. It provides an incorrect response. Prior research shows chatbots give feedback to enhance students' writing performance, but not how to train students to seek and use that feedback effectively within the writing process. There is a gap in research on structured, pedagogically-scaffolded interventions that teach EFL learners how to harness AI not just as a correction tool, but as a dialogic partner for genre-specific writing development.

The chatbot requires explicit and precise prompts to provide accurate responses. The researcher intends to utilize the RCTS prompt as a metacognitive prompting strategy to navigate AI. It is used to develop explicit instructions for communication with the chatbot, addressing the identified flaws. The prompt utilized the R-C-T-S formula (Dewi,2023), where R represents Role, C signifies Context, T denotes Task, and S stands for Source. This formula helped the Chatbot produce accurate information and responses for students.

The writer completed these tasks using the POE chatbot because it improved learners' writing skills and increased academic self-efficacy, alongside reduced boredom during writing tasks (Wu et al. 2025). The students will enjoy writing from drafting to finishing the draft. The POE chatbot could enhance the quality and efficiency of feedback provision by integrating into the classroom (Wang, 2024, 2024). So it can help the teacher to give feedback to their learner effectively. The POE chatbot can also produce both text and images (Stewart, E.2024). Students utilizing multimodal resources can gain advantages from this chatbot. Our learners inhabit a multimodal environment characterized by an abundance of visuals and sounds interwoven with text. To instruct learners in efficient communication within

contemporary culture, it is essential to redefine 'communication'. Students must have the ability to comprehend and portray multimodal materials (Donaghy et al, 2023). Contemporary literacy is crucial for learners to acquire English in a manner that mirrors their everyday experiences and social interactions.

Based on the explanation above, this study addresses a significant gap in the literature on AI in language education. While previous research has documented the potential of chatbots for writing feedback, few studies have developed and empirically tested a pedagogical framework that specifically teaches EFL learners how to communicate effectively with AI to elicit useful, genre-specific feedback. This study presents and evaluates an educational framework known as the RCTS-Scaffolded AI Dialogue Framework for Genre-Based Writing. The innovation is in the amalgamation of four distinct, instructive elements. The RCTS Prompt Formula, as a metacognitive method that clearly instructs students on the Role, Context, Task, and Source protocol, converts prompt engineering from a technical talent into an attainable communication strategy for EFL learners. Incorporating the steps of Donald Graves' writing process (prewriting, drafting, revising, editing, publishing) into the Process Writing Cycle, with the AI serving as a continuous dialogic partner within the educational framework, rather than as an external resource. Focus on Specific Genre Knowledge: The prompts and tasks aim to gather input on the schematic structure and linguistic characteristics of narrative texts (Orientation, Complication, Resolution, Coda), as delineated in the Emancipated Curriculum. This guarantees that feedback is specific to the genre. Focusing on Specific Genre Knowledge: The prompts and tasks aim to obtain feedback on the schematic structure and linguistic characteristics of narrative texts (Orientation, Complication, Resolution, and Coda), as delineated in the Emancipated Curriculum. This guarantees that feedback is specific to the genre. The implementation of a Multimodal, Accessible AI Platform (POE) facilitates text and image generation, hence fostering multimodal literacy pertinent to contemporary learners. Furthermore, there is a lack of research exploring such interventions within the specific context of Indonesia's Emancipated Curriculum and the unique challenges faced by its EFL learners. Thus, the

researcher uses the POE chatbot with RCTS prompt as a teachable, metacognitive strategy for EFL learners to negotiate meaning and seek targeted feedback within their ZPD, specifically for narrative genre elements. Second, the researcher will be integrating this framework within the established process writing approach (Graves, 1983), positioning the AI not as an external corrector, but as an embedded, interactive participant in the writing process (brainstorming, drafting, revising). This study contributes to TEFL methodology by demonstrating a TPACK-informed model for AI integration. It moves beyond ad hoc tool use, providing a blueprint where technology serves pedagogy to address the persistent challenge of feedback in L2 writing. The contribution lies not in the technology itself, but in the methodological innovation; the RCTS-Scaffolded AI Dialogue Process. This process provides a systematic instructional approach in which educators explicitly teach a metacognitive prompting strategy (RCTS), integrate its application into the phases of the writing process, and consequently convert the AI from a general tool into a genre-aware dialogue partner that delivers specific feedback on narrative structure, vocabulary, and coherence. This methodology provides EFL teachers with a framework to enhance their students' AI literacy and strategic competence while concurrently refining specific writing skills, thereby effectively connecting theoretical TPACK principles with practical classroom application in resource-limited EFL environments.

To investigate whether the study is successful or rejected, the researcher will ask for students' perceptions at the end of the implementation. Perception is the experience of an object, an event, or a relationship obtained through data realignment and message interpretation. This gives meaning to the response stimulus system, which includes attention, hope, motivation, and memory. (Nurandini & Mulyadi, 2011). There are positive and negative perceptions. If the student gives positive responses, it means the implementation meets their needs in learning and teaching activities.

At last, based on the elaboration above, this study aims to investigate the effectiveness of the use of the POE chatbot for enhancing student narrative writing

skills, and which aspects of students' writing are enhanced the most after receiving treatment. Moreover, the researcher also identifies the students' perceptions about the implementation of the POE chatbot for learning narrative writing as stated below.

1.2 Research Questions

Based on the aforementioned background, the research problems are formulated as follows:

1. Is there any significant improvement in students' narrative writing achievement after being taught using the POE chatbot?
2. Which aspects of students' writing are enhanced the most after they have been taught by using the POE chatbot?
3. How are the students' perceptions about the implementation of the POE chatbot for learning narrative writing?

1.3 The Objectives of the Research

In line with the research problems, the objectives of the research are as follows:

1. To find out whether there is a significant improvement in students' narrative writing achievement after being taught using the POE chatbot?
2. To find out which aspects of students' writing are enhanced the most after they have been taught by using the POE chatbot?
3. To find out the students' perceptions about the implementation of the POE chatbot for learning narrative writing?

1.4 Uses of the Research

The result of this research is expected to:

1. Theoretical Uses:

   Contributes to theories on technology-enhanced language learning, specifically how structured frameworks such as RCTS can strengthen AI-driven tools for writing instruction. Then, enhances comprehension of socioconstructivist

methodologies in chatbot-mediated learning by illustrating how interactive, scaffolded feedback promotes skill acquisition.

2. Practical Uses:
   a. Offers a structured framework (RCTS) for teachers to integrate chatbots into writing instruction, improving lesson efficiency, and reducing repetitive tasks.
   b. Provides actionable strategies to address common ESL/EFL challenges (e.g., grammar, vocabulary) through targeted chatbot-mediated practice.
   c. Supports schools in adopting blended learning models by demonstrating the efficacy of chatbots like the POE chatbot in improving writing outcomes.
   d. Empowers students with self-paced, low-anxiety practice tools, fostering confidence in narrative writing and critical thinking.

1.5 Scope of the Research

This study is bounded by the following parameters to ensure focus and feasibility:

1. Population and Sample
   a. Participants: second-grade students at SMA PGRI Tumijajar, West Tulang Bawang, Indonesia.
   b. Sample Size: Limited to students within one academic year, one class for the experimental and control groups.
   c. Exclusions: Students outside the second grade or those not enrolled in the English curriculum under study.
2. Content Focus
   a. Writing Skill: Narrowed to narrative writing as per the Emancipated Curriculum's Phase F objectives.
   b. Intervention: Exclusive use of the POE chatbot integrated with the RCTS formula (Role, Context, Task, Source).
3. Variables Measured:
   a. Writing performance (the comprehensive, conclusive accomplishment in narrative composition, the overall score attained by a student on the pre-test or post-test is represented.)

b. Writing aspects (Content, organization, discourse, syntax, vocabulary, mechanics)
c. Learner perceptions (engagement, usability, satisfaction).

1.6 Definition of Key Term

Some terms are defined to give a basic understanding of the related variables and concepts. Those are defined as follows:

1. POE Chatbot

   Poe is a platform that enables users to pose inquiries, receive immediate responses, and engage in interactive dialogues with a diverse array of AI-driven bots. It is accessible on iOS, Android, macOS, Windows, and the Web. POE chatbot enables users to engage with various chatbots (e.g., ChatGPT, Claude) for the creation of text and visuals. (Stewart, E. 2024). This study customizes the RCTS (Role, Context, Task, and Source) formula as a metacognitive strategy to negotiate with the POE chatbot to give feedback in producing narrative text in teaching writing.
2. RCTS

   A structured framework for designing chatbot interactions, comprising:
   Role: The identity or perspective assigned to the chatbot (e.g., tutor, peer), Context: The situational or thematic background guiding the interaction (e.g., narrative writing prompts). Task: The specific writing activity or objective assigned to the learner. Source: Reference materials or multimodal inputs (text, images) provided to scaffold learning (Dewi, 2023).
3. Writing

   Writing is a written product of thinking, drafting, and revising that requires specialized skills. It involves skills on how to generate ideas, how to organize them coherently, how to 11 use discourse markers and rhetorical conventions to put them cohesively into a written text, how to revise text for clearer meaning, how to edit text for appropriate grammar, and how to produce a final product

4. Narrative Writing

   A genre centred on narrative construction, necessitating competencies in plot progression, character development, coherence, and the application of descriptive language, as delineated in Indonesia's Emancipated Curriculum for Phase E learners.

5. Perception

   Perception is the experience of an object, an event, or a relationship obtained through data realignment and message interpretation

6. TPACK is an acronym in education that stands for Technological Pedagogical Content Knowledge. It is a framework that describes the knowledge teachers need to integrate technology effectively into their teaching practice

This chapter has delineated the introduction, encompassing the background, research questions, aims, applications, scope, and definitions of essential words. The subsequent chapter will continue with the Literature Review

II. LITERATURE REVIEW

This chapter provides some notions that are discussed in a framework. It consists of the concept of writing, aspects of writing, teaching writing, process of writing, Concept of Narrative Writing, concept of Chatbot POE, teaching writing through Chatbot, Concept of RCTS, procedure of teaching writing through Chatbot POE with RCTS, advantages and disadvantages, theoretical assumption, and hypothesis

2.1 Concept of Writing

Writing is regarded as a crucial talent among all competencies. Many individuals argue that writing is an innate talent; nevertheless, according to Sokolik (2003:106) asserts that "Writing is a teachable and learnable skill for both native and non-native speakers." It signifies that it is capable of receiving instructions. Educators can construct lessons, provide feedback, and support learning progression. Students can attain it through practice, feedback, and the application of strategies. Identical teaching ideas are applicable across various environments, while methodologies may vary. Students frequently endeavour to enhance their English writing skills; nonetheless, achieving perfection in these skills remains challenging, as writing is a complex undertaking. The development of writing abilities to achieve accuracy, proficiency, and fluency requires several years. Regardless of the student's exceptional talents in other areas, he/she must improve their writing skills. Brown (2001) asserted that writing constitutes a cognitive activity, since it involves the transcription of ideas onto paper to convert thoughts into words, thereby providing structure and coherence to the organization. It poses a significant issue for both native and non-native users. These problems may lead pupils to have a negative outlook on writing.

They exhibit less curiosity regarding writing. We can convey our opinions, ideas, thoughts, sentiments, and feelings to others through writing. It is exceedingly intricate and challenging to comprehend. A weak foundation in writing might result in significant detriments to pupils' academic success. Writing is essential for enhancing academic performance, and it fosters social and emotional growth. (Moses & Mohamad, 2019). Furthermore, in this competitive environment, writing is an essential talent for success. Their lack of writing proficiency may hinder their prospects of obtaining future employment. Consequently, this issue must be addressed efficiently. Teaching writing has grown challenging due to the difficulties students have in acquiring writing skills. ESL students encounter several problems, including insufficient vocabulary, inadequate grammar, poor spelling, lack of preparedness, and limited exposure to books and reading resources.

Writing activities at educational institutions enhance penmanship and foster overall academic advancement through problem-solving and critical analysis. The purpose is to teach English within an Emancipated Curriculum in Indonesia. Upon completion of phase E, students compose diverse fiction and non-fiction writings through structured tasks, demonstrating an understanding of purpose and audience. They strategize, compose, evaluate, and revise several text forms, demonstrating some indication of self-correction techniques, including punctuation and capitalization. They articulate concepts and employ everyday words and verbs in their writing. They provide information through various styles of presentation to accommodate diverse audiences and fulfill distinct objectives, in both print and digital formats.

Writing is an essential skill that goes beyond innate ability, since it can be methodically taught and refined via practice, as highlighted by Sokolik (2003). Notwithstanding its intricacy and the time necessary to attain mastery, writing functions as an essential instrument for structuring thoughts (Brown, 2001), conveying ideas, and promoting social-emotional development (Moses & Mohamad, 2019). However, challenges such as limited vocabulary, grammatical inaccuracies, and insufficient exposure to reading materials often hinder ESL

learners, fostering negative attitudes toward writing. These barriers not only jeopardize academic performance but also future career opportunities in an increasingly competitive world.

In summary, writing is a fundamental, teachable skill that demands systematic instruction and persistent practice, as highlighted by Sokolik (2003) and Brown (2001). While its complexity poses challenges, particularly for ESL learners grappling with vocabulary, grammar, and limited exposure to reading, writing remains indispensable for academic success, critical thinking, and social-emotional growth (Moses & Mohamad, 2019). The repercussions of weak writing skills extend beyond education, affecting future career opportunities in a competitive global landscape. Addressing these challenges requires targeted pedagogical strategies, such as those outlined in Indonesia's Emancipated Curriculum, which emphasizes structured writing processes, audience awareness, and iterative drafting. By fostering supportive learning environments that prioritize writing proficiency, educators can empower students to overcome barriers, transforming writing from a daunting task into a vital tool for personal, academic, and professional expression. In the following sections, the researcher will explain the aspect of writing.

2.2 Aspect of Writing

In writing, there are some aspects that learners have to consider so that they can write well. Several writing aspects can be used as judges of students' writing. It is essential to consider aspects such as developing ideas, sequencing sentences, and using the appropriate language. Brown (2001: 357) proposed six aspects of assessing students' writing, namely:

1. Content: consists of a thesis statement, related idea, development of ideas through (personal experience, illustration, facts, and opinion), use of description, cause/effect, comparison/contrast. It assesses whether the writer has generated meaningful, relevant, and developed ideas in response to the task. A composition strong in content presents a clear thesis or central

theme, supports it with substantial, insightful, or original details, and fulfils the assigned purpose—whether to inform, persuade, or narrate

2. Organization; consists of the effectiveness of the introduction, logical sequence of ideas, conclusion, and appropriate length. This aspect evaluates the macro-level structure, including a coherent introduction, body, and conclusion, as well as the micro-level flow within paragraphs. An effective organization uses clear topic sentences, logical sequencing (e.g., chronological, order of importance), and smooth transitions between ideas and paragraphs. It answers whether the reader can follow the writer's train of thought effortlessly. Poor organization manifests as disjointed paragraphs, illogical jumps, missing links, or a lack of clear direction, which obscures even the most compelling content.
3. Discourse: consists of Topic sentences, paragraph unity, transitions, discourse markers, cohesion, rhetorical conventions, reference, fluency, economy, and variation. Mastery of discourse involves using appropriate techniques for the genre—for instance, crafting a compelling argument in an opinion essay, employing descriptive narration in a story, or maintaining formal objectivity in a report. It also includes elements like cohesion (how sentences are woven together using pronouns, synonyms, and conjunctions), emphasis, hedging, and maintaining a consistent authorial perspective suitable for the audience and purpose.
4. Syntax: focuses on sentence-level grammar, structure, and fluency. This aspect judges the correctness, complexity, and variety of the writer's sentences. Evaluators look for accurate application of grammatical rules, including verb tense consistency, subject-verb agreement, and proper clause formation. Crucially, strong syntax is not merely about avoiding errors; it also involves stylistic sentence variety—the strategic use of simple, compound, and complex sentences to create rhythm, highlight relationships between ideas, and maintain reader engagement. Repetitive, choppy, or consistently error-ridden sentences can hinder comprehension and mark a lower level of linguistic proficiency

5. Vocabulary: assesses the range, precision, and appropriacy of the writer's lexical choices. It examines whether words are used correctly for their meaning (lexical accuracy) and suitably for the context and register (lexical appropriacy). A strong vocabulary demonstrates a move beyond high-frequency, generic words toward more specific, nuanced, and sophisticated terms. It also includes the effective use of collocations (words that naturally go together, like "make a decision") and idioms. Errors in this category include wrong word choice, awkward phrasing, informal slang in a formal text, or persistent misspelling that impedes meaning
6. Mechanics: consists of spelling, punctuation, citation of references, neatness, and appearance. While sometimes considered less critical than content or organization, consistent errors in mechanics can significantly disrupt reading fluency, create ambiguity, and give an impression of carelessness or lack of proficiency. Mastery of mechanics allows the writer's ideas to be presented in a polished, conventional format that meets the reader's expectations

Based on the explanation above, the aspects of writing can be used to assess the writing skills of students. It is a useful tool for assessing the writing skills of non-native speakers of English and can help teachers tailor their instruction to better meet the needs of the students. In the following sections, the researcher will explain teaching writing.

2.3 Teaching Writing

Several approaches can be implemented in the practice of writing skills, both in and outside the classroom. The teacher should choose an approach that will be used before she/he asks students to write their texts. It will make them pay attention to their writing. There are two main approaches, which are the product and process. In practicing writing skills, students may pay attention to the final product of their writing or to the writing process itself. There is an advantage to getting students to pay attention to the process of writing more. Students cannot spend the whole time in the classroom writing, because they also need to learn other skills. And it also

cannot be done in a short period. There are several typical writing activities in the process approach mentioned by Brown (2001:335)

1. Focus on the process of writing that leads to the final written products,
2. Help student writers to understand their own composing process,
3. Help them to build repertoires of strategies for prewriting, drafting, and rewriting,
4. Give students time to write and rewrite,
5. Let students discover what they want to say as they write,
6. Give students feedback throughout the composing process (not just on the final product) as they attempt to bring their expression closer to intention,
7. Include individual conferences between the teacher and student during the process of composition.

The whole process of the explanation, which is mentioned above, is going to be explained in the following sections.

2.4 Processes of Writing

Writing is crucial since it is the medium to transfer or receive information, as important as speaking. Means that we have to be careful in composing a writing, so that there is no misinterpretation by the readers. According to Harmer (2004), there are some steps in making a composition to make sure that we have composed a good writing, they are: planning, drafting, editing, and final draft.

1. Planning means that before starting to write or type, they try to decide what it is they are going to say.
2. Drafting means that as the writing process proceeds into editing, several drafts may be produced on the way to the final version.
3. Editing means that the writer needs to reflect and revise to get a good final writing product.
4. The final version means that the writer is now ready to send the written text to its intended audience.

The following steps are supported by Flower & Hayes (1981)

1. Planning: This is the initial stage where writers form an internal representation of the knowledge they will use in their writing.
2. Translating: In this stage, writers convert their ideas into visible language. This involves the actual act of writing, where they must juggle various demands of written English, such as grammar and syntax.
3. Reviewing: This process includes evaluating and revising the text. Writers may read what they have written to assess its effectiveness and make necessary changes.
4. Monitoring: As writers compose, they also keep track of their progress and the effectiveness of their writing strategies.
5. Goal Setting: Writers create a hierarchical network of goals that guide their writing.

Meanwhile, Graves (1983) described a five-step process of writing.

1. Step 1: Prewriting. It is a process to think about what we will write, and a process to develop the ideas.
2. Step 2: Drafting. Drafting is the writer's first attempt to capture ideas on paper. Quantity here is valued over quality. If done correctly, the draft is a rambling, disconnected accumulation of ideas.
3. Step 3: Revising. This is the heart of the writing process. Here, a piece is revised and reshaped many times.
4. Step 4: Editing. This is the stage where grammar, spelling, and punctuation errors are corrected.
5. Step 5: Publishing and sharing. This is where students' writing is shared with an audience. Writing becomes real and alive at this point. Publishing can involve putting together class books, collections of writing, school or class newspapers, school or class magazines, or displaying short samples of writing in the hall or out in the community.

The researcher used Graves' (1983) process in giving treatments for students in enhancing their narrative writing skills. The reason is that the researcher will publish the students' writing product in a digital flip book and integrate the use of

technology into teaching writing activities based on the TPACK framework. It will be explained in the following sections.

2.5 Technological Pedagogical Content Knowledge (TPACK) as a Design Framework

For technology integration to be effective, it must be pedagogically grounded. The Technological Pedagogical Content Knowledge (TPACK) framework (Mishra & Koehler, 2006) posits that meaningful technology use in teaching requires the intersection of three core knowledge domains: Content (CK), Pedagogy (PK), and Technology (TK). Successful integration lies at the interplay of these components—understanding how technology can transform the teaching of specific content. This framework will inform the design of the present study's intervention, ensuring the chatbot is not used in isolation but is integrated with appropriate pedagogy to teach the specific content of narrative writing.

It contends that successful technology integration necessitates a synergy among three fundamental types of knowledge**.**

1. Content Knowledge (CK)
   Knowledge of the subject matter itself (e.g., Narrative writing structure, grammar, vocabulary).
2. Pedagogical Knowledge (PK)
   Knowledge of teaching methods and processes (e.g., the writing process by Donald Graves, collaborative learning, and feedback techniques).
3. Technological Knowledge (TK)
   Knowledge of how to use technology tools (e.g., how to use the POE chatbot, create prompts, generate images).

The core of the framework is the intersection of these knowledge bases:

1. Pedagogical Content Knowledge (PCK)
   Knowing how to teach specific content (e.g., using the orientation-complication-resolution-coda structure to teach narratives).

2. Technological Content Knowledge (TCK)
   Knowing how technology can create new representations of specific content (e.g., using the POE chatbot to generate examples of narrative tenses or descriptive vocabulary).
3. Technological Pedagogical Knowledge (TPK)
   Understanding how teaching and learning change when particular technologies are used (e.g., knowing that chatbots allow for immediate, personalized feedback, changing the teacher's role to a facilitator).
4. TPACK
   The effective integration of all three demonstrates a nuanced understanding of teaching specific content with appropriate pedagogy using the right technology.

This study is underpinned by the TPACK framework (Mishra & Koehler, 2006). The intervention involves the integration of Technological Knowledge (the POE chatbot), Pedagogical Knowledge (the writing process and the structured RCTS prompt formula), and Content Knowledge (narrative writing skills). The RCTS formula serves as a practical tool for achieving TPACK, guiding students to interact with the AI in a way that is pedagogically sound and content-specific. Therefore, the effectiveness of the POE chatbot will be evaluated not merely as a technological tool but as a component within an integrated TPACK strategy.

As artificial intelligence (AI) becomes increasingly integrated into educational practices, the TPACK would evolve into AI TPACK. It is a recent extension of the original TPACK framework that accounts for the unique capabilities and demands of Artificial Intelligence. Given the generative and interactive nature of AI, the standard TPACK framework can be extended to include AI Literacy (Eyal, 2025) a. AI Literacy involves the competencies to interact with, critique, and effectively prompt AI systems. In this study, the RCTS Formula (Role, Context, Task, Source) is the primary mechanism for developing students' AI Literacy. By mastering this formula, students move beyond basic technological use and learn to harness the POE chatbot as an intelligent tutoring partner. Therefore, the success of

this intervention is contingent upon students' development of this specific form of literacy, which is integrated into the pedagogical design.

The majority of the material in learning and teaching English in an emancipated curriculum focuses on the text. English is taught implicitly in the book. Learners read the text and then explore its substance through activities such as answering text-related questions, matching words, focusing on grammar, and generating the text. One of the texts is a narrative text. It will be explained in the following section.

2.6 The Concept of Narrative Writing

Narrative is storytelling, whether relating a single story or several related ones. Narrative text is a story conveyed to entertain the readers or listeners(Langan, 2005.). On the other hand, according to Pardiyono, a Narrative is a story that talks about past activities or events in order to address problems and to give lessons to readers. Narrative writing is chosen as a pedagogical genre in a fresh composition course since it acts as a fundamental genre for several advanced academic and ESP genres, such as literary response essay, news report, feature report, or film review (Fei,2008). The social purpose of narrative writing is to entertain, amuse, or reflect an experience. This can be achieved by introducing the reader to a possible world in which individual characters experience a problem of some kind that they have to overcome (Macken & Slade in Fei,2008).

Narrative writing is one of the genres that is familiar and used very often in our daily lives. It can be used in the form of writing, such as telling our self experience, writing our diary, making a story, letter to a friend, postcard writing.

In writing narrative text, four components must be care: orientation, complication, resolution, and coda (Luzen, 2020):

1. Orientation

   Orientation is part of the opening story. As an opening story, it is very important to make an interesting story to capture the reader's interest to read. It should also explain the background of the story, such as setting the mood

by defining the setting, time, the main character, the relationship between the characters, and other information to give the reader a starting point.

2. Complication

   Complication is the main body of the story. This section includes the part that contains a problem in the story. Sometimes, the problems that arise are not only one, but this causes tension among the readers.

3. Resolution

   In resolution, the crisis was resolved, for better or even worse. This part contains the ending of the character's problem and conflict. There are three possible resolutions. First, the story will end with a successful conclusion. Second, the story will end with a sad ending. Lastly, the writer allows the reader to guess the end of the story.

4. Coda

   Coda is the descriptive reflection or evaluation of the conflict about the narrative.

The Language Features of Narrative Text The language features usually found in a narrative are:

1. Focus on specific and individualized participants with defined identities. A major participant rare human, or sometimes an animal with human characteristics.
2. The use of material process (behavioral and verbal processes)
3. The use of relational and mental processes.
4. The use of temporal conjunctions and circumlocutions.
5. The use of the past tense

From the statements above, it can be concluded that narrative is storytelling about something that happened in the past, and the purpose of narrative is to entertain and amuse the reader and listeners. The researcher will utilize the POE Chatbot to teach Narrative Writing. The definition of the POE chatbot will be explained in the following sections.

2.7 The POE Chatbot

Poe is a digital platform and application that provides access to a diverse array of AI chatbots, including ChatGPT, Claude, and its proprietary chatbot, facilitating the consolidation of alternatives into a unified hub. Poe features its own AI chatbot named Assistant, which may be incorporated into your AI chatbot collection on the platform (Cawley, C. 2023). Poe is a platform that enables users to pose inquiries, receive immediate responses, and engage in interactive dialogues with a diverse array of AI-driven bots. It is accessible on iOS, Android, macOS, Windows, and the Web. Desktop users can access the registration and login process at https://Poe.com/. Moreover, the teacher elaborated on the merits and drawbacks of Poe and clarified its potential as a resource in educational practices. Poe is accessible for download on Android, iOS, and Microsoft platforms, offering both a free and a paid edition. The suggestion was to employ the free version, since it adequately facilitates the generation of both text and photos. To enable the students can communicate with the POE chatbot clearly and meaningfully, the researcher would apply the RCTS prompt. The combination of both the POE chatbot and the RCTS prompt will be a metacognitive strategy for students to negotiate meaning and seek targeted feedback within their ZPD, specifically for narrative genre elements. The definition of the RCTS prompt will be discussed in the following sections.

2.8 The RCTS prompt

RCTS is a Prompt where R represents Role, C signifies Context, T denotes Task, and S stands for Source. This formula helped the Chatbot produce accurate information and responses for students (Dewi, F.2023). The role here is to tell the POE chatbot who you are. In this case, the users of the POE chatbot are students. The context here is the condition of the user. They tell the POE chatbot about their activities. The task here asks the POE chatbot to do something like answering the questions, and the Source here asks the POE chatbot to provide complete sources from which answers or data are generated. Here are the examples:

Role : I am a student of Senior High School at 11 grades

Context : I am studying English, and the topic is a Narrative text. My teacher asked me to write the text step by step, starting from making a draft to the final draft. I have made the first draft of the orientation.

Task : Please help me to revise my first draft. Give me suggestions on which part should be changed…

The student will use the prompt above in the POE chatbot in every step of the writing process to produce a narrative text. The researcher uses the POE chatbot integrated with the RCTS prompt as a learning strategy in writing narrative text. The learning strategy will be explained in the following sections.

2.9 Language learning strategy

Learning strategies for English as a Foreign Language (EFL) learners involve conscious, goal-oriented thoughts and behaviours used to acquire the language more effectively. Successful EFL learners typically use a variety of strategies across several categories. These strategies are broadly classified into direct strategies (Memory, Cognitive, and Compensation) and indirect strategies (Metacognitive, Affective, and Social) (Oxford, 1990). The researcher applies the use of the POE chatbot and the RCTS prompt as a metacognitive strategy.

It is one of the indirect strategies. In these strategies, the students try to arrange their activity schedule themselves, based on their ability. These strategies involve planning, prediction, monitoring, revising, checking, and evaluating. The strategies related to students' motivation in doing an activity are so that they get results based on their expectations. The components of metacognitive strategies used in writing are: 1) centering your learning, in the form of overviewing and linking with already known material and paying attention; 2) arranging and planning your learning, in the form of finding out language learning, organizing, setting goals and objectives, identifying the purpose of the language task, planning for language task, seeking practice opportunities; 3) evaluating your learning includes self-monitoring and self-evaluating. Based on the result of SILL (Strategy Inventory for Language

Learning), components of metacognitive strategies used by the students in writing are: 1) arranging and planning your learning, including finding out language learning, organizing, setting goals and objectives, planning for a language task, seeking practice opportunities, and 2) evaluating your learning, in the form of self-monitoring and self-evaluating.(Yulianti, 2018)

By systematically applying the POE chatbot with the RCTS prompt as a metacognitive strategy, educators and designers can create chatbot interactions that are pedagogically robust, engaging, and adaptable to diverse learner needs. The researcher will explain the teacher and AI roles in the process of teaching narrative writing through Chatbot POE in the following section.

2.10 Teacher and AI Roles in the Technology-Enhanced Writing Classroom

The effective integration of AI into education necessitates a redefinition, not a replacement, of the human teacher's role (Garcia Brustenga et al., 2018). This study is predicated on a complementary role division:

1. The Teacher as Pedagogical Designer, Facilitator, and Critical Guide: The teacher's primary role shifts from being the sole source of feedback to the architect of the learning experience. This includes: (1) designing the TPACK-based intervention (selecting the technology, crafting the writing process, defining the content objectives); (2) teaching the metacognitive RCTS strategy; (3) facilitating classroom discussions, peer review, and higher-order tasks; and (4) guiding students to critically evaluate the AI's feedback, thus fostering essential digital and critical literacies (Lianasari & Santosa, 2025)
2. The AI (Chatbot) as a Scaffolded Dialogic Tool: The chatbot is positioned as a 24/7 interactive resource that performs specific, repetitive cognitive tasks within tightly defined parameters. Its role is to: (1) provide immediate, form-focused feedback on language and structure; (2) act as a brainstorming partner and idea prompter; (3) offer infinite patience for low-stakes practice; and (4) serve as the medium through which students practice the RCTS strategy. Crucially, its effectiveness is constrained and directed by the pedagogical scaffold (RCTS) provided by the teacher.

This framework ensures the AI addresses the feedback gap for foundational skills, freeing the teacher to focus on complex, holistic, and affective aspects of writing instruction. This synergy is central to the TPACK model applied in this study. Then, the researcher will explain the process of teaching narrative writing through Chatbot POE in the following section.

2.11 The Procedure of Using Chatbot POE in Teaching Narrative Writing

The majority of the material in learning and teaching English in an emancipated curriculum focuses on the text. English is taught implicitly in the book. Learners read the text and then explore its substance through activities such as answering text-related questions, matching words, focusing on grammar, and generating the text. Based on my experience, learners were bored with those exercises. Most of them were unfamiliar with the story that was told. Those who enjoy reading would be motivated to complete all of the activities, while the rest would be stranded. It rendered learning exercises non-interactive. To address the issue, I attempted to adjust the activities by changing the procedures. I asked the learners to make their own stories (Stebbins, 2016). These tasks were done in some steps: creating a story draft, digesting the tale, providing feedback, presenting, and at the time, the theme was about fantasy narrative stories.

The following presents a step-by-step digital storytelling process that exhibits numerous parallels to the conventional writing process. (Robin, B. R.2016) combined with the 5-step process of writing by Donald Graves (1983)

1. Introduction to Chatbot Poe.
   The Teacher provided an overview of Poe Chatbot before incorporating it into the creation of a fantasy story. This included elucidating the process of account registration, as well as introducing the Poe menu.
2. Pre-writing (Research to Learn the Topic)
   When composing a digital story, whether fiction or non-fiction, it is essential for learners to engage in thorough research, exploration, and learning about the chosen topic or concept. This process is crucial for establishing a solid

foundation of information upon which the story will be constructed. The Teacher allocated time for learners to contemplate and determine the nature of the fantasy story, beginning with aspects such as the characters, setting, story hook, conflicts, and climax. Learners were encouraged to freely envision these elements, including the option to use their name or that of a friend as a character. Similarly, they were given the liberty to incorporate their own or a familiar place as the setting.

An illustrative application of the Prompt combined with the RCTS formula for text generation is as follows:

R: I'm a student of a Senior High School. I'm studying English.

C: I'm assigned to create a Fantasy Narrative story.

T: Can you help me suggest characters, setting, story hook, conflicts, and climax?

3. Drafting (Write a script)

   The initial two stages of pre-writing help learners prepare to write the script. During this phase, learners must ensure that the purpose of the story is articulated and incorporates a discernible point of view. Learners are tasked with determining the linguistic content of their story. Subsequently, learners are prompted to produce a draft to aid in the planning of their writing. They utilized the story builder chart provided by the teacher (Afrilyasanti,2021). Learners have the option to create similar charts in their notebooks and draft their own stories. An illustrative application of the Prompt combined with the RCTS formula for text generation is as follows:

   R: I'm a student of a Senior High School. I'm studying English.

   C: I'm assigned to create a Fantasy Narrative story.

   T: Can you help me develop my main character's motivations?

4. Revising (Receive feedback on the script)

   Learners share their scripts with Chatbot POE and ask for feedback on what the Chatbot POE thinks to make their story clearer or more useful based on the Narrative Text component and language features. Learners use the feedback to improve the next version of their script. An illustrative application of the Prompt combined with the RCTS formula for text generation is as follows:

R: I'm a student of a Senior High School. I'm studying English.

C: I'm assigned to create a Narrative story. The story is based on the following Text

T: Can you help me give feedback about part 1?

5. Editing

   Learners revise their scripts after getting feedback from the Chatbot POE. They revise the scripts step by step based on the narrative components.

   An illustrative application of the Prompt combined with the RCTS formula for text generation is as follows:

   R: I'm a student of a Senior High School. I'm studying English.

   C: I'm assigned to create a Narrative story. The story is based on the following Text

   T: Can you revise my grammar?

6. Publishing/Sharing with others

   In this academic setting, learners engage in the sharing of their fantasy narratives through oral presentations to their peers. They articulate the insights gained from feedback received from their classmates, focusing on elements such as plot development and moral messaging. Following the presentations, learners engage in reflective practices and offer constructive feedback to their peers. Subsequently, students submit their fantasy narratives via a Google Drive repository established by the instructor. This platform enables learners to access and study narratives authored by their peers. Furthermore, these fantasy narratives are eventually compiled into digital books, allowing for consumption and study by other learners within the school environment. An illustrative application of the Prompt combined with the RCTS formula for text generation is as follows:

   R: I'm a student of a Senior High School. I'm studying English.

   C: I'm assigned to create a Narrative story. The story is based on the following Text

   T: Can you write an engaging author's bio?

7. Reflection

   Upon completion of all the tasks, the learner engaged in a reflective process concerning their learning activities (Zhang et al., 2024). This reflection took place in collaboration with their peers, during which they shared their positive and negative experiences. Furthermore, the students identified specific activities that facilitated their progress and areas that required improvement. An illustrative application of the Prompt combined with the RCTS formula for text generation is as follows:

   R: I'm a student of a Senior High School. I'm studying English.
   C: I'm assigned to create a Narrative story. The story is based on the following Text
   T: Can you explain how my writing improved through revision?

The teacher provided encouragement and reinforcement after the reflection. To enhance the quality of learning activities, the teachers administered questionnaires to the students using Google Forms. The teacher will subsequently analyze the questionnaire responses to enhance the appeal of future learning activities.
Learners will use the prompt every time they want to correct their narrative writing based on the Narrative components that were explained by Resliana (2020). Here are the procedures for using the RCTS Formula through Chatbot POE in Teaching Narrative Writing:

Table 2. 1 The differences between writing without the POE chatbot and vice versa

NO	Without POE Chatbot	Using POE Chatbot
1	Pre writing	Introduction to POE Chatbot
		Pre-writing with POE Chatbot (ask POE to suggest characters, setting, story hook, conflicts, and climax by using RCTS Prompt)
2	Drafting	Drafting by utilizing the POE Chatbot (ask POE to develop the main character's motivations by using RCTS Prompt)
3	Revising	Revising the script with POE Chatbot (ask POE to give feedback: Orientation; content, organization, etc by using RCTS Prompt)
4	Editing	Editing with the POE Chatbot (ask POE to edit grammar, word choice, etc by using RCTS Prompt)
5	Publishing	Publishing with POE Chatbot (ask POE to suggest the author's biography by using RCTS Prompt)
6		Reflection with POE Chatbot (ask POE about writing improvement by using RCTS Prompt)

The table above indicates discrepancies in the use of the RCTS Formula using the POE Chatbot for instructing narrative writing. Moreover, the researcher contends that it aids pupils in improving their narrative writing skills. Upon completion of the writing process, the student received questionnaires regarding their perception of utilizing the POE Chatbot for composing a fantasy narrative. The subsequent parts will elucidate the concept of perception.

2.12 Definition of perception

Perception is the experience of an object, an event, or a relationship obtained through data realignment and message interpretation. This gives meaning to the response stimulus system, which includes attention, hope, motivation, and memory. (Nurandini & Mulyadi, 2011). Perception is a process to obtain information that consists of two primary groups, namely the theory of direct perception (bottom-up) and the theory of indirect perception (top-down) (Kinyingi et al., 2020). Direct

perception (bottom-up) is tangible information or facts by which sensory qualities determine or influence our final perception. Sensory input is people's views about something or experiences that happen to us, and determines further processing. Meanwhile, indirect perception (top-down) is an opinion based on the knowledge we have without having expertise. Meanwhile, Wood (2016) explained that Perception is the active process of meaning creation through the selection, organization, and interpretation of people, objects, events, situations, and other phenomena.

According to the definition of researchers, Perception is a process by which individuals gain experience after getting a stimulus from people, objects, events, situations, and other phenomena.

Perception is divided into two types: positive and negative perception. (Lindawati & Jabu, 2022)

1. Positive perception A positive perception is when a person evaluates something from a positive perspective, in accordance with expectations for the thing, or in accordance with a predetermined rule. A person's good perceptions are caused by their own contentment with the objects on which their perceptions are based, as well as by their own knowledge and experiences with those objects.
2. Negative perception Negative perception is when a person has an unfavorable opinion of something or some information, contravening the norm for that thing or the established regulations. Individual dissatisfaction with objects, as well as a lack of personal knowledge and experience, can serve as sources of perception. All of these elements may contribute to unfavorable opinions

From the explanation above, the researcher concludes that students' perceptions will be obtained by selecting, organizing, and interpreting. The result will be Positive or negative, depending on the student’s experience. Before implementing the use of the POE chatbot, some challenges should be considered. It will be explained in the following section.

2.13 Advantages and Disadvantages of the use of POE chatbot

The possible issues and solutions for producing narrative text in immersive learning using chatbots need examination. In this context, educators may need to consider certain aspects.

1. Personalized and Adaptive Learning:
   Chatbots can deliver personalized learning experiences tailored to the specific needs and interests of each learner, revolutionizing conventional teaching approaches.
2. Enhanced Engagement and Immersion:
   The interactive characteristics of chatbots promote engagement and immersion, hence enhancing knowledge transfer and retention, resulting in deeper and more substantive learning results.
3. Increased Comprehension through Creation:
   When learners compose their own narratives, even with chatbot aid, they cultivate a deeper comprehension of the narrative's significance and structure.
4. Development of Digital Literacy:
   This technology equips learners with important digital literacy skills necessary for success in the 21st century, engaging them in their familiar digital world. (Sriwisathiyakun, 2024).

Meanwhile, challenges for teachers to use the POE chatbot are :

1. Over-Reliance and Prioritizing Speed over Skill:
   Students may utilize the chatbot to swiftly develop material, emphasizing speedy tale creation instead of employing the activity to enhance their language and communication abilities.
2. Language Barrier Hindering Learning:
   Insufficient skill in the target language (e.g., English) may compel learners to depend on their native language (e.g., Indonesian), hindering their participation in the language practice intended by the activity.

3. Potential for Superficial Understanding:

   In the absence of adequate supervision, learners may fail to engage profoundly with the text's meaning, resulting in a superficial outcome where a narrative is constructed; however, the educational objectives remain unfulfilled. This requires proactive oversight and intervention by educators.

   Following the acquisition of insights into the merits and demerits of employing the POE chatbot, the researcher will elucidate the ethical implications associated with its utilization. The subsequent sections will explain.

2.14 Ethical Considerations in Using AI for Writing

This refers to the moral principles and guidelines for the responsible use of AI in learning environments. Key issues include:

1. Equality and non-discrimination

   AI should be designed to strengthen social equality and prevent existing biases within groups, in this case, students. Furthermore, this also relates to how the data is used. If the data doesn't accurately represent a group, the AI system could unintentionally reinforce stereotypes or worsen existing inequalities. For example, the feedback given for writing narrative text was not what was desired.

2. Transparency & Agency:

   Being clear about when and how AI is used, and ensuring students remain the primary authors and critical thinkers. This transparency is important so that users are not just passive recipients, but are also able to assess how reliable and impactful the AI systems they use are.

3. Data Privacy

   The integration of AI in education necessitates careful ethical consideration. Key concerns include academic integrity, data privacy, and the potential for algorithmic bias (Unesco, 2022).

4. Autonomy and informed consent

   Students and educators should have control over the use of AI in the learning process. They should be given sufficient information to provide informed consent for the use of this technology. A human-centered approach to using AI can improve learning outcomes. In writing instruction, the use of AI needs to be balanced with ethical guidance from teachers to ensure the originality of students' work and prevent excessive dependence on machines.

5. Welfare and humanity

   AI should be used to support the well-being of students and educators, not to replace the human role in education. Therefore, the active involvement of teachers as technology facilitators and supervisors remains a central element in meaningful learning.

(F. Lianasari & Santosa, 2025)

To implement the ethical considerations, I established a four-pillar protocol:

1. Approval and Consent: I secured formal authorization from the school and informed consent from each parent, along with assent from the pupils.
2. Privacy by Design: I promptly anonymized all data, employed safe storage, and advised students against disclosing personal information to the chatbot.
3. Integrity in Implementation: I structured the study to facilitate learning rather than replacement. I evaluated the procedure (utilizing drafts and chat logs) and performed the final assessment without AI to gauge authentic skill acquisition.

4. Well-being and Equity: I established the chatbot as a non-intrusive resource, presented opt-out options, and supplied gadgets to guarantee equitable access.

The ethics were integral to the process, safeguarding participants and ensuring the validity of the learning outcomes, rather than merely a checklist.

This study addresses these concerns proactively. First, the AI is used as a formative feedback tool within a multi-stage writing process, not as a substitute for original student work, thereby upholding academic integrity. Second, the use of the RCTS formula encourages precise, limited interactions focused on specific tasks, reducing

over-reliance. Finally, students are guided to critically reflect on the chatbot's feedback, developing their ability to identify potential inaccuracies or biases, thus fostering critical AI literacy alongside writing skills.

2.15 Previous studies

Artificial Intelligence (AI) has emerged as a transformational force in several sectors, including education. In the area of education, AI offers novel solutions to enhance learning experiences, expedite administrative processes, and personalize instruction (Rane et al., 2024). With the potential to change traditional educational approaches, AI integration in education promises a plethora of opportunities for educators, students, and institutions alike (George & Wooden, 2023). The incorporation of Artificial Intelligence (AI) into educational frameworks promotes students' easier access to knowledge and rapid response acquisition. This immediacy promotes increased student engagement in learning activities, as AI tools enable them across multiple platforms. As a result, students spend significantly less time sourcing educational materials, allowing learning to occur anywhere.

Artificial intelligence (AI) is increasingly recognized as a powerful tool that has the potential to revolutionize education (L. Chen et al., 2020). Educators can use AI technologies to enhance learning experiences, improve student outcomes, streamline administrative tasks, and create immersive learning environments. This section delves into these opportunities in depth. One of the most significant opportunities offered by integrating AI into education is the ability to provide personalized learning experiences for students (Qushem et al., 2021).

AI enables the creation of a learning environment in which each student receives exactly what they require at the right time. This may include: adjusting the difficulty of assignments based on a student's performance, Providing targeted feedback and support in areas where a student is struggling, Offering multiple learning materials and approaches to adapt to various learning types, Allowing students to proceed at their own pace, Essentially, AI aids in the transition from a "one-size-fits-all"

approach to education to a more personalized and effective learning experience. One of the applications of AI that most students use is chatbots. A chatbot is a program with artificial intelligence that interacts with humans or other chatbots to provide the impression of a real conversation(ZEMČÍK, 2019). These programs are used to communicate with customers in online stores, such as customer service, marketing and advertising, the entertainment field, data collection, and hybrid threats used to influence public opinion.

One of the oldest and best-known chatbots is a program called Eliza created by the Artificial Intelligence Laboratory in MIT, which dates between 1964-6. This program, which became an inspiration for many developers in the field, was developed by Professor Joseph Weizenbaum. The program is named after Eliza, a character from a comedy called Pygmalion written by G. B. Shaw in 1912. In this satirically critical work, Eliza Doolittle, a simple English street flower girl, learns how to speak like a lady to eventually impress London high society by her performance. In the early scenario called DOCTOR, Eliza chatbot simulates a role of a Rogerian psychotherapist - she asks open questions with which she also answers - thus she diverts attention from herself to the user. It was a surprise that people soon started to anthropomorphize Eliza and confide in her their personal stories, sensitive data, and secrets (Nagy & Neff, 2015).

Chatbots are now used across various sectors, including education. Most of the latest intelligent AI chatbots are web-based platforms that adapt to the behaviors of both instructors and learners, enhancing the educational experience (Chassignol et al., 2018). AI chatbots have been applied in both instruction and learning within the education sector. Chatbots specialize in personalized tutoring, homework help, concept learning, standardized test preparation, discussion and collaboration, and mental health support.

The aim of using chatbots in education is not to replace the teacher but to reduce the burden of repetitive and low cognitive level tasks carried out by the teacher and thus increase her/his efficiency. In the field of education, the use of chatbots can be

divided into those used with educational intention and those without educational intention. When used with educational intention, they can work as virtual assistants/virtual tutors, exercise and practice programmers, etc., to improve productivity, and hence, they can be developed on the grounds of socioconstructivist approaches of learning (Garcia Brustenga et al., 2018). Chatbots, when used without educational intention, can be used to answer FAQs related to various elements of the syllabus/course, can handle many repetitive questions raised by students regarding project guidelines, deliverables, deadlines, grades, etc. (Lakshmi & Majid, 2022).

Chatbots could be involved in performing various tasks like designing textbooks, delivering course content, developing test questions and evaluating the answers, monitoring online discussions, and tutoring students. The effectiveness of chatbots depends on the ability, creativity, and imagination of their developers. (Lakshmi & Majid, 2022). Some previous research confirmed that the chatbot improved the writing process, and the chatbot-based writing practice facilitated their writing performance (Kwon et al., 2023). Chatbot-mediated writing practice offers a number of positive benefits to young L2 learners in terms of their writing performance and affective perspectives. The researcher focused on investigating the effect of chatbot-based writing practices on second language learners' writing performance and their perceptions of using the chatbot in L2 writing. The chatbot was developed using Google's Dialogflow machine-learning AI platform.

Pretest and posttest writing tasks were used to measure writing performance. A survey was conducted to gather participants' perceptions and opinions about the chatbot. Pretest and Posttest writing tasks were administered to both groups. The experimental group used the chatbot for individual writing practices for 15 weeks. A survey was conducted with the experimental group to collect their perceptions and opinions about the chatbot. The result indicated that the experimental group performed significantly better in the post-test than the control group, suggesting that the chatbot-based writing practice had a facilitating effect on their writing performance. Participants in the experimental group found the chatbot useful in

improving their language skills and felt comfortable using it for learning a foreign language.

Meanwhile, other researchers said that AI-driven chatbots can significantly enhance written proficiency by providing immediate feedback, reducing learner anxiety, and increasing confidence. However, challenges include the lack of cultural sensitivity in feedback and difficulties in maintaining long-term learner engagement (Lingaiah et al., 2024). The researcher focused on investigating how AI-driven chatbots can improve the written performance of ESL learners by providing prompt feedback and personalized learning experiences. The research employs a secondary qualitative approach, synthesizing existing literature to identify themes related to the application of chatbots in language learning. The study focuses on ESL learners, particularly those facing challenges in written proficiency due to limited practice and high teacher-to-student ratios. The study found that AI-driven chatbots can significantly enhance written proficiency by providing immediate feedback, reducing learner anxiety, and increasing confidence. However, challenges include the lack of cultural sensitivity in feedback and difficulties in maintaining long-term learner engagement.

The chatbot can improve written language skills by providing continuous practice, real-time language use, and useful feedback (Klemens et al., 2024). The researcher focused on analyzing the extent to which the usage of chatbots influences the writing process for language learning. To identify the advantages and disadvantages of using chatbots in language learning. The study uses an exploratory research design with a focus on role plays in written form to simulate real-life conversations through messengers like WhatsApp or Telegram. Students interacted with the chatbot and then filled out the questionnaire to evaluate their experience. The chatbot provided a list of mistakes and feedback at the end of the conversation. The researcher suggested that the chatbot can improve written language skills by giving continuous practice, real-time language use, and useful feedback. 80% of students found the chatbot adapted to their language level 82% of participants found

continuous language practice to be the main advantage. The main disadvantages included the loss of the human element (49%) and reduced social interaction (44%).

However, some researchers indicated some weaknesses. Students failed to communicate with a chatbot with an incomplete sentence (Yin & Satar, 2020). The researcher's topic of study is English as a Foreign Language (EFL) learner interactions with chatbots, focusing on the negotiation for meaning (NfM) in synchronous computer-mediated communication (SCMC). The study investigates the potential of chatbots in language learning. A mixed-methods approach combining quantitative and qualitative analysis with subject Eight Chinese EFL learners: 4 lower-level learners (undergraduates) and 4 higher-level learners (postgraduate students). Language proficiency is measured through standardized test scores and additional criteria like study experience. Participants engaged in 30-minute chat sessions with both chatbots on general topics. The researcher's findings showed that the chatbot would respond completely by delivering a clear prompt. Meanwhile, (Rudolph et al., 2023) revealed that the GPT system provides inaccurate information or responses to students. Sometimes, students may not be satisfied since ChatGPT does not understand their questions or requirements. It gives wrong answers. The chatbot needs clear and specific prompts to give responses correctly.

I completed these tasks using the POE chatbot. because POE, the chatbot, can produce both text and images (Stewart, E.2024). Learners who represent multimodal materials can benefit from this chatbot. Because our learners live in a multimodal environment: a world full of images and sound, blended with text – a multimodal world. To teach learners to communicate effectively today, it is important to redefine ‘communication'. Learners must learn how to understand and represent multimodal materials (Donaghy, K.,2023). New literacy is essential for learners to learn English in a way that reflects their daily lives and interactions with others.

The writer completed these tasks using the POE chatbot because it improved learners' writing skills and increased academic self-efficacy, alongside reduced boredom during writing tasks (Wu & Xu, 2025). The students will enjoy writing from drafting to finishing the draft. The POE chatbot could enhance the quality and efficiency of feedback provision by integrating into the classroom (D. Wang, 2024). So it can help the teacher to give feedback to their learner effectively.

2.16 Theoretical Assumptions

The incorporation of the RCTS into the POE chatbot for teaching narrative writing is founded on numerous fundamental theoretical assumptions, as outlined in the preceding literature study. The RCTS framework implements scaffolding by organizing all chatbot interactions, thus directing learners through their Zone of Proximal Development (ZPD). The chatbot, emulating a human tutor, offers gradual assistance through this organized interaction, facilitating students' joint internalization of narrative writing skills. A second assumption is that the RCTS formula alleviates superfluous cognitive burden by breaking down intricate writing assignments into digestible elements. Utilizing clear, explicit prompts reduces uncertainty and enables learners to focus their cognitive resources on skill mastery instead of task interpretation. Moreover, it is presumed that the explicit incorporation of cultural and topical context into the prompts guarantees that the chatbot's responses and outputs align with learners' actual experiences. This immediately tackles recognized deficiencies in cultural sensitivity within educational technology (Jayasri et al., 2024), enhancing the relevance and efficacy of the learning process.

The study posits that employing the POE chatbot for instructing narrative writing will yield favorable educational outcomes for students. Their motivation to write will be significantly enhanced, as the POE chatbot serves as an effective collaborator in their educational and instructional endeavors, particularly in composing narrative texts.

2.17 Hypothesis

This study presents three hypotheses derived from the formulated research questions. The null and alternative hypotheses are employed to formulate the hypotheses. The initial hypothesis is to respond to the first research question, articulated as follows:

1. **$H_0$1**: There is no statistically significant improvement in narrative writing outcomes after students have been taught by using the POE chatbot.
2. **H1**: There is a statistically significant improvement in narrative writing outcomes after students have been taught by using the POE chatbot.

This anticipation is based on the theory of TPACK and Vygotsky's scaffolding notion. Then, Previous studies indicate that chatbots can enhance second language writing, and the structured RCTS technique directs engagement towards valuable, genre-specific input.

The initial hypothesis is to respond to the second research question, articulated as follows:

1. **$H_0$2:** The intervention does not lead to statistically significant improvement in any specific aspect of writing more than others. (Content, Organization, Discourse, Syntax, Vocabulary, Mechanics).
2. **$H_1$2:** The intervention will lead to differential improvement across writing aspects, with Organization and Vocabulary showing the most significant gains due to the structured and lexical scaffolding provided by the RCTS-chatbot interaction

The hypothesis that Organization and Vocabulary would improve most was not arbitrary; it was grounded in a TPACK-based analysis of the intervention. Content Knowledge (CK) focused on narrative writing, which has a clear schematic structure (Organization) and relies on descriptive language (Vocabulary). Pedagogical Knowledge (PK) used the RCTS strategy to craft prompts that

explicitly asked for structural and lexical feedback (e.g., ‘Task: improve my story’s flow’ or ‘Task: suggest better adjectives’).

Technological Knowledge (TK): The POE chatbot is particularly adept at providing templated structural suggestions and lexical alternatives, as it is trained on vast corpora of well-structured text.

Consequently, the convergence of various bodies of knowledge (TPACK) inherently emphasized Organization and Vocabulary. Other elements, such as Content and Discourse, necessitate more subjective, creative, and culturally nuanced feedback—domains in which AI presently provides limited support and where the teacher's role is paramount. This elucidates our prediction and subsequent discovery of unequal, rather than uniform, improvement.

The initial hypothesis is to respond to the third research question, articulated as follows:

1. **$H_0$3:** Students will hold neutral or negative perceptions regarding the ease of use, enjoyment, and usefulness of the POE chatbot for learning narrative writing.
2. **$H_1$3:** Students will hold overall positive perceptions regarding the ease of use, enjoyment, and usefulness of the POE chatbot, while also acknowledging specific challenges related to technicality and prompt clarity.

This chapter has elucidated the literature evaluation concerning the instruction of narrative writing through the utilization of the POE Chatbot. The Methodology will be addressed in the subsequent chapter.

III. METHODS

The most fundamental part of conducting research is determining the method. Thus, this chapter comes up with the research design, data (variables), Data Sources, data collection instruments, Data collection procedure, data analysis, data treatment, and hypothesis testing.

3.1 Research Design

This research utilized a pre-experimental design featuring a one-group pretest-post-test structure. This strategy is suitable for examining the impact of an intervention on an individual group lacking a control group. This study is classified as quantitative research, as the data obtained is numerical and employs statistical analysis for data evaluation and hypothesis testing.

The data for the initial research question was examined utilizing the Paired Samples T-Test, since this study seeks to compare the outcomes of the post-test and pre-test following therapy. The data acquired from the experimental group was utilized to address the second and third study inquiries.

Additionally, the researcher employed two types of assessments: a pre-test and a post-test. During the initial meeting, students were instructed to complete the pretest. Following six sessions of treatment, the students received care. Subsequently, the students underwent a post-test following the conclusion of the treatment. The design was depicted as follows:

Design Formula:

$$T_1 \longrightarrow X \longrightarrow T_2$$

Where:

- T_1 = Pretest score
- X = Treatment using POE chatbot with RCTS formula
- T_2 = Posttest score

(Priatna, 2020)

The researcher executed this study throughout six encounters. The initial meeting served as a pretest, the subsequent meetings two through five involved treatments, and the last meeting functioned as a post-test.

3.2 Variables of the Research

1. **Independent Variable (X):** Teaching narrative writing using POE Chatbot with RCTS formula
2. **Dependent Variable (Y):** Students' achievement in narrative writing
3. **Controlled Variables:** Instructional time, topic, and environment

3.3 Population and Sample

1. Population : Second -grade students at SMA PGRI Tumijajar
2. Sample : One class selected through purposive sampling
3. Subject : Students in the selected class
4. Respondents: Students participating in the pretest and posttest
5. Setting : SMA PGRI Tumijajar, West Tulang Bawang
6. Time : first semester of the Academic year 2025/2026

3.4 Data Collecting Techniques

This research included two strategies for data collection. It may be articulated as follows:

1. Administering the Writing Test

   Tests were conducted to gather data on pupils' narrative writing abilities. The researcher instructed students to compose a unique narrative piece on the theme of fantasy during the examination. The written tests were administered twice: as a pretest before the treatments and as a posttest following the treatments.

2. Questionnaire

   The questionnaire was administered to each student in the class. The research concluded with an assessment of first-grade students' perceptions regarding the use of the POE chatbot for narrative writing instruction. The survey has 20 closed-ended statements. Students completed the questionnaires via Google Forms. The questionnaire was modified from (Al-Abdullatif, 2023) .

3.5 Instruments of the Research

This research utilized two instruments: a writing test and a questionnaire.

3.5.1 Writing Test

This research involved the administration of two writing assessments: a pre-test and a post-test. The students were instructed to compose a fantasy tale over the course of six sessions, both prior to and following the administration of treatments. The narrative writing performance of students was evaluated using a rubric modified from Brown (2001) to ensure equitable scoring across all writing aspects. The test score was provided as outlined (see Appendix 1 for additional criteria):

1. Content : 0-24
2. Organization : 0-20
3. Discourse : 0-20
4. Syntax : 0-12

5. Vocabulary : 0-12
6. Mechanics : 0-12

Total : 100

3.5.2 Questionnaire

The study was conducted at the conclusion of the research to ascertain first-grade students' perceptions of utilizing the POE chatbot for narrative writing instruction. The students' perceptions were evaluated on a Likert scale via a Google Form. The researcher employed four scales to exclude neutral responses and compel participants to adopt a more definitive stance, thereby yielding clearer data and facilitating simpler analysis. The scale includes the subsequent categorical terms (see Appendix 2):

Table 3. 1 The point of each questionnaire

Scale	**Point**
Strongly agree	4
Agree	3
Disagree	2
Strongly disagree	1

If students respond to all statements with a score of 4 (strongly agree), they will receive 100 points, but a score of 1 (strongly disagree) will yield 20 points. The subsequent table delineates the specifications of the perception questionnaire.

Table 3. 2 The specification of the perception questionnaire

Statements	Items
Perceive ease of use	1,2,3
Perceived enjoyment	4,5,6
Engagement	7,8,9
Chatbot acceptance	10,11,12
Challenges	13,14,15
Learning outcomes	16,17,18
Interaction quality	19,20

The statements from the table above were adapted from Al Abdullatif (2023). It is based on the integrated technology acceptance model (TAM), Davis, F (1985), and the value-based adoption model (VAM), Kim, H.W. et al (2007). The primary aim was to examine how the TAM factors (perceived ease of use, perceived usefulness, and attitude) and the VAM factors (perceived enjoyment, perceived risks, and perceived value) interact to predict chatbot acceptance. (See Appendix 2)

3.6 Validity and reliability of the instruments

Validity and reliability indicate whether a test fulfils the necessary criteria and is deemed usable. The tools utilized in this research were the writing assessments and the questionnaire. Consequently, it was essential to assess the validity and reliability of the test and the questionnaire to acquire credible and dependable data.

3.6.1 Validity:

a. Content validity

Cohen et al. (2007) assert that content validity encompasses sufficient and representative coverage of the domain, area, tasks, behaviors, and knowledge, free from the influence of extraneous variables. The issue is with the test's content validity. The researcher organized the materials according to the

instructional objectives outlined in the syllabus for tenth-grade senior high school pupils. To ascertain alignment between the instrument and materials with the syllabus, two evaluators were involved: the researcher and the school's English teacher

b. Construct Validity

Cohen et al. (2007) elucidated that construct validity refers to the degree to which a test accurately assesses specific dimensions of writing, traits, or behaviours, as demonstrated by convergent validity, discriminant validity, and divergent validity, along with scoring that aligns with identical objectives and comparable material. This study will analyse writing assessments and interventions as outlined by Brown (2001). Additionally, both instruments will be evaluated by English lecturers from Lampung University, who are Prof.Dr.Sukirlan, M.A., and Prof.Dr.Cucu Sutarsyah, M.A. (See Appendix 12)

3.6.2 Reliability:

1. Reliability of the writing test

The reliability of a test is defined as the degree to which it yields consistent findings when administered under comparable conditions (Hatch & Farhady, 1982). To ensure consistency in scoring and minimize subjectivity, inter-rater reliability was assessed. Two raters independently evaluated the writing tests: the researcher and an English teacher at SMA PGRI Tumijajar. Both raters used the same rubric adapted from Brown (2001) (see Appendix 1).

To ensure data dependability and mitigate subjectivity, the researcher employed inter-rater reliability. The initial rater is the researcher, while the subsequent rater is the researcher's English instructor partner. The scores will be available following the evaluation and comparison by two raters. The scores will be partitioned into the final score utilized for data analysis. The researcher will utilize SPSS version 21 to analyze the association between two raters. This test will be conducted to see whether repeated measurements with the same

instrument on the same phenomenon yield consistent values. This study employs Spearman Rank Correlation:

$$\rho = 1 - \frac{6\sum d_i^2}{n(n^2 - 1)}$$

Where:

ρ : Spearman's rank correlation coefficient

di : different between the two ranks of each observation

n : number of observations

Table 3. 3 The Standard Reliability Coefficient (Arikunto, 1998)

Indeks Reliabilitas	**Kriteria**
$0{,}00 \leq r_{11} \leq 0{,}20$	Very Low
$0{,}20 < r_{11} \leq 0{,}40$	Low
$0{,}40 < r_{11} \leq 0{,}70$	Average
$0{,}70 < r_{11} \leq 0{,}90$	High
$0{,}90 < r_{11} \leq 1{,}00$	Very High

According to the aforementioned reliability standard, writing exams can be deemed reliable if their scores fall within the range of 0.90 to 1.00, indicating high reliability (Arikunto, 2013). Following the computation of the students' story writing results, the data were analysed using the aforementioned formula. The outcomes of the reliability assessment are presented in the tables below:

Reliability	pre-test	Post-test
	0.910	0.918

The findings indicated that the writing assessment has exceptional reliability, with coefficients ranging from 0.90 to 1.0. It may be inferred that there was no subjectivity in the evaluation of students' writing between the researcher and the English teacher. (See Appendix 4)

2. Reliability questionnaire

It is the consistency of measurements of research, or the ability of measurements to measure the same research subjects at different times and give consistent results (Setiyadi, 2006). Cronbach's Alpha was used to assess the internal consistency of the questionnaire items. The higher the alpha, the more reliable the questionnaire would be (Setiyadi, 2006).

The formula is:

$$\textbf{alpha} = \frac{\textbf{nr}ii}{1+\textbf{(n-1)}rii}$$

Where:

n = number of items in the questionnaire

rii = average of all the inter-item correlations

Table 3. 4 The guideline for describing the Alpha value

Cronbach's Alpha Range	Reliability Level	Interpretation
0.90 - 1.00	Excellent	High reliability for clinical use
0.80 - 0.90	Good	Good reliability for research use
0.70 - 0.79	Acceptable	Adequate for exploratory research
0.60 - 0.69	Questionable	May need improvement
0.50 - 0.59	Poor	Substantial revision needed
< 0.50	Unacceptable	Should not be used

Table 3. 5 Reliability of questionnaire statistic

Reliability Statistics

Cronbach's Alpha	N of Items
.877	20

Upon analysing the questionnaire scores, the researcher determined that the reliability of the student perception questionnaire, evaluated using Cronbach's Alpha, was substantial. The analysis demonstrated strong internal consistency with $\alpha = 0.877$. This signifies that the 20 items consistently assessed students' perceptions of the POE Chatbot experience, which improved students' narrative writing abilities.

3.7 Data collecting procedures

In executing this research, the investigator must organize and adhere to a series of processes to conduct the study effectively and systematically. The methodologies of this study are outlined as follows:

1. Determining Problems

   The educational approach has predominantly been teacher-centered, with the instructor elucidating the entire content. Subsequently, the pupils were instructed to complete the assignment in their exercise books, which primarily required them to respond to questions. Consequently, the learning process has diminished in significance as pupils infrequently employ their productive skills. This case subsequently served as the foundation for the researcher to do this study, which utilized the Poe Chatbot to enhance narrative writing skills.
2. Selecting Population and Sample

   The study population comprised eleventh-grade students at SMA PGRI Tumijajar. The researcher selected grade XI, with 24 students, as the experimental class.
3. Determining Materials

   The material is derived from the Emancipated Curriculum Phase F, which emphasizes the creation of narrative texts. In the Learning Processes, students will create their own narrative stories.
4. Administering Pre-test

   A pre-test was conducted for the pupils during the initial meeting. The objective of this assessment is to ascertain the students' pre-existing knowledge and writing proficiency prior to the instructional intervention by the teacher.

The pupils were instructed to compose a written piece according to the assigned topic and guidelines provided by the teacher.

5. Conducting Treatment

   The treatment commences subsequent to the students' completion of their pre-test. Six meetings were conducted for administering the treatment. Following the therapy, the pupils were instructed to compose a written piece on the assigned topic for submission to the teacher. The teacher evaluated the students' work according to writing criteria and provided feedback to each student throughout the learning process.

6. Administering Post-test

   Subsequent to getting treatment, the students undertook an additional assessment to gauge their writing proficiency. This assessment was a writing assignment that must be submitted subsequent to completing the learning process.

7. Analyzing the Result

   The scores were analyzed to assess the students' progress from the initial test to the subsequent test. Two evaluators assessed all of the students' submissions from the two examinations. The initial evaluator will be the researcher, while the subsequent evaluator will be the English instructor at the institution. The students' scores were evaluated with statistical tools.

   The researcher adhered to the following measures in conducting this investigation. It is essential that the procedures be executed in sequential order to achieve optimal study findings.

3.8 Implementation of the use of the POE chatbot

This research was conducted in SMA PGRI Tumijajar Tulang Bawang Barat starting from 4 -24 November 2025. This research took 1 class at 11 grade as an experimental class which consisted of 24 students.

In the process of the research, the researcher went through 7 meetings. The first meeting was a pre-test. The second to sixth meetings were the treatments. The last meeting was a post-test and questionnaire. The pre-test was conducted to measure students' writing in narrative text before implementing the treatments. The students wrote a fantasy narrative text in 90 minutes. After administering the pre-test, the treatments were conducted by the researcher on the use of the POE chatbot for enhancing students' narrative skills.

1. Session 1: Introduction and Prewriting

The teacher introduced the TPACK framework, explaining how technology (POE chatbot), pedagogy (writing process & RCTS), and content (narrative genre) would work together. Students were taught the RCTS formula through explicit modeling.The teacher demonstrated a sample interaction, emphasizing how each component (Role, Context, Task, Source) shapes the chatbot's response. Students then practiced by generating three distinct fantasy world concepts, focusing on establishing clear Context (C) and specific Tasks (T). This session established the pedagogical use of the chatbot as a brainstorming tool, not merely a technological novelty.

- **Example:** "Today, we will learn how to talk to our AI writing partner. Remember **R-C-T-S**: You must tell it your **Role** (e.g., 'I am a student writer'), the **Context** ('a fantasy story'), the specific **Task** ('suggest three magical settings'), and if needed, a **Source** ('like Harry Potter'). This helps it give you better help."

The teacher demonstrated a live interaction with the POE chatbot on a projector,

- **Example:** "Watch me. I'll type: 'R: I am a fantasy writer. C: I need to create a unique world. T: Generate ideas for a magical forest with a hidden secret. S: None.' Now, let's see what it suggests and how we can use those ideas."

2. Session 2: Drafting with Structured AI Dialogue

Building on the chosen concept, the teacher reviewed narrative structure (Orientation, Complication, Resolution, Coda). Students learned to craft prompts that positioned the chatbot in specific Roles (R)—such as "fantasy writing coach"—to guide their drafting. For instance, a student struggling with plot development used:

R : You are a fantasy writing coach.

C : I am writing about a witch who lost her shadow.

T : Help me create a conflict between the witch and her shadow.

S : My initial idea: The shadow gains consciousness. This structured interaction provided scaffolded support during the most challenging phase of writing.

3. Session 3: Revision through Targeted Feedback

The teacher shifted focus to revision strategies (Add, Remove, Move, Substitute). Students were taught to use the chatbot as a feedback partner by providing explicit source material (S) and targeted tasks (T). For example, a student would paste a paragraph and prompt:

R : Descriptive writing expert.

C : This is a battle scene in my fantasy story.

T : Suggest how to add more sensory details (sight, sound) here.

S : [Pasted text]." The chatbot's suggestions were then critically evaluated in peer discussions, with the teacher emphasizing that AI feedback is advisory, not authoritative—fostering critical digital literacy. The teacher instructed students that the chatbot's suggestions were options, not orders

- **Example:** "The chatbot suggested you change 'walked' to 'trudged.' Is that the right feeling for your character? If your character is happy, maybe 'skipped' is better. You are the author; you decide."

4. Session 4: Editing for Language Accuracy

This session addressed common EFL errors (tense consistency, article usage, and preposition errors). The teacher positioned the chatbot as a language tutor. Students practiced precision prompting for grammar and mechanics:

R : Grammar checker specializing in EFL.

C : This is for my school assignment.

T : Identify and correct any tense inconsistencies in this paragraph.

S : [Pasted text]." The teacher highlighted that while the chatbot could identify errors, students must understand and apply the corrections, thus using technology to raise language awareness rather than bypass learning.

5. Session 5: Publishing and Collaborative Sharing

The focus moved to audience awareness and publishing formats. Students used the chatbot to generate author bios and story blurbs, practicing tone and style adaptation:

R : Publicist for young adult fantasy.

C : I need to promote my story to teenagers.

T : Write an engaging author bio in a friendly, modern tone.

S : My personal interests: gaming, mythology."

Students then shared their stories in small groups, discussing both their creative choices and their chatbot-mediated writing process. The teacher collected final drafts for compilation into a digital class anthology.

6. Session 6: Metacognitive Reflection and Consolidation

In the final session, students used the chatbot to reflect on their learning journey:

R : Learning reflection assistant.

C : I just finished a 6-week fantasy writing project using a chatbot.

T : Ask me questions to help me reflect on which writing skills improved most.

S : None.

The teacher facilitated a whole-class discussion connecting chatbot experiences to broader writing skill development, emphasizing strategy transfer to future writing tasks without AI support

In the last session, the researcher administered a pre-test and a questionnaire. The post-test was intended to measure how far the improvements in students' narrative writing skills after receiving the treatments. Furthermore, the questionnaire was given to teach each student to know their perceptions about the implementation of the POE chatbot for enhancing their narrative writing skills.

3.9 Data Analysis

The phases in data analysis were linked to the study topics, as previously discussed. The researcher compiled the pre-test and post-test data from the experimental group and subsequently employed a paired sample T-test to ascertain a significant difference in students' writing achievement following instruction with the POE chatbot, addressing the first research question. Furthermore, prior to conducting the hypothesis test with a T-test, it is essential to ascertain whether the data follows a normal distribution. The data underwent a normality test.

Table 3. 6 Normality test result

Tests of Normality							
	ClassCont Exper	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Resulttes t	pretest	.177	24	.051	.848	24	.002
	posttest	.172	24	.065	.858	24	.003
a. Lilliefors Significance Correction							

This test is used to determine if a sample originates from a regularly distributed population. The normalcy test is essential for ascertaining the appropriateness of

the chosen statistical test. The researcher employed the Kolmogorov-Smirnov test to assess the data and ascertain the value. The hypothesis of the normalcy test is stated as follows:

H_0 : the distribution of the data is normal
H_1 : The distribution of the data is not normal

The normalcy test employing the Kolmogorov-Smirnov method was conducted utilizing SPSS. This study employed SPSS for calculations, utilizing a significance level of 5%. Subsequently, upon acquiring the normalcy test value, the result was analyzed according to the established criteria of the normality test.

Table 3. 7 The Criteria of Normality Test (Machali, 2015)

Sig.	**Criteria**
Sig. ≥ 0,05	Normal
Sig. < 0,05	Not Normal

From Table 3.8, we can see that H_0 is accepted because the result of the normality test is higher than 0,05. In other words, the data of the pre-test and post-test are distributed normally.

To tackle the second research issue, the researcher computed the scores of students' writing components from both the pre-test and post-test in the experimental group, subsequently determining the mean improvement for each writing element. The part of students' writing saw the greatest significant improvement following instruction with the POE chatbot.

To address the third research inquiry. The perceptions questionnaire utilized a Likert scale. The researcher assessed the students' responses to each question's focal point. The researcher subsequently computed the data. Subsequently, the data were analysed according to the rating scale and optimal score. To ascertain the rating scale and concept score as delineated below:

Ideal score = scale x respondents

Table 3. 8 Rating scale

Scale	Formula
Strongly Agree (SA)	4 x 24 = 96
Agree (A)	3 x 24 = 73
Disagree (DA)	2 x 24 = 48
Strongly disagree (SD)	1 x 24 = 24

Rating scale and interval can be elaborated as follows:

0				24					48					72				96
				SD					D					A				SA

With the criteria:

Table 3. 9 Scoring criteria of questionnaire responses

Score	**Scale**	**Category**
73-96	SA	Very Positive
49-72	A	Positive
25-48	D	Negative
0-24	SD	Very Negative

Source: https://ripaimat.wordpress.com/2013/05/

3.10Hypothesis Testing

Hypotheses were evaluated to ascertain their acceptance or rejection.

1. The researcher employed the Paired Samples T-Test to assess the considerable enhancement of students' writing performance following instruction with the POE chatbot.

Paired Sample t-Test:

$$t = \frac{\bar{D}}{S_D/\sqrt{n}}$$

Where:

$\bar{D}$ = mean difference (post-test - pre-test)

S_D = standard deviation of differences

n = number of students

Decision Rule: If $p < 0.05$, reject H_0, meaning the treatment is effective.

H_1: There was a significant improvement in students' performance after being taught using the POE chatbot for narrative writing compared to those taught through traditional methods, as measured by pretest-post-test scores.

The hypothesis is accepted based on the following criteria :

H_1 is accepted if the t-value is higher than the T-table.

2. Testing for Hypothesis 2 ($H_1 2$)

$H_0 2$: The intervention leads to uniform improvement across all writing aspects.

$H_1 2$: The intervention leads to differential improvement, with Organization and Vocabulary showing the most significant gains.

Statistical Procedure: A two-stage analytical approach was employed.

1. Stage 1 - Identifying Improvement: A series of Paired Samples t-Tests was conducted for each of the six writing aspects (Content, Organization, Discourse, Syntax, Vocabulary, Mechanics) to determine which aspects showed statistically significant gains ($p < 0.05$).
2. Stage 2 - Comparing the Magnitude of Improvement: To determine which aspect was enhanced the most, the Normalized Gain for each aspect was calculated and compared. The aspect with the largest statistically significant

gain and the highest normalized gain score was identified as the most enhanced.

Normalized Gain Formula:

$$\text{Normalized Gain} = \frac{\text{Posttest Mean} - \text{Pretest Mean}}{\text{Maximum Possible Score} - \text{Pretest Mean}}$$

Decision Rule: $H_1 2$ is supported if:

1. The Paired Samples t-Test shows significant gains ($p < 0.05$) in Organization and Vocabulary, and
2. The Normalized Gain scores for Organization and Vocabulary are the highest among all aspects.

3. Testing for Hypothesis 3 ($H_1 3$)

$H_0 3$: Students hold neutral or negative perceptions of the chatbot intervention.

$H_1 3$: Students hold overall positive perceptions, while acknowledging specific challenges.

Decision Rule: $H_1 3$ is supported if:

1. The mean scores for the majority of perception categories (especially Perceived Ease of Use, Enjoyment, and Usefulness) fall within the "Positive" or "Very Positive" range.
2. The mean score for the "Challenges" category falls within a lower positive range, confirming that challenges were acknowledged but did not dominate the overall experience.

This chapter delineates the research methodology, encompassing research design, setting, subjects, data collection techniques, research procedures, instruments, validity and reliability of instruments, rubric scoring systems, data analysis, data treatment, and hypothesis testing.

V. CONCLUSION AND SUGGESTION

This chapter offers the conclusions of the research findings and suggestions for further research

5.1 Conclusions

The researcher makes the following conclusions based on the discussion of the research findings in the previous chapter. It was concluded that:
The paired-sample t-test results demonstrated that the implementation of the POE chatbot enhances students' narrative writing abilities, as evidenced by a significant difference between pre-test and post-test outcomes. The two-tailed significant value of 0.007 indicates the acceptance of H1, as 0.007 is less than 0.05. Upon comparing the t-value (2.966) with the t-table value (2.068), it is evident that the t-value exceeds the t-table value. This study illustrates that the POE Chatbot is an efficacious instrument for improving narrative writing abilities, particularly in vocabulary enhancement. The notable enhancement in writing scores, along with favourable student impressions, establishes the chatbot as a beneficial component of English language education strategies.

This research's primary contribution is the recognition of vocabulary development as a significant strength of the chatbot. This tackles a recurring issue in language teaching and proposes a favourable avenue for technology-augmented vocabulary instruction. The considerable effect size for vocabulary enhancement ($d = 0.82$) signifies strong practical importance in addition to statistical significance.

Although enhancements in technology are necessary, especially concerning time efficiency and the clarity of feedback, the overall results endorse the incorporation of AI chatbots, such as the POE Chatbot, in writing training. As educational technology advances, solutions that integrate good pedagogical models with AI capabilities present promising opportunities for improving language learning results.

The efficacy of the POE Chatbot in this study establishes a basis for further investigation into AI-assisted writing instruction and its capacity to tackle particular issues in English language education. Subsequent study ought to expand upon these findings to enhance chatbot design and implementation tactics for optimal educational efficacy.

5.2 Suggestions

Referring to the conclusion above, some suggestions could be listed for English Teachers and further researchers

5.2.1 For English Teachers

1. Educators ought to employ the POE Chatbot specifically for organization, vocabulary enhancement, and narrative writing training, where it exhibited the most significant outcomes. Employ it strategically throughout the drafting, revising, and editing phases to furnish students with prompt, personalized input on structure, lexicon, and mechanics
2. The technology must be implemented with sufficient technical support and explicit directions to mitigate the usability issues highlighted in student comments. Preliminary training sessions and continuous support could improve the user experience and optimize learning outcomes. Allocate time to explicitly instruct on prompt engineering utilizing formulas such as RCTS. Demonstrate the methodology for engaging with the chatbot, critically analysing its responses, and preserving ownership of one's work

3. Utilize the chatbot's established capabilities. Delegate assignments that focus on organizational structure (e.g., "assist me in outlining the storyline of my narrative") and vocabulary enhancement (e.g., "propose superior alternatives for 'said' or 'walked') to optimize its advantages. Initially, we performed a capacity analysis of the POE chatbot via pilot testing, pinpointing its strengths in structural and lexical feedback. Subsequently, we developed specialized 'prompt banks' corresponding to distinct writing phases. For instance, during the drafting phase, students employ structural questions such as 'Assist me in outlining my storyline', whereas during revision, they utilize lexical prompts like 'Propose more potent verbs for "walked". This guarantees that we are capitalizing on the strengths of AI while circumventing its limitations.
4. Serve as a facilitator overseeing student-chatbot interactions. Assist students in resolving ambiguous feedback and promote their reflection on the responses obtained, ensuring the tool is utilized to augment learning rather than cultivate dependency. The educator employs the following methods: (1) conducting 'AI clinics' during writing sessions, (2) instructing the '3Cs Framework' for assessing AI recommendations (Credibility, Context, Choice), (3) applying a 'fade-out protocol' that progressively diminishes AI reliance over six weeks, and (4) utilizing structured reflection techniques such as exit tickets and peer discussions regarding chatbot feedback. The educator intervenes not to provide answers, but to pose meta-cognitive inquiries such as, 'What prompted your decision to utilize or disregard that suggestion?' This guarantees that students continue to be critical thinkers instead of passive recipients of AI feedback.

5.2.2 For Further researchers

1. Investigate the long-term impact of chatbot-assisted writing instruction on writing development and vocabulary retention over extended periods.
2. Compare the POE Chatbot with other AI writing tools and traditional instruction methods across different educational contexts and student populations.

3. Examine whether vocabulary and organization gain transfer to other writing genres and speaking skills, exploring the generalizability of the learning outcomes.
4. Explore how the chatbot could adapt to individual student needs and learning styles, potentially incorporating machine learning algorithms for personalized learning pathways.

5.4 Limitations and Future Research

This study possesses certain limitations that must be acknowledged when analysing the results. The limited sample size (N=24) constrains generalizability, and the brief intervention duration may fail to reflect long-term effects or retention of learning improvements. The study's context inside a particular educational environment restricts its transferability to other settings with varying student demographics or educational frameworks. The study also failed to account for potential instructor impacts or other instructional variables that may have impacted the outcomes.

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