

## DOES THE INQUIRY-BASED ENGLISH MODULE WORK? THE EXPERIMENTAL STUDY AT SECONDARY SCHOOL KOTA JAMBI

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### Abstract

This study aims to investigate the effectiveness of the Inquiry-Based Learning (IBL) English module in ELT at secondary school in Kota Jambi. It purposes to enhance students' language skills and critical thinking. This study uses an experimental design with a pre-experimental approach which involve a class at one of the secondary school in Kota Jambi. Data were collected through a set of tests and interviews to comprehensively address the research questions on the effect of using the IBL English learning module on students' engagement, comprehension, and critical thinking. Data then analysed by using Paired Sample T-test. The participants were 30 11th-grade students. The finding revealed that there was significant improvement in students' performance, as evidenced by the increase in the mean score from 7.7 in the pre-test to 8.13 in the post-test, indicating a significant effect of using the IBL English module on students' English learning competence, especially in empowering their critical thinking. It is expected that this module might practically foster active students, lead them into critical thinking to support more meaningful English learning, and enhance the quality of English instruction, particularly at the secondary school in Jambi City. Recommendations for disseminating and implementing the module are provided for future research.

**Keywords:**ELT, IBL English Module.

### INTRODUCTION

In a context of English Language Teaching (ELT), one of specific learning innovation in secondary schools have been accommodating learning English as a compulsory subject which refers to three competency phases, called phase A, B and phase C (Setiawan, B: 2023, Zamjani, I., et. al: 2021). Phase A focuses on introducing English as a foreign language and on basic oral skills. Phase B focuses more on spoken English and introductory language skills through writing, and Phase C is oriented toward oral and written skills. To achieve these competences, EFL school teachers are required to apply learning models based on the concept of the Independent Curriculum, which refers to the achievement of competencies in aspects of knowledge and skills and character values of Pancasila Student Profiles (Safitri et.al: 2023, Zamjani, 2021, Prasojo: 2020, Bayumie, S: 2020).

One innovative approach in English Language Teaching (ELT) might be realized through the systematic development of instructional modules to support effective teaching and learning. To accommodate this, the Integrated Inquiry-Based Learning (IBL) English module is considered appropriate to assist EFL school teachers and students through a structured sequence of inquiry activities that enhance students' engagement, critical thinking, and deeper understanding of the subject. The core idea of IBL focuses on students' personal discovery. In this case, students are encouraged and guided to pose meaningful questions and develop appropriate answers by applying critical thinking skills. In inquiry learning students are also shown how knowledge is generated, how it is transmitted, and how all parties including experts, teachers, parents and society contribute to a student's knowledge. Inquiry learning

teaches students to respect their own interests and the interests of others (Donham, 2001; Tawfik et al., 2020; Öztürk et al., 2022; Wain et al., 2023).

Furthermore, the essential foundation of inquiry learning lies in constructivist learning theory. This approach focuses on inquiry and problem-solving, fostering students' critical and creative thinking to help them generate and improve ideas and to shape their understanding through their own innovation and invention. (Chotibuddin, et.al:2017, Asselin et al. 2003) To address this issue, many studies have been conducted to improve learning competence through inquiry-based learning models in the context of secondary education. For example, Manurung (2021) conducted research entitled “Improving English Learning Achievement through Guided Inquiry Based-Learning in Class XIPS 2 SMA Negeri 1 Tanah Jawa Simalungun Regency, found that inquiry learning has a significant influence on students' learning outcomes and understanding in mastery of the material. Tahapary, P. (2022) also conducted research entitled “Improving English Learning Outcomes through Inquiry Learning Strategy”, aims to improve students' English learning outcomes by using Inquiry strategies at Siwalima Ambon State High School. He found that there was a significant increase in reading comprehension of descriptive texts, with an average score of 70. Thus, there is a 20% increase in the learning outcomes of reading descriptive text when applying inquiry learning strategies. Similarly, the research entitled “The Influence of the Guided Inquiry Learning Model to enhance learning outcomes and critical thinking”, conducted by Amijaya et.al (2018), aims to determine the effect of the guided inquiry model on learning outcomes and students' abilities to think critically. The researchers found that the Inquiry learning model has a significant, positive effect on students' critical thinking skills. It can be concluded from these studies, the inquiry learning model gives a significant influence on students' learning outcomes.

However, previous research primarily focused on understanding, concepts, and implementation of Integrated Inquiry-Based Learning. Therefore, the novelty of this study lies in the developing English module that emphasizes an inquiry-based learning (IBL) model. For more specificity, this developed module aligns with the Independent Learning Curriculum specifications and meets the students' needs. Moreover, the researchers also recognized a gap that offers an opportunity to undertake a study focused on improving the quality of ELT by developing an English teaching module using Integrated Inquiry-Based Learning (IBL) approach, which serves as the central focus of this research. The goal offers an alternative for ELT that aligns with the domain and concept of the Independent Learning. This innovation is expected to help both teachers and students optimize their English proficiency and contribute to improving ELT at the secondary school level in Jambi City.

### METHODS

This study utilized a pre-experimental design, specifically the one-group pretest–posttest design (Creswell, 2012), to investigate the effectiveness of the Inquiry-Based English Module in improving students' English skills and competences. The participants were 30 eleventh-grade students at secondary school in Kota Jambi, Indonesia. An English teacher taught all learning sessions with more than 5 years of teaching experience. The instrument consisted of a pre-test and a post-test to evaluate students' English skills, covering reading comprehension, vocabulary mastery, and writing. The pre-test and post-test are similar in instruction and consist of 15 items: 10 multiple-choice and 5 essay questions.

The data collection procedure involved three phases. It begins with administering pre-test to measure students' initial English competence. Second, participants received ELT instruction through the IBL English Module for six meetings. Finally, a post-test was given to evaluate students' learning improvement after the treatment. The difference between pre-test and post-test scores served as the basis for determining the module's effectiveness. The data were analysed by using Paired Sample t-test, as the same participants took both the pre-test and post-test. This statistical test was used to determine whether there was a significant difference between the two sets of scores. The formula used for the paired-samples t-test was:

$$t = \frac{D}{S_D/\sqrt{N}}$$

Explanation:

- $D^-$  = mean difference =  $M_2 - M_1$
- $S_D$  = standard deviation of the difference scores
- $N$  = number of participants

### FINDINGS AND DISCUSSION

The data from the pre-test and post-test were statistically analyzed using a paired-samples t-test to determine whether there was a significant difference in students' achievement before and after the implementation of the Inquiry-Based English Module. The following table describes the score or result of both tests:

Table 1. Score of Test

Test Type	Mean	N	Std. Deviation	Std. Error Mean
Pre-test	7.70	30	0.45	0.082
Post-test	8.13	30	0.50	0.091

$$t = \frac{0.43}{0.50/\sqrt{30}}$$

Steps and Result:

- Root of 30 = 5.477
- $0.50 / 5.77 = 0.0913$
- $0.43 / 0.0913 = 4.71$

$$t = 4.71$$

The results of the paired-samples t-test revealed a statistically significant difference between the pre-test ( $M = 7.70$ ) and post-test ( $M = 8.13$ ) scores,  $t(30) = 4.71, p < 0.05$ . This finding indicates that students performed significantly better after instruction through the *Inquiry-Based English Module*. The mean difference of 0.43 suggests an overall improvement in students' English achievement.

Table 2. Score of Pre dan Post Test

No	Student	Pre-test	Post-test
1	Student 1	10	10
2	Student 2	9	10
3	Student 3	10	10
4	Student 4	10	10
5	Student 5	9	9
6	Student 6	9	9
7	Student 7	9	10
8	Student 8	10	9
9	Student 9	6	9
10	Student 10	8	8
11	Student 11	10	10
12	Student 12	10	10
13	Student 13	9	9
14	Student 14	9	9
15	Student 15	10	0
16	Student 16	9	9
17	Student 17	9	0
18	Student 18	9	9
19	Student 19	10	10

No	Student	Pre-test	Post-test
20	Student 20	10	9
21	Student 21	10	0
22	Student 22	10	10
23	Student 23	8	0
24	Student 24	10	10
25	Student 25	8	10
26	Student 26	0	9
27	Student 27	0	9
28	Student 28	0	7
29	Student 29	0	10
30	Student 30	0	10

### CONCLUSION

Based on the results of this study, the researchers have identified three initial aspects. first, the implementation of the Inquiry-Based English Module (IBL Module) has bring a positive effect on students' English learning achievement. From the findings, it can also be seen that the pre-test and post-test analyses showed an increase in students' mean scores from 7.70 to 8.13. it indicated that students' English learning achievement affected the implementation of the IBL English module. This suggests that the IBL English Module significantly fostered students' engagement, participation, and comprehension in learning English through inquiry-oriented activities. The learning process motivated students to think critically, explore ideas, and collaborate to solve problems related to real-life themes. This study provides preliminary evidence that the IBL English Module is a promising approach to supporting active, meaningful English learning in Indonesian secondary schools.

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