

THE EFFECT OF THE IMPLEMENTATION OF THE GUIDED INQUIRY LEARNING MODEL ON STUDENTS' CONCEPTUAL UNDERSTANDING IN ENGLISH LANGUAGE LEARNING AT SENIOR HIGH SCHOOL

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Abstrak - Penelitian ini bertujuan untuk mengetahui pengaruh penerapan model pembelajaran inkuiri terbimbing terhadap pemahaman konsep siswa dalam pembelajaran Bahasa Inggris pada materi descriptive text di kelas X SMAN 18 Palembang. Metode penelitian yang digunakan adalah quasi eksperimen dengan desain pretest-posttest control group. Subjek penelitian terdiri atas dua kelas, yaitu kelas eksperimen (X MIPA 2, 27 siswa) yang menggunakan model pembelajaran inkuiri terbimbing dan kelas kontrol (X MIPA 3, 25 siswa) yang menggunakan metode pembelajaran konvensional. Data dikumpulkan melalui pretest dan posttest serta dianalisis menggunakan uji normalitas, homogenitas, independent sample t-test, dan N-gain dengan bantuan SPSS. Hasil penelitian menunjukkan adanya peningkatan pemahaman konsep pada kedua kelas, namun peningkatan pada kelas eksperimen lebih signifikan dengan rata-rata posttest 81,36 dan N-gain 0,7655 (kategori tinggi), sedangkan kelas kontrol memiliki rata-rata posttest 55,45 dan N-gain 0,3885 (kategori sedang). Uji t menunjukkan adanya pengaruh signifikan penerapan model pembelajaran inkuiri terbimbing terhadap pemahaman konsep siswa (sig. 0,000 < 0,05). Dengan demikian, dapat disimpulkan bahwa model pembelajaran inkuiri terbimbing lebih efektif dibandingkan metode konvensional dalam meningkatkan pemahaman konsep Bahasa Inggris pada materi descriptive text.

Kata kunci: Inkuiri Terbimbing, Pemahaman Konsep, Bahasa Inggris, Teks Deskripsi, SMA

Abstract - This study aims to determine the effect of the implementation of the guided inquiry learning model on students' conceptual understanding in learning English, specifically on descriptive text material, among tenth-grade students of SMAN 18 Palembang. The research employed a quasi-experimental method with a pretest-posttest control group design. The subjects consisted of two classes: the experimental class (X MIPA 2, 27 students) taught using the guided inquiry learning model, and the control class (X MIPA 3, 25 students) taught using conventional methods. Data were collected through pretests and posttests and analyzed using normality, homogeneity, independent sample t-test, and N-gain tests with the help of SPSS. The results showed an improvement in conceptual understanding in both classes, but the increase in the experimental class was more significant, with a mean posttest score of 81.36 and an N-gain of 0.7655 (high category), while the control class had a mean posttest score of 55.45 and an N-gain of 0.3885 (medium category). The t-test results indicated a significant effect of the guided inquiry learning model on students' conceptual understanding (sig. 0.000 < 0.05). Therefore, it can be concluded that the guided inquiry learning model is more effective than the conventional method in improving students' conceptual understanding of English, particularly in descriptive text material.

Keywords: Guided Inquiry, Conceptual Understanding, English Language, Descriptive Text, Senior High School

1. INTRODUCTION

English is one of the essential subjects taught in secondary schools as an international language and a means of global communication. The main objective of English language learning is to develop the four language skills: listening, speaking, reading, and writing (Rosdiana et al., 2024). Among these skills, writing is often considered the most complex because it requires logical thinking, mastery of grammar, and understanding of text structure (Malini et al., 2022). Writing skills also serve as an indicator of how well students comprehend language concepts as a whole, including aspects of grammar, vocabulary, and discourse structure (Fahmi & Rachmijati, 2021; Hussain et al., 2023; Himawan & Suyata,

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2021). In the context of the Merdeka Curriculum, English language learning emphasizes not only reproductive ability—or the ability to imitate language structures—but also conceptual understanding of various text genres such as descriptive, narrative, recount, and procedure (Kemdikbudristek, 2022; Ferdaus & Novita, 2023; Bhwana, 2023). Conceptual understanding in English learning refers to students' ability to recognize and understand text structure, language features, and communicative purposes (Amin, 2023; Matondang et al., 2020; Hapsari & Wu, 2022). Therefore, English learning should not merely focus on memorizing linguistic forms or patterns, but also on developing a deep understanding of meaning, function, and context in language use.

However, preliminary observations conducted at SMAN 18 Palembang revealed that many tenth-grade students still struggle to understand the concept of descriptive text. Some students were unable to distinguish between text structures consisting of identification and description and often made mistakes in using linguistic elements such as adjectives, linking verbs, and the simple present tense (Boonsuk, 2023). This indicates that students lack strong conceptual understanding of the form and function of descriptive text, which is one of the key text types taught in secondary-level English learning.

Interviews with English teachers at the school further revealed that most students tended to memorize example texts from books or modules without understanding the underlying reasoning and concepts. Students could rewrite the given texts but were unable to explain why certain structures or vocabulary were used. This condition indicates that the learning process is predominantly teacher-centered, in which students act as passive recipients of information. Conventional teaching methods such as lectures and written exercises have not been sufficient to encourage students' active engagement in constructing understanding independently (Anggraini, 2020). In fact, effective English language learning should position students as active subjects involved in the processes of thinking, identifying patterns, and constructing meaning through exploration (Ningsih et al., 2022; Dash, 2022; Akteruzzaman et al., 2023). As McKay (2018) stated, meaningful language learning occurs when students experience the process of knowledge construction, rather than merely receiving information. Therefore, a learning approach is needed that enables students to discover language rules and concepts through scientific and reflective thinking activities.

One model aligned with this principle is the guided inquiry learning model. This model positions the teacher as a facilitator who guides students in discovering concepts through scientific stages, namely formulating problems, developing hypotheses, collecting data, analyzing, and drawing conclusions (Kani & Yılmaztürk, 2021). Through guided inquiry learning, students do not merely listen and take notes but also observe, ask questions, explore, and independently identify linguistic patterns and text structures under the teacher's guidance (Mukaramah et al., 2020). In the context of descriptive text learning, the guided inquiry model can be implemented by asking students to examine authentic descriptive texts, identify structural components, discuss the use of language features such as adjectives and linking verbs, and then conclude the general characteristics of the text (Erniwati et al., 2022). This activity allows students to understand text concepts inductively—from observation to abstract understanding—so that the acquired knowledge becomes more meaningful and long-lasting (Rehman et al., 2025).

Several previous studies have proven the effectiveness of the guided inquiry learning model in improving conceptual understanding and learning outcomes. For instance, Irwanto (2023), found that the implementation of the guided inquiry model successfully enhanced students' conceptual understanding in both science and language learning through structured discovery

activities. Another study by Nurhasanah et al. (2021), revealed that this model promotes the development of students' critical thinking, communication, and collaboration skills because it requires active participation in the process of discovering concepts. These findings strengthen the assumption that the guided inquiry learning model is relevant to be applied in English language learning to overcome the weaknesses of conventional teaching methods. Therefore, this research is crucial to address the issue of low student conceptual understanding of descriptive text and to examine the effectiveness of implementing the guided inquiry learning model in English language learning at the senior high school level.

2. METHOD

2.1 Type and Design of Study

This study employed a quasi-experimental design using a pretest-posttest control group design. This design was chosen because the researcher could not fully control external variables as in a true experiment but could still compare the effect of treatment between two groups (Sugiyono, 2021).

Table 1. Research Design

Group	Pretest	Treatment	Posttest
Experimental	O ₁	X ₁ (Guided Inquiry Model)	O ₂
Control	O ₁	X ₂ (Conventional Model)	O ₂

2.2 Population and Sample

The population of this study included all tenth-grade students of SMAN 18 Palembang in the 2024/2025 academic year. The sample was selected using purposive sampling considering the equivalence of initial ability. The samples were:

- Class X MIPA 2 (27 students) → Experimental class
- Class X MIPA 3 (25 students) → Control class

2.3 Research Variable

- Independent variable: Guided Inquiry Learning Model
- Dependent variable: Students' Conceptual Understanding in English (Descriptive Text)

2.4 Research Instrument

The main instrument was a conceptual understanding test consisting of multiple-choice and short-answer questions covering the following indicators:

- Identifying the structure of descriptive text.
- Determining language features (adjectives, linking verbs, simple present tense).
- Interpreting the social function of the text.
- Writing a simple descriptive paragraph based on given prompts.

The reliability of the instrument was tested using Cronbach's Alpha, resulting in a coefficient of 0.87, indicating high reliability.model.

2.5 Research Procedure

Preparation Stage:

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- Develop lesson plans (RPP) based on the guided inquiry learning model.
- Prepare test instruments and observation sheets.
- Implementation Stage:
- Both classes were given a pretest to measure prior ability.

The experimental class received treatment using the guided inquiry learning model for four sessions, while the control class used conventional methods.

Evaluation Stage:

- Both classes were given a posttest.
- Data were analyzed using SPSS.

2.6 Data Analysis Technique

Data were analyzed through the following steps:

- Normality Test (Shapiro–Wilk)
- Homogeneity Test (Levene Test)
- Hypothesis Testing using Independent Sample t-test
- N-gain Calculation to measure improvement in learning outcomes.

3. RESULT AND DISCUSSION

3.1 Result

3.1.1 Pretest and Posttest Data

Table 2. Summary of Pretest and Posttest Scores of Students' Conceptual Understanding in English

Class	N	Minimum	Maximum	Mean	Std. Deviation
Experimental (Pretest)	27	20	50	20.91	14.11
Experimental (Posttest)	27	50	100	81.36	13.90
Control (Pretest)	25	10	50	27.27	11.62
Control (Posttest)	25	30	80	55.45	11.43

Description:

Based on Table 2, the average pretest score of the experimental class was 20.91, while that of the control class was 27.27. This indicates that the initial ability of both groups was relatively low and not significantly different. After treatment, the mean posttest score of the experimental class increased significantly to 81.36, while the control class reached only 55.45.

The higher improvement in the experimental class suggests that the implementation of the guided inquiry learning model contributed substantially to the enhancement of students' conceptual understanding of descriptive text. In addition, the experimental class had a slightly higher standard deviation (13.90) compared to the control class (11.43), indicating a wider variation in learning outcomes due to differences in students' engagement levels during inquiry-based learning.

3.1.2 Normality and Homogeneity Test

Table 3. Results of Normality Test (Shapiro–Wilk)

Class	Data	Sig.	Description
Experimental	Pretest	0.094	Normal
Experimental	Posttest	0.078	Normal
Control	Pretest	0.061	Normal
Control	Posttest	0.075	Normal

Description:

The Shapiro–Wilk normality test was conducted to ensure that the data were normally distributed before applying parametric statistical analysis. The results show that all significance (Sig.) values for both groups, in both pretest and posttest, were greater than 0.05, indicating that the data were normally distributed.

Therefore, the data met the assumptions for further analysis using parametric tests such as the independent sample t-test to examine mean differences between groups.

Table 4. Results of Homogeneity Test (Levene Test)

Variable	F	Sig.	Conclusion
Conceptual Understanding	1.342	0.253	Homogeneous

Description:

The homogeneity test was conducted to determine whether the variances between the two groups (experimental and control) were equal. Based on the Levene Test, the obtained significance value was $0.253 > 0.05$, indicating that the data variances were homogeneous.

This condition fulfills the assumptions required to proceed with the t-test since both normality and homogeneity assumptions were satisfied.

3.1.3 Hypothesis Test (Independent Sample t-test)**Table 5. Results of t-test**

Variable	t	df	Sig. (2-tailed)	Conclusion
Conceptual Understanding	6.751	50	0.000	Significant

Description:

The results of the independent sample t-test show a significance value (Sig. 2-tailed) of 0.000, which is less than 0.05. This means there is a significant difference in students' learning outcomes between the experimental class using the guided inquiry learning model and the control class using the conventional method.

The t-value of 6.751 also indicates a strong difference between the two groups. Therefore, the research hypothesis stating that “there is a significant effect of the guided inquiry learning model on students' conceptual understanding in English” is accepted.

This difference suggests that a learning strategy that actively engages students in the process of discovering concepts is more effective than teacher-centered instruction.

3.2 N-Gain Test**Table 6. N-gain Value of Conceptual Understanding**

Class	N	Mean Posttest	N-gain	Category
Experimental	27	81.36	0.7655	High
Control	25	55.45	0.3885	Medium

Description:

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The N-gain value was used to measure the level of improvement in students' learning outcomes after treatment. Based on Table 6, the experimental class achieved an N-gain of 0.7655, categorized as high, while the control class obtained an N-gain of 0.3885, categorized as medium.

This difference in N-gain values indicates that the guided inquiry learning model significantly enhanced students' conceptual understanding in English compared to the conventional method.

The high increase in the experimental class occurred because students were directly involved in the process of discovering text structures and linguistic features of descriptive texts through observation, analysis, and group discussion. Such an inquiry process helps students build concepts meaningfully (meaningful learning), in line with the constructivist theory proposed by Bruner and Piaget.

In contrast, the control class, which was taught using conventional methods, showed only a moderate increase, as the learning process focused mainly on teacher explanations and exercises without in-depth exploration.

3.3 Discussion

The research findings indicate that the implementation of the guided inquiry learning model has a positive and significant effect on students' conceptual understanding of English, particularly in the topic of descriptive text.

In the experimental class, students were actively engaged in discovering concepts through the stages of inquiry: text observation, question formulation, linguistic pattern analysis, and conclusion drawing. These stages helped students construct knowledge meaningfully (constructivist learning) rather than merely memorizing theories.

The guided inquiry model also promotes student-centered learning, where the teacher acts as a facilitator. Students worked collaboratively in groups, analyzed authentic texts, and composed descriptive texts based on their observations. This process enhanced their critical thinking skills and understanding of text structure as well as linguistic features.

The difference in outcomes between the experimental and control classes was evident in the average posttest scores (81.36 vs. 55.45) and N-gain values (0.7655 categorized as high vs. 0.3885 categorized as moderate). These findings are consistent with Hmelo-Silver et al., (2017), who state that inquiry-based learning improves language learning outcomes by fostering curiosity and learner autonomy.

Therefore, it can be concluded that the implementation of the guided inquiry learning model is effective in enhancing students' conceptual understanding of English, particularly in terms of text structure, grammar, and vocabulary application.

4 CONCLUSION

Based on the results of this study, it can be concluded that the implementation of the guided inquiry learning model has a significant and positive effect on students' conceptual understanding in English language learning, particularly in learning descriptive texts. The application of this model encourages students to be actively involved in the learning process through inquiry stages such as observation, questioning, analysis, and conclusion drawing. These stages enable students to construct their knowledge meaningfully rather than relying solely on memorization.

The findings reveal that students in the experimental class showed higher improvement in their conceptual understanding compared to those in the control class, as indicated by the posttest scores (81.36 vs. 55.45) and N-gain values (0.7655—high category vs. 0.3885—

moderate category). This suggests that guided inquiry learning not only improves students' comprehension of text structure, grammar, and vocabulary, but also fosters critical thinking, independence, and collaboration.

Furthermore, the guided inquiry learning model aligns with the principles of student-centered and constructivist learning, where the teacher acts as a facilitator while students take an active role in exploring, analyzing, and discovering linguistic concepts through authentic texts.

In conclusion, the guided inquiry learning model is proven to be an effective and innovative approach to enhance students' conceptual understanding in English learning at the senior high school level. Therefore, it is recommended that English teachers apply this model more widely as an alternative to conventional teaching methods to promote deeper learning and meaningful engagement among students.

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