



The Effect of Inquiry-Based Learning on Secondary Student Learning Outcomes in Writing Ability

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Abstract

Inquiry-Based Learning is an approach of teaching that encourages students to generate and develop their ideas actively. It provides students with relevant experiences and insights into the process of developing clear and organized thoughts. It used a pre-experimental design with a quantitative approach and a one-group pre-test post-test design. The following research topics were addressed: What effect does inquiry-based learning have on students' learning outcomes related to their writing ability? The sample for this study consisted of thirty-students of 11th grade students from SMA Muhammadiyah 5 Makassar. Students completed a pre- and post-test, which were examined to ascertain students' learning results in descriptive text writing. After testing the hypotheses, the results demonstrated a significant difference in students' learning outcomes between pretest and posttest due to the implementation of Inquiry-Based Learning. The writers recommended for the implement of inquiry-based learning to other English skills, higher education levels, and for students with and without disabilities.

Keywords: Inquiry Based Learning, Writing, Descriptive Text

Introduction

Writing is a highly individual process; it can be defined as communication that emerges from our ideas. The process of expressing ideas in written form is known as writing. In line with Rahmah & Nusantara (2017) Writing is the process by which thoughts and ideas are transformed into written form. It is the speech that results from the artificial process of converting each word into a sentence. Additionally, writing can be described as the act, process, or activity of someone who writes (Sari et al., 2020). Additionally, they express their thoughts, opinions, and organize them into basic sentences or brief paragraphs through writing (Suminar & Putri, 2015). Writing communicates ideas to others and harnesses the energy of sharing to complete the writing process, which includes thinking the concepts, outlining the process, transferring the process to the draft, revising the manuscript, and ultimately proofreading the manuscript to prepare for the final product (Amelia et al., 2021). Writing is critical for English learning

because it enables the development of written communication between people from diverse backgrounds. Vocabulary, function, grammar, and spelling are all components of writing. Referring to the 2013 curriculum, there are numerous sorts of texts that must be taught at the high school level, including descriptive, recount, narrative, factual, report, analytical, and procedure. However, this study focuses exclusively on the teaching of descriptive text. The descriptive text describes the sensory experience and how something looks, sounds, and tastes (Lestari, et.al, 2017). Related to Siahaan (2013) descriptive text is one that is written with the intent of describing a certain person, place, or thing. It is divided into two: identification and description. The identification section provides a brief overview of the object, whereas the description section details the object for the reader. The descriptive text's schematic structure is divided into two parts: identification and description (Siahaan, 2013).

The writer discovered the following facts

during her research was students feel under impression that creating descriptive text was difficult. When they were asked to compose the text, they were unsure on how to write descriptive text. They were unaware of the description text's characteristics. The students were constrained in their ability to formulate their ideas, particularly in their use of descriptive terms. The primary issue was that the teacher did not employ novel ways to teach the descriptive text and thus bored the students. As can be observed, a large number of them did not complete their writing assignment. Inquiry-based learning was one of the approaches that may be utilized to overcome the challenge. When a teacher asks students to produce a descriptive text, inquiry-based learning is the best way for students to build all of the abilities necessary to tackle the problem. This approach necessitates that students be capable of more than merely formulating topic-related research. Students are expected to undertake investigations, explorations, searches, experiments, searches, and research under this approach. Inquiry-based learning is a complex process that is founded on students' natural curiosity about the world they live in. IBL can be defined as a teaching approach in which students generate knowledge through inquiry-based activities. Moreover, Aditomo, et.al., (2013) revealed that Inquiry-based learning (IBL) is a find term that refers to a variety of teaching approach that are linked by their emphasis on students' investigative activity (addressing questions and solving problems).

Nonetheless, the writer discovered that the teacher follows Pedaste, et.al's phases in this study. An inquiry includes the following stages: orientation (i.e. becoming familiar with the field of investigation), conceptualization (i.e. the development of questions and hypotheses), investigation (i.e. data collection and interpretation of the information), conclusion (i.e. drawing conclusions and/or providing solutions based on the investigation), and discussion (i.e. communicating and reflecting on the conclusion) (Pedaste et al., 2015). Introduction The writer proposes to identify the effect of Inquiry-Based Learning on students' writing abilities as a result of this.

Literature Review

Inquiry-Based Learning

Inquiry-based learning, or IBL, is a method of teaching and learning that centers the learn-

ing experience on the learners' questions, ideas, and observations (Botha, 2016). Jedlickova (2014) asserted that when students' spontaneous inquiries reflect real curiosity, they can serve as an effective springboard for the Inquiry-Based Learning approach. It connected to the fundamental principle of inquiry-based learning, which is that learners engage in a process of self-discovery. According to Pedaste et al. (2015), inquiry-based learning aims to participate students in an exploratory phase of scientific inquiry. Students' inquiries are motivated by logical reasoning in order to ask or generate specific questions and arrive at the correct answers. Indirectly, inquiry-based learning investigates students' capacity for critical thinking. According to Ghaemi & Mirsaeed (2017), investigated the effects of inquiry-based learning on the critical thinking capacity of EFL students and discovered that applying inquiry-based learning in the EFL classroom increased students' critical thinking ability. Through inquiry-based learning, students can investigate their vocabulary to express their thoughts and feelings in the text.

Furthermore, the Inquiry-Based Learning approach has many different procedures that carry experience to the classroom. Bruce & Davidson (1996) noted that there are five cycles of learning namely ask, investigate, create, discuss, and reflect. Meanwhile, Kuhlthau, et.al (2007) claimed that investigate, explore, search, quest, research, pursuit, and study are seven activities in the investigation process. Karplus has three cycles, namely exploration, concept introduction, and concept application, unlike the previous main figures (Rejeki, 2017). In addition, Roger Bybee defined these sequences as participate, explore, clarified, elaborate, and evaluate (Fauziati, 2014). Alberta also divided this model into seven stages in (Ismail & Elias (2014) including reflect, plan, retrieve, process, manufacture, share, and evaluate. Based on the all expert, Pedaste, et al (2015) formulate a new framework of Inquiry-Based Learning phases become five phases, namely orientation, conceptualization, investigation, conclusion, and discussion.

Writing Descriptive Text

Apart from speaking, writing is another approach to develop a communication. It is used to communicate with other persons who are not physically present in front of the speaker or who are in a different location from the speaker and listener. However, writing a message to the read-

er is hard since writers must discover the best way to communicate their thoughts while also anticipating the readers' reactions as they read the message (Sariasih, 2019). Dias-Rico (2004) emphasize that writing is similar to self-communication in that it allows the writer to communicate their personal reaction and journey, which encompasses both reading and oral communication.

According to Patel & Jain (2008), writing is a necessary component of language learning since it gives an excellent means of attempting to enhance the lexicon, syntax, and grammatical structures. Additionally, Cook (2004) stated that writing is an excellent way for students to organize and express their thoughts, emotions, and experiences. The writer concludes from the explanation that writing is a process of developing our mind about language and expressing concepts and emotions through our written work. To begin writing descriptive texts, it is vital to understand their concept, social function, grammatical rules, and linguistic aspects.

First, the definition of descriptive text. A descriptive text is a type of text in which the writer or speaker uses language to describe something, someone, an animal, a place, or an event to the readers or listeners (Gerot & Wignel, 1994; Knapp & Watkins, 2005). The process of describing involves clearly naming and classifying things, as well as discussing their traits, actions, and functions, so that readers or listeners can conceivably notice what the writer is writing about as if they could see it with their own eyes. In line with McLean (2012) stated that description texts often use sensory elements to describe a person, a place, or an object. A descriptive essay's framework is more adaptable than that of some other rhetorical modes.

As with other genres, descriptive literature has a structure or stage structure. Identification, general assertion, and description are the elements or schematic structures of descriptive writing. The purpose of identification is to introduce and identify a particular participant, such as a person, an item, a place, an animal, or an event. On the other hand, description is constructed in such a way that it describes the participant's attributes, appearances, personality, and habits or qualities Butt, et.al, 2000; Derewianka, 1990; Gerot & Wignel, 1994; Knapp & Watkins, 2005).

Second, Setiawati (2010) stated that descriptive text serves the following social functions: a) to capture the viewer's interest, b) to

establish aspects, c) to create a mood or atmosphere, and d) to create a mood or atmosphere. Third, Siahaan (2006) claimed that the generic structures of descriptive text are as follows: a) identification: identifies the phenomena being described; and b) description: specifies the part, attributes, and characteristics of the phenomenon being described. On the basis of that reasoning, the writer concludes that generic structure in descriptive text consists of two components: identification (of the thing to be described) and description (description of the object). Numerous factors should be considered when creating descriptive prose, including proper grammar, word choice, spelling, and language elements. Fourth, according to Setiawati (2010), descriptive text language features include the following: a) simple present tense, b) action verbs, c) passive voice, d) noun phrases, e) adverbial phrases, f) technical terms, g) general and abstract nouns, time and cause and effect conjunctions. Consequently, the ability to write descriptive text can be determined by its definition, social role, grammatical role, and lexicon. In addition, the writer concluded that all of the indicators are essential for producing effective descriptive text.

Material and Method

This study employed a pre-experimental research design with a one-group pre-test post-test design. A purposive sample technique was utilized to choose one 11th grade class at SMA Muhammadiyah 5 Makassar. Thirty students are used as a sample. Students were given a pretest and a posttest before and after treatment to measure their descriptive text writing score. A post-test of writing skills was used to assess the students' capacity to write following the treatments. This test covered similar content to the previous one, but focused on a different topic. The pretest and posttest findings were examined using SPSS 25 to determine the effect of Inquiry-Based Learning on students' ability to write descriptive texts. The initial meeting began with a pre-test. While treatment was carried out within the teaching and learning process through the application of Inquiry-Based Learning. The five phases of inquiry-based learning are orientation, conceptualization, investigation, conclusion, and discussion. A posttest was provided after guidance at the most recent meeting. Numerous activities were conducted throughout the implementation of Inquiry-Based Learning. The table below summarizes the activities.

Table 1. The Phases of Inquiry-Based Learning

Phases of Inquiry-Based Learning	Activities
Orientation	The process of developing interest in the topic and addressing a learning issue through the use of a research problem.
Conceptualization	The process of formulating hypotheses in response to the research question.
Investigation	The procedure for gathering and exploring ideas.
Conclusion	The procedure for obtaining at conclusions
Discussion	The act of communicating with others in order to share results

Results and Discussion

Findings

Inquiry-Based Learning enhanced students' learning outcomes in writing descriptive text. The results of the students' pretest and posttest show that their learning outcomes have increased. Table 2 also shows the results of students' learning outcomes when using Inquiry-Based.

The table 2 showed that the mean score of students learning outcomes in writing descriptive text post-treatment by using Inquiry-Based Learning increased: mean score of pre-test = 60.00; mean score of post-test = 78.50. The t-test was used to analyze the data obtained from the pretest and posttest in order to accept or reject the null hypothesis.

Considering the result on Table 3 showed of paired sample correlations showed Sig. = .000 < 0.05, it could be stated that there was significance correlation between the results of student learning outcomes before and after Inquiry-Based Learning implemented. The output of the Table 4 shows that when Sig. (2-tailed) 0.000 < 0.05, H_0 is rejected and H_1 is approved. As a result, Inquiry-Based Learning has a positive effect on student learning outcomes in descriptive text writing.

Discussion

Inquiry-based Learning is an efficient approach of instructing students on how to write descriptive text. It cannot be doubted that the teacher's use of IBL in the classroom has a great effect on the outcome the process of teaching and learning In this instance, inquiry-based

Table 2. Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-test	60.00	30	6.433	1.174
	Post-Test	78.50	30	3.511	.641

Table 3. Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Pre-test & Post-Test	30	.687	.000

learning inherently emphasizes the balanced students' intellectual, affective, and physical needs and enhanced the perceived value. Throughout the treatment process, inquiry-based learning creating students' enthusiastic, motivating them to seek out and constructing their own ideas in writing descriptive text. In line with Suryati (2019) explained that the application of the discovery learning method in assembling a written descriptive text is more appropriate to be utilized than other learning methods. This is due to the fact that the discovery learning method is built on thoughts differs from the text referred to as descriptive text in that it is presented in the form of a mind map, which can be converted to the structure of descriptive text, namely general descriptive and section descriptive.

Additionally, the student's entire activity is geared on seeking and obtaining answers independently from something dubious, which is meant to build self-esteem and critical thinking. Thus, inquiry-based learning positions the teacher as a facilitator of learning rather than the sole source of knowledge. Typically, in this study, learning activities begin with a process orientation, followed by conceptualization, investigation, conclusion, and discussion. But, Inquiry-Based Learning has many phases in its implementation. Related to Inquiry-Based Learning used to explore teacher's way in teaching writing news item. It successfully Tresnawati (2021) implemented through some steps included planning, creating, processing, sharing and retrieving, and evaluating. Then, IBL, as one of the approaches to teaching English, should be applied by the teachers in various ways with the reference to the steps in implementing IBL. In other case, Hudri (2019) discovered the following procedures in

Table 4. Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre-test - Post-Test	-18.500	4.762	.869	-20.278	-16.722	-21.281	29	.000

order to adopt an inquiry-based learning approach in the teaching and learning writing of this study, the following steps were taken: (1) teaching students to research or examine objects, (3) leading students to make notes about what they have investigated, (4) guiding students to develop an outline, (5) presenting and clarifying a text model, (6) creating an initial draft based on the outline (7) revising drafts with an emphasis on substance and organization, (8) peer editing to correct grammatical errors, 9) presenting the work by reading it out in front of the class, and 10) commenting on the writing process. According to the findings of the study, the approach could aid students in improving their ability to write descriptive paragraphs.

Furthermore, inquiry-based learning has been shown to boost student learning outcomes when it comes to producing descriptive texts. In the school year 2016-2017, the inquiry-based learning technique was extremely beneficial in teaching writing skills to MTs. NW Dames eighth grade students. Because the pre-test mean score was 59.14 and the post-test mean score was 63.62, the null hypothesis was rejected and the hypothesis was accepted (Isra' & Asrobi, 2018). Finally, inquiry-based learning proved effective in teaching students how to write descriptive text.

Conclusion

Inquiry-Based Learning is an approach to improve writing skills by encouraging critical thinking and the generation of ideas that make writing more knowledgeable and coherent, particularly when writing descriptive text. The students were more excited and active during the implementation. The students were more courageous in constructing and expressing their idea. It is also expected that teachers be creative in creating situations that position the student in the role of a scientist. As a result, the students take the initiative to formulate the research question based on the topic, formulate the hypotheses based on the research question, collect and analyze data, draw conclu-

sions, and present the final writing to others both teacher and other friend.

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