

THE EFFECT OF DISCOVERY LEARNING MODEL IN WRITING DESCRIPTIVE TEXT AT XI GRADE OF SMAN 1 TANJUNGBALAI BAGAN ASAHAN IN ACADEMIC YEAR 2025/2026

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ABSTRACT

This present study examines the impact of utilizing the Discovery Learning model toward on the descriptive text eleventh-grades' proficiency in composing at SMAN 1 Tanjungbalai Bagan Asahan during the 2025/2026 academic year. The study addresses pedagogical challenges such as limited vocabulary, grammatical inaccuracies, and poor structural organization. Employing a quantitative approach through a Quasi-Experimental framework, specifically a Non-equivalent Control Group Design, the study involved two distinct groups: XI IPA 1 as the experimental cohort and XI IPA 2 as the control cohort. The results of the t-test analysis indicated a marked growth in the experimental group's performance, where average scores rose from 52.18 to 78.59. Based on the statistical computation, the t-observed reached 7.31, which surpassed the critical t-table threshold of 2.069. Thus, the null hypothesis was consequently dismissed, confirming that the application of Discovery Learning notably enhances students' engagement and independence in writing.

Keywords: *Discovery Learning Model, Writing Skill, Descriptive Text, Quasi-Experimental*

INTRODUCTION

English serves as a vital global language, bridging communication across diverse cultural backgrounds. In Indonesia, it is a compulsory subject aimed at cultivating the four primary language competency: listening, speaking, reading, and writing, which encompass oral and written communication as well as receptive abilities. Among the various productive competencies in English pedagogy, writing holds a critical positions, enabling students for conveying intricate concepts and factual data through well organized expression. In the context of the Indonesian curriculum, senior high school students are required to master various genres, one of the most fundamental being descriptive text. Descriptive writing demands the ability to visualize objects, people, or places through precise vocabulary and coherent grammatical structures. The communicative success of this genre relies heavily on its generic structure, which typically consists of an identification phase to introduce the subject and a description phase to detail its characteristics, qualities, and features. Despite its importance, many students struggle to move beyond basic identification, failing to utilize the sensory details and precise adjectives necessary for a rich description. This difficulty is often rooted in traditional, teacher-centered instructional methods where students remain passive recipients of information, limiting their ability to explore the functional aspects of the English language. Nevertheless, attaining fluency in this particular area continues to be a major hurdle for a vast number of English as a Foreign Language (EFL) students.

In the context of SMAN 1 Tanjungbalai Bagan Asahan, preliminary observations revealed that students face persistent difficulties in writing descriptive texts. These issues manifest in several forms: limited vocabulary range, frequent grammatical errors particularly in the use of the Simple Present Tense and a lack of logical organization in their descriptions. Furthermore, traditional teacher-centered instruction has led to low student

engagement, where learners often feel uninspired and struggle to start their writing process. To address these pedagogical gaps, there is an urgent need for an instructional model that shifts the focus from passive reception to active discovery. The Discovery Learning model offers a promising solution by encouraging students to identify, explore, and internalize linguistic concepts independently. Unlike conventional methods, Discovery Learning emphasizes the process of inquiry where students "discover" the rules and structures of a text through guided stages: stimulation, problem statement, data collection, data processing, verification, and generalization. By engaging in the six systematic stages of Discovery Learning, the students are empowered to investigate language features and text structures in a meaningful way rather than through rote memorization.

While previous studies have explored various methods to improve writing skills, this research specifically evaluates the effectiveness of the Discovery Learning model within the unique academic environment of SMAN 1 Tanjungbalai Bagan Asahan for the 2025/2026 academic year. The objective of this study is to provide empirical evidence on how the Discovery Learning model influences students' ability to organize thoughts systematically and enhances their overall performance in writing descriptive texts. By fostering a more autonomous learning environment, this model is expected to bridge the gap between students' initial writing levels and the required proficiency standards.

LITERATURE REVIEW

The theoretical framework of this research is constructed upon the fundamental principles of writing as a cognitive process and the strategic implementation of the Discovery Learning model. Writing is a sophisticated productive skill that requires students to engage in a continuous cycle of planning, drafting, and revising. In the EFL context, this task is particularly challenging as learners must navigate the complexities of the target language's formal structures while attempting to convey coherent ideas. As emphasized by scholars such as Brown (2004) and Harmer (2004), writing is not merely about producing a final product but involves an intricate mental process where linguistic accuracy meets creative expression. For the eleventh-grade students at SMAN 1 Tanjungbalai Bagan Asahan, mastering this skill is crucial, yet often hindered by limited vocabulary and grammatical interference from their native language.

To address these challenges, the curriculum emphasizes the mastery of descriptive text. This genre serves a specific communicative purpose: to describe a particular person, place, or object with enough detail to allow the reader to visualize the subject accurately. Based on the framework by Anderson and Anderson (2003), a successful descriptive text must adhere to a specific generic structure, starting with Identification to introduce the subject and followed by Description to provide sensory details. The linguistic features of this text—primarily the Simple Present Tense, attributive adjectives, and relating verbs—form the technical backbone that students must master to achieve proficiency.

The implementation of the Discovery Learning model, as proposed by Jerome Bruner, offers a transformative solution to the passivity of traditional writing instruction. By prioritizing student-led inquiry and the "discovery" of linguistic rules, this model aligns with constructivist theories that view learning as an active construction of knowledge. The syntax of Discovery Learning—comprising stimulation, problem statement, data collection, data processing, verification, and generalization—provides a structured pathway for students to investigate the mechanics of descriptive writing independently. This pedagogical shift is designed to reduce students' dependence on the teacher and foster a more profound

internalization of writing strategies.

The efficacy of this approach is further supported by a synthesis of previous research. Juwita and Ansi (2023) conducted a study demonstrating that discovery-based methods significantly improved students' ability to identify and apply the generic structure of descriptive texts. Similarly, Sari and Husein (2021) found that the active exploration phase in Discovery Learning successfully mitigated "writer's block" by providing students with immediate stimuli. Furthermore, research by Wahyuni (2022) indicated that students taught through discovery models retained grammatical rules longer compared to those in lecture-based classes. Ramadhan (2020) also highlighted that Discovery Learning increases student engagement, as the "verification" stage allows for constructive peer feedback. Finally, Pratama (2024) argued that the model is particularly effective in improving the "vocabulary use" component of writing rubrics, as students must actively seek new words to describe their findings. Collectively, these studies provide a strong empirical basis for the current investigation, suggesting that the Discovery Learning model is a potent tool for overcoming the specific writing obstacles faced by EFL learners in the 2025/2026 academic year.

METHODOLOGY

To examine how the Discovery Learning framework affects students' writing outcomes, this research utilized a quantitative methodology with a Quasi-Experimental setup, specifically employing a Non-equivalent Control Group Design. The investigation took place at SMAN 1 Tanjungbalai Bagan Asahan over the 2025/2026 school year, involving two existing eleventh-grade cohorts chosen through purposive sampling. This selection strategy was intended to verify that both groups had comparable baseline English skills, as advised by the institution's English department. Class XI IPA 1 functioned as the experimental cohort, implementing Discovery Learning, whereas Class XI IPA 2 acted as the control, following a standard teacher-led instructional method.

The data collection process involved two primary phases consisting of initial (Pre-test) and final assessments (Post-test), both utilizing a standardized writing assessment. In the pre-test phase, students in both groups were required to compose a descriptive text based on a specific prompt to establish their baseline ability. Following the pre-test, the experimental group underwent a series of treatments based on the six-stage syntax of Discovery Learning: stimulation, problem statement, data collection, data processing, verification, and generalization. During these sessions, students were encouraged to independently "discover" linguistic patterns and the generic structure of descriptive texts through guided exploration. Conversely, the control group followed a traditional learning cycle consisting of direct explanation and rote practice. The students' final writing products were evaluated using an analytical scoring rubric adapted from Brown (2004), which measures five critical domains: content, organization, vocabulary, language use (grammar), and mechanics.

To maintain statistical integrity, the gathered data underwent analysis via the Independent Sample T-test, processed through SPSS version. Before the hypothesis testing, the data underwent rigorous pre-requisite assessments, including the Shapiro-Wilk test for normality to confirm the data distribution and the Levene's test for homogeneity of variance. A null hypothesis (H_0) was formulated, suggesting no substantial difference in students' writing skills resulting from the Discovery Learning approach, with the testing conducted at a significance threshold of $\alpha = 0.05$. To evaluate the impact of the intervention, the researcher mathematically compared the calculated t-value against the critical t-table value with degrees of freedom ($df = n - 2$). Through this methodical approach, it was possible to

accurately measure the extent to which the Discovery Learning model helps students elevate their preliminary writing abilities toward the expected competency levels.

To guarantee the empirical quality and accuracy of the research data, the writing test was subjected to rigorous validity and reliability assessments before being administered to the participants at SMAN 1 Tanjungbalai Bagan Asahan.

1. **Validity** The researcher employed Content Validity to ensure that the writing prompts and assessment criteria were aligned with the pedagogical objectives of the eleventh-grade English curriculum. The instrument was validated through expert judgment, involving consultations with the English faculty to verify that the topics were appropriate for the students' proficiency levels. This process ensured that the test accurately measured the specific components of descriptive text writing, including identification and description phases.
2. **Reliability** To establish the consistency of the scoring process, the researcher utilized Inter-Rater Reliability. Each student's descriptive text was evaluated by two independent raters using an analytical scoring rubric adapted from Brown (2004). This rubric measured five critical domains: content, organization, vocabulary, language use, and mechanics. By comparing the scores from both raters, the researcher ensured that the evaluation was objective and free from individual bias, thereby confirming the stability of the mean scores reported in the findings.

RESULT AND DISCUSSION

The findings of this research indicate a significant improvement in the writing ability of eleventh-grade students at SMAN 1 Tanjungbalai Bagan Asahan after the implementation of the Discovery Learning model. The data analysis began with the calculation of pre-test scores to determine the baseline proficiency of both the experimental and control groups. Initial results showed that students in both classes faced similar challenges, particularly in organizing ideas and applying correct grammatical structures in descriptive texts. The mean score for the experimental group in the pre-test was 52.18, which is categorized as a low level of proficiency, reflecting the pedagogical gaps identified during the preliminary observations.

Following the intervention period, a post-test was administered to measure the progress achieved. The study's findings demonstrated a marked improvement in the experimental group's results, as the average score climbed notably to 78.59. Conversely, the control subjects who received instruction via standard instructional practices exhibited a significantly lower growth in their performance. This progress in the experimental cohort was evident not only in the final cumulative score but also across all specific writing metrics. Statistical analysis using an independent sample t-test produced an obtained t-value of 7.31. When measured against the critical t-table figure of 2.069 at an alpha(α) level of 0.05 (df = 58), the calculated statistic was found to be substantially higher ($7.31 > 2.069$). Consequently, the null hypothesis (H_0) was dismissed in favor of the alternative hypothesis (H_a), verifying that the Discovery Learning approach exerts a meaningful influence on students' writing proficiency.

The analysis of these findings underscores why the Discovery Learning framework proved superior to conventional teaching methods. The success of the model lies in its ability to transform the writing process from passive imitation into active inquiry. During the stimulation and problem statement phases, students were encouraged to engage with their surroundings and identify descriptive features independently, which significantly reduced

"writer's block." Furthermore, the stages of data processing and verification helped students grasp the core structure of descriptive texts more naturally than mechanical memorization. Consequently, by identifying linguistic patterns like adjective placement and tense usage in context, students achieved better grammatical precision and vocabulary retention.

1. Data Presentation and Analysis

The primary objective of this data presentation is to provide a comprehensive overview of the shifts in students' writing performance resulting from the pedagogical intervention. The data analyzed in this section were derived from the pre-test and post-test scores of 60 eleventh-grade students, divided into the experimental group (XI IPA 1) and the control group (XI IPA 2). The analysis focuses on the quantitative growth in writing proficiency, specifically looking at how the Discovery Learning model addressed the initial challenges of limited vocabulary and poor structural organization identified at the beginning of the study. The presentation begins with a descriptive statistical analysis to establish the baseline and final achievement levels. In the initial phase, both groups underwent a pre-test to ensure they possessed a similar starting point, which is crucial for a Quasi-Experimental design. The scores were evaluated based on a multi-dimensional rubric covering content, organization, and language use. As indicated in the summary below, the experimental group's journey from a state of "low proficiency" to a "competent level" is quantitatively evidenced by the significant disparity between their pre-test and post-test mean scores.

The following table summarizes the mean scores and the overall improvement achieved by both groups:

Table 1: Summary of Mean Writing Scores			
Group	Pre-test	Post-test	Improvement
Experimental	52.18	78.59	26.41
Control	51.50	67.50	16.00

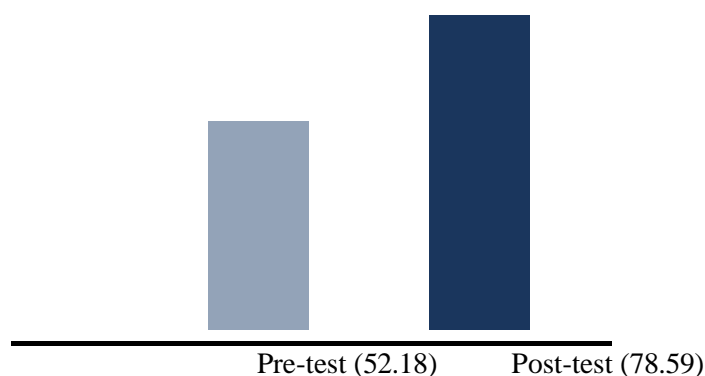


Figure 1: Performance Growth in Experimental Group

2. Deep Analysis and Contribution

Statistical testing confirmed the significance of these findings. Utilizing 23 degrees of freedom (df) paired with α 0.05 level of significance, the critical t-table figure was identified as 2.069. Empirical results produced a calculated t-value of 7.31, a margin that far exceeds the required threshold ($7.31 > 2.069$). This suggests that the model effectively bridge the gap between student's initial knowledge and the required writing standards. The quantitative analysis of this research was conducted through a multi-stage statistical process to ensure

the highest degree of empirical accuracy. Initially, the information gathered across both the treatment and comparison cohorts were subjected to descriptive statistics in order to determine a definitive starting point for learner achievement. The pre-test results revealed a critical pedagogical gap, with the experimental group starting at a mean score of only 52.18. This score reflects a "low proficiency" level where students struggled significantly with the technical backbone of writing, specifically in the application of the Simple Present Tense and the logical organization of descriptive attributes.

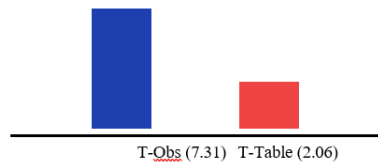


Figure 2: Statistical Hypothesis Testing (T-test Result)

CONCLUSION

The implementation of the Discovery Learning model exerts a statistically significant positive impact on the descriptive text writing proficiency of eleventh-grade students at SMAN 1 Tanjungbalai Bagan Asahan. This efficacy is evidenced by a substantial improvement in the experimental group's performance, where the mean score escalated from an initial 52.18 in the pre-test to a proficient 78.59 in the post-test, indicating that this pedagogical framework is considerably more potent than traditional teacher-centered approaches. In accordance with the rigorous data analysis detailed in the preceding chapter, the findings confirm that the alternative hypothesis (H_a) is accepted while the null hypothesis (H_0) is dismissed. The rejection of the null hypothesis is robustly supported by a t-observed value of 7.31, which significantly surpasses the critical t-table value of 2.069. This empirical validation suggests that active discovery-based instruction effectively narrows the chasm between students' prior knowledge and the requisite academic standards. Furthermore, this superior performance proves that the Discovery Learning model facilitates a more systematic cognitive organization and fosters learner autonomy, as students are trained to investigate and internalize linguistic rules through independent exploration rather than relying solely on continuous instructor feedback.

Suggestion

In light of the aforementioned findings, the following strategic recommendations are proposed to enhance the quality of English Language Teaching (ELT) and to provide a roadmap for future academic inquiry:

1. For English Educators:

- Curriculum Integration: It is highly recommended that teachers formally integrate the Discovery Learning model into the writing syllabus. This approach is particularly potent for genres like descriptive text that require high levels of vivid imagery and precise grammatical accuracy.
- Utilization of Authentic Stimuli: Teachers should focus on the "Stimulation" and "Data Collection" phases by incorporating authentic visual aids—such as photographs, realia, or digital media—to spark curiosity and provide a concrete vocabulary base for students who struggle with lexical limitations.
- Shifting Teacher Roles: Educators should transition from being the primary source of information to acting as facilitators who guide students through the process of discovery, allowing for a more student-centered classroom environment.

2. For Students:

- **Active Engagement:** Students are encouraged to embrace a proactive role in the discovery process. Developing a sense of agency in their learning will help build the confidence and critical thinking skills necessary for advanced writing.
- **Collaborative Exploration:** Students should utilize peer-to-peer discussions during the verification phase to refine their understanding of descriptive structures and linguistic nuances.

3. For Future Researchers:

- **Expansion of Text Genres:** While this study focused on descriptive texts, future research should investigate the efficacy of Discovery Learning across other genres, such as report, recount, or argumentative texts, across various educational levels.
- **Long-term Retention Studies:** Longitudinal studies are suggested to determine the long-term retention of writing skills acquired through this model, assessing whether the systematic organization skills remain consistent over time.
- **Technological Integration:** Further research could explore the synergy between Discovery Learning and Digital Literacy, examining how AI tools or digital platforms can be utilized within the discovery framework to further optimize writing outcomes.

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