

Bridging the Gap in Learning: Differentiated Learning to Enhance the Students' Reading Comprehension of Explanatory Texts and Writing Skills

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Abstract

Text-based language learning in senior high school aims to introduce students to different kinds of text: fiction and non-fiction. The teaching of an explanation text as a non-fiction text aims to make students understand and be able to write it. Teachers can use various techniques to achieve the goals, such as differentiated instruction during the teaching process. This research scrutinizes how differentiated instruction helps students enhance their understanding and writing skills in explanation texts, particularly for students of junior high school level. Employing a pre-experimental One-Group Pretest-Posttest design, the data in this research were collected using observations, surveys, and tests. The data analysis compared the pre-test and post-test results with some criteria and percentages. The result shows an improvement in the student's understanding of explanatory texts, with an average score of 60,67 to 87,00 and a percentage of 60%. This study is expected to shed light on the teacher's use of differentiated instruction in teaching various kinds of text in formal and informal contexts.

Keywords: differentiated instruction, learning outcome, explanation text

1. Introduction

There are various factors in deciding the success of the teaching-learning process, such as learner proficiency, teacher competence, and also the facility of the school (Alif et al., 2020; Gooden, 2021; Hanaysha et al., 2023; Laili et al., 2022). Student proficiency is heavily linked with the learning style; teacher competence is influenced by knowledge, skill, and attitude; and facility helps the success of the teaching-learning process. A competent teacher has (a) the knowledge and skills to implement different teaching strategies, (b) the knowledge and skills to select and develop suitable learning material, and (c) an appropriate attitude as a teacher.

Similarly, Munna and Kalam (2021) state that internal and external factors can contribute to the success of the teaching-learning process. The internal factors are students' learning style, self-efficacy, and physical and mental condition. Moreover, external factors focus on the school's treatment, such as teacher quality and facility. Teacher quality includes the mastery of the subject, selection of strategy, method, media, evaluation, and technique in teaching.

The teaching strategy is a set of plans in the teaching based on the characteristics, conditions, and environment of students to achieve the goals of learning (Hidayati et al., 2020; Nurlailah & Ardiansyah, 2022; Yulianti & Sulistiyawati, 2020). Many theories state that students have various ways and times to achieve their goals. Thus, a learning strategy can facilitate students' learning needs to reach the goal of learning. The choice of innovative

strategies can contribute to the success of gaining learning goals.

Language learning facilitates the students to improve their language proficiency (Anggarista & Wahyudin, 2022; Fu et al., 2022; Hazaymeh, 2021; Jeong, 2022). Language learning typically focuses on understanding, recognizing, and analyzing oral and written expression (Dincer, 2020; Rios et al., 2020; Shahid Farooq et al., 2012). Students are introduced to various text genres, spelling, conjunction, intrinsic and extrinsic meaning of the text, and presenting analysis in either oral or spoken product.

Based on a pre-research study in Junior High School 42 Surabaya, it showed that the teaching strategy used was less conventional. The teaching-learning process was teacher-centered, with teacher presentation and assessment in groups, making students less active and motivated. Thus, innovative and various teaching strategies are vital to accommodate the characteristics and environment of the students.

This research focuses on implementing a differentiated learning strategy in teaching explanatory texts. The appropriate teaching strategy is essential to create conducive and effective learning so the student will be more engaged and motivated. Differentiated learning focuses on preference, readiness, and interest in accommodating, serving, and accepting the diversity of students as the object—differentiated learning commonly uses various strategies in every step of the learning. The implementation of differentiated learning is based on the essential components: content, process, and product (Marlina, 2017). In every element, the teacher uses different strategies to allow students to explore knowledge and express the result of their learning. Teachers can integrate every learning step to the various students' characteristics and interests through differentiated learning.

This research focuses on the explanatory text taught in junior high school. The explanatory text consists of a sequence of natural and social phenomena in society. The explanatory text is used in this research because 1) it is the material used during the research, and 2) it engages students to recognize the natural and social phenomena around them. The 2013 curriculum teaches explanation text in eight grades in 3.9 basic competence (Kemendikbudristek, 2018).

2. Literature Review

2.1 Strategy in Differentiated Learning

To support the teaching-learning process, an appropriate strategy must be developed that facilitates students' needs. Etymologically, differentiated learning comes from the word different and learning. Differentiated learning means a process, technique, and strategy to differentiate. Tomlinson & Moon (2016) state that differentiated learning means combining students' differences to reach the goals, ideas, and information and express what they have learned. The teacher's role in differentiated learning is to take action and plan a lesson plan that suits students' needs.

There are some characteristics of differentiated learning such as (1) proactive; (2) prior quality to quantity; (3) assessment-based; (4) using different approaches in content, process, and product of learning process (5) student-oriented; (6) combination of individual and classical; and (7) authentic (Griful-Freixenet et al., 2020; Kaplan, 2023; Lindner & Schwab, 2020; Zhu et al., 2021). Andini (2022) states that in differentiated learning, there are three assessments that both students and teachers should prepare before teaching the learning process: readiness, interest, and learning profile. The classification aims to help the teacher choose appropriate students' needs. Students' readiness is vital in differentiated learning, and simple assessment is used to decide students' understanding of the topic before the teaching-learning begins (Marlina, 2017).

One of the ways to assess students' needs is by using a simple questionnaire about understanding and interest in the material that will be taught. After that, the questionnaire can be used to know the learning style. This process demands more effort and extra work from the teacher to discover readiness, interest, and student characteristics. As a result, class situations and conditions will be more effective, and student and teacher relationships will be more harmonic.

After the pre-learning assessment about the learning style and student needs is conducted, differentiated learning is implemented. There are four components in differentiated learning: content, process, product, and learning environment. Content commonly refers to learning material. Teachers should modify learning material based on students' readiness, interests, and preferences. Teachers can adjust the content based on the curriculum theme material, and student needs assessment. Process refers to a sequence of teaching-learning processes. This component tends to be more complex and varied, so modifying the strategy and technique used in teaching is still important. Product refers to the result of the student's understanding of the learning process. Teachers should adapt to different ways for students to express themselves during the teaching-learning process. In addition, the teacher should provide adequate facilities to support teaching and learning (Marlina, 2017).

In dealing with the implementation of differentiated learning, Andini (2022) proposes some stages of teaching activity: (1) pre-test, which includes all assessments about students' needs, readiness, interests, and preferences; (2) planning the learning based on the goals and indicators from the students' needs data (3) realization of the differentiated learning in the content of the learning to deliver the material. (4) creating a product from the differentiated learning process, and (5) conducting a post-test or evaluation about the result of the learning process.

From the above explanation, it can be concluded that differentiated learning is innovative learning that focuses on students' needs, learning styles, and prior knowledge of the material. There are stages before, during, and after differentiated learning to get the optimum result. Differentiated learning is vital to innovative learning, specifically in implementing Kurikulum Merdeka. With differentiated learning, teachers and students are expected to achieve learning goals and have learning experiences based on the student's needs, interests, and preferences.

2.2 Explanatory Text

Explanatory text is one type that junior high school students must study. Like other texts, explanatory texts have meaning, characteristics, structure, linguistic rules, and learning objectives. The explanatory text explains the process of events or the occurrence of natural and socio-cultural phenomena around us (Izzah et al., 2020). Explanatory texts have a chronological character and pattern so that the process of something happening can be observed coherently supported by the linguistic rules of the text itself. The process of something happening leads to general problems felt in the surrounding environment (Chafi et al., 2022; Herman et al., 2020). It can be concluded that an explanatory text contains the chronological process or sequence of events of a natural, social, or cultural phenomenon that is a global problem. The role of the conjunction of causality and chronology will significantly support the presentation of this text to make it easier for readers to understand the content.

The linguistic rules of explanatory texts include: 1) indicating time information or chronological conjunctions; 2) indicating causal information or causal conjunction; 3) use of technical words or terms in specific fields; and 4) use of nouns that indicate the type of phenomenon or pronouns (Fang et al., 2021). Explanatory text is also characterized as factual text because the data in the text corresponds to real-life events. In this way, the truth of the text information must be supported by trusted sources. This style of narrating text sometimes uses the technique of "sequence markers" or sequence markers, which are marked using the first, second, third, and so on words.

Pyle et al. (2017) explain that text structure helps make the text presentation more systematic, which includes: 1) a general statement or identification of the phenomenon regarding the topic of discussion or background -- this section presents a general statement of phenomena in real life; 2) the explanatory sequence or process of events, characterized by the conjunction of causality and chronology. These two conjunctions dominate the task of helping students understand the process of something happening; 3) Conclusion or closing of the text. Usually, the author summarizes the explanation and then comments on the consequences of the explanatory sequence. It is possible that the author also adds messages regarding the phenomena that occur.

Presenting or writing explanatory texts refers to a development pattern capable of varying writing styles. The development pattern also makes it easier for readers to understand the content of the text. There are two development patterns: (1) causal development pattern or causal conjunction. The cause conjunction acts as a general idea, the effect conjunction acts as a detail or process of something happening, and (2) a process development pattern that emphasizes writing style in chronological conjunctions. Usually, this type of development pattern is more detailed because the sequence of events is explained thoroughly (Pyle et al., 2017).

2.3 Application of Differentiated Learning Strategies

Differentiated learning in this research with material identifying explanatory texts is done using the following steps:

- 1) Before carrying out the research, initial research was carried out to determine the learning conditions in the class and the learning styles and needs of students. This step was carried out using the observation method and distributing questionnaires.
- 2) Prepare differentiated learning plans while designing explanatory text materials, various relevant media, student worksheets, evaluation sheets, and the necessary infrastructure,
- 3) Carry out learning activities guided by planning. Activities are divided into three stages, namely:
 - a. Preliminary Activities: greeting, prayer, providing motivation, conveying apperception and learning objectives, followed by a pre-test for 10 minutes.
 - b. Core activities:

- a) Implementing the focus group discussion (FGD) technique through several stages: dividing groups with various learning styles, understanding the material, carrying out discussions, recording and delivering discussion results, and teacher feedback. The teacher acts as a moderator and takes minutes of the discussion to help students focus more on understanding the material.
 - b) Students observe pictures and news text headlines about natural phenomena in Indonesia. This method also teaches students to be more sensitive to their surrounding environment.
 - c) Students discuss in groups accompanied by a question-and-answer session to stimulate exploration and improve critical and creative thinking skills. They hope to actively ask questions, answer, express opinions, and comment.
 - d) Students prepare reports on the results of group discussions and class discussions in the form of presentations on flipchart paper provided by the teacher. The appearance of the report varies, depending on the group's creativity. The teacher prepares colorful markers and pencils for students to use in their tasks.
 - e) The students do Windows shopping, and every group puts their work around the classroom while the other groups visit the work interchangeably. So, the teacher should manage the time for every group visitation to ensure the effectiveness of the activity. This activity aims to help students learn from other groups. The teaching-learning process will be more meaningful and improve students' participation.
 - f) The teacher asks students to comment and grade every group work. This manifestation of the differentiated learning principle builds harmony among teachers, students, and their peers.
- c. Final activity:
- a) The teacher and students count the score for every group.
 - b) The teacher rewards the group with the highest score as the best group, and the other students show appreciation and applause.
 - c) Students reflect on their understanding and the classroom activities.
 - d) Teachers end classroom activity with assignments for the next meeting, praying, and greeting.

3. Research Method

This research used experimental research because there is a treatment for specific phenomena. This research tests the effect of the treatment for a specific group. Practically, this research is pre-experimental with the pre-test and post-test for the same group (*One Group Pretest-Posttest Design*). The pre-experimental research method, typically designed as a "One-Group Pretest-Posttest," evaluates the treatment effects within an environment that lacks a control group through a comparison of both pretest and posttest data for measures of significant improvements. Simple and easy to conduct, this method has no control over variables from another source, which renders results more prone to bias; in this study, it found there was significant improvement in the way students understood explanatory text, though conclusions must be interpreted cautiously due to design flaws. The research design is as follows:

$$O_1 \text{ X } O_2$$

Means:

O_1 : pre-test score (Before Treatment)

X: Treatment

O_2 : post-test score (After Treatment)

(Rachman et al., 2024; Sugiono, 2011)

The sampling technique is a random sampling from the eighth-grade students in H class in SMP Negeri 42 Surabaya with 30 students. The data collection technique is a test (pre-test and post-test) with an instrument in the form of questions about explanatory texts. There are ten questions with four multiple answers. The score for each question is 1 for the correct answer and 0 for the incorrect answer.

$$Final\ Score = \frac{Correct\ answer}{Total\ Number\ of\ questions} \times 100$$

(Arikunto, 2002:83)

The average score for completion can be calculated from the pre-test and post-test results. In this school, the minimum score for completion (KKM) is 85. From this minimum score, the criterion of the student's score is as follows:

Table 1. The Criterion of the Student's Score

No	Score	Criteria
1	50	POOR
2	60	LESS ADEQUATE
3	70	ADEQUATE
4	80	GOOD
5	90	VERY GOOD
6	100	EXCELLENT

In addition, before the pre-test and post-test, observation and questionnaire were conducted. The observation aims to give a general view of the classroom implementation before the treatment, while the questionnaire seeks to know the learning style and student's needs. The questionnaire is 18 questions with a Likert scale: Strongly Suitable (score: 5), Suitable (score: 4), bit Suitable (score: 3) (score: 3), Less Suitable (score: 2), Not Suitable (score: 1).

The research procedure is: (1) Determining the research subject and preparing the research instrument; (2) Conducting pre-research using observation techniques to determine teacher and student activities during the learning process; followed by distributing questionnaires to determine students' learning styles and needs; (3) Preparing lesson plans (RPP), student worksheets (LKS) and evaluation sheets (pre-test and post-test); (4) Conducting pre-test followed by giving treatment and post-test; and (5) Analyzing pre-test data (before treatment) and post-test data (after treatment) then comparing the learning outcomes. The results of data analysis are presented in the discussion using quantitative descriptive methods.

4. Results

The eighth-grade students' H class in Junior High School 42 Surabaya was observed on Tuesday, 17 May 2023, from 09.00-11.00. The teaching-learning process is mainly teacher-centered, with presentations and assignments. The long explanation from the teacher about the text material makes students a passive audience, and only a few students rarely participate in the classroom, specifically in group work.

After the observation, the questionnaire was distributed to the students to learn about their learning styles and needs. The result shows the students' three learning styles: Visual, audio, and kinesthetic, with different students for each. This result is used in lesson planning by using differentiated instruction. The result is as follows:

Table 2. Group Based on Student's Learning Style

Learning style	Number of students
Visual	13
Auditory	12
Kinesthetic	2
Visual- auditory	3
Total	30

From Table 2, it shows that the students in H class in SMP Negeri 42 Surabaya have various learning styles, those are: Visual (13) or 43%, Auditory (12) or 40%, Kinesthetic (2) or 7%, Visual-auditory (3) or 10%. From this result, the researcher makes the lesson plan based on learning style and students' needs. The teacher's (researcher) knowledge can help them master the learning environment as a response to student's needs.

4.1 The Description of Pre-test Result

Lesson planning and implementation are based on the student's learning style, preceded by the pre-test. This activity was conducted on Monday, 22 May 2023 for 30 minutes to learn about the students' readiness and understanding of the

material of identifying explanation text. The result of the pre-test is as follows:

Table 3. Pre-Test Result

No.	Score	Number of Students	Percentage (%)	Level
1.	50	9	30%	POOR
2.	60	12	40%	LESS ADEQUATE
3.	70	7	23.3%	ADEQUATE
4.	80	2	6.7%	GOOD
5.	90	0	0%	VERY GOOD
6.	100	0	0%	EXCELLENT
Total		30		100%

From Table 3, it is shown that the range of values is 50-80. No student scored 90 and 100 (0%) with the title "Very Good" and "Excellent". A total of 9 people (30%) were rated as "Poor" with a score of 50; as many as 12 people (40%) were rated "Less adequate" with a score of 60; as many as 7 people (23.3%) were rated "Adequate" with a score of 70; and 2 people (6.7%) were rated "Good" with a score of 80. In short, none of the students pass the completion score.

Based on this explanation, it was concluded that students' understanding of explanatory texts in the pre-test was still minimal. If we look at the KKM score (85) set by the school, no student has achieved it because the highest score is 80 (6.7%). This indicates that students need appropriate strategies as a follow-up to improve their learning outcomes. Teachers must align students' learning styles with the chosen learning strategy, namely differentiation.

4.2 Post-test Result Description

After the pre-test, learning continues with the main activity by implementing differentiated learning strategies as a form of treatment. The main activity ends with a post-test. The post-test results can be seen in Table 4 below:

Table 4. Post- Test Result

No.	Score	Number of Students	Percentage (%)	Level
1.	50	0	0%	POOR
2.	60	3	10%	LESS ADEQUATE
3.	70	1	3.3%	ADEQUATE
4.	80	8	26.7%	GOOD
5.	90	8	26.7%	VERY GOOD
6.	100	10	33.3%	EXCELLENT
Total		30		100%

From Table 4, it is shown that the range of scores obtained was 60-100; no student got a score of 50 (0%) as "POOR." A total of 3 people (10%) were rated as "Less Adequate" with a score of 60. A total of 1 person (3.3%) was rated as "Adequate" with a score of 70; as many as 8 people (26.7%) were rated "Good" with a score of 80. A total of 8 people (26.7%) were rated Very Good with a score of 90; as many as 10 people (33.3%) were rated "Excellent" with a score of 100.

Based on this data, it was concluded that 18 students (60%) achieved *KKM* or minimum score for completion of 90-100; 12 students had not yet completed (40%). This data indicates increased students' abilities after the treatment, meaning differentiated learning succeeded. After the teacher aligned students' learning styles with differentiated learning strategies, there was an increase of 60% from the pre-test results, where previously no single student had achieved completeness.

4.3 Learning Outcome Percentage Comparison Description

From the pre-test and post-test results, comparisons can be made to determine whether there has been an increase in learning outcomes. The comparison results show a significant increase from 60.67 to 87.00, as in the following table:

Table 5. Comparison between Pre-test and Post-test Results

Score KKM	Student score percentage	
	PRE-TEST	POST-TEST
100	0%	33.3%
90	0%	26.7%
80	6.7%	26.7%
70	23.3%	3.3%
60	40%	10%
50	30%	0%

Based on Table 5, it is concluded that:

- Obtaining material learning outcomes identified explanatory text with Superior (100) information in the pre-test was 0%, while in the post-test, it was 33.3%.
- Obtaining material learning outcomes identified explanatory text with Very Good information (90) in the pre-test as much as 0% and in the post-test as much as 26.7%.
- Obtaining material learning outcomes identified explanatory text with good information, namely, 80 on the pre-test, 6.7%, and on the post-test, as much as 26.7%.
- Obtaining material learning outcomes identified explanatory text with sufficient information (70) in the pre-test as much as 23.3% and in the post-test as much as 3.3%.
- Obtaining material learning outcomes identified explanatory text with information Less (60) in the pre-test as much as 40% and in the post-test as much as 10%.
- Obtaining material learning outcomes identified explanatory text with Very Poor information (50) in the pre-test as much as 30% and in the post-test as much as 0%.

From the comparison results, it was concluded that student learning outcomes had increased from 0% during the pre-test to 60% during the post-test. Improvement was obtained after learning differentiated strategies with a minimum completion standard (*KKM*) of 85.

5. Discussion

The differentiated learning strategy implementation at Junior High School 42 Surabaya has significantly improved students' reading comprehension of explanatory texts. This study offers empirical evidence on the effectiveness of differentiated learning, based on students' learning styles, for enhancing students' academic achievement in junior high school.

According to the initial observation, the class was still teacher-centered, characterized by the length of teacher explanations and a lack of student participation. As evidenced by the pre-test results, no students achieved the school's minimum competency standard of 85, and many students scored under the minimum competency standard. This is aligned with the literature that conventional learning methods using a one-size-fits-all approach do not tend to meet students' diverse learning needs (Tomlinson & Moon, 2016).

Subsequently, identifying different learning styles in the classroom - visual, auditory, kinesthetic, and visual-auditive - highlighted the necessity of a differentiated learning approach. This intervention consisted of customizing learning methods to accommodate these different learning styles and create more interesting and effective learning experiences. This improvement in post-test scores, where 60% of students achieved or exceeded the minimum score level, contrasts starkly with pre-test results, reflecting the influence of these pedagogical transformations.

The significant increases in students' scores from the pre-test to the post-test, particularly those in the "Excellent" category, indicate that differentiated learning strategies can substantially improve students' academic performance. These findings align with the research of Bachari et al. (2012), which stated that it is essential to adapt learning methods to students' learning needs and preferences.

In addition, a comparison between the pre-test and post-test results revealed an increase in academic scores and a significant decrease in students with lower academic scores. This indicates that differentiated learning benefits high-achieving students, helps those struggling to meet academic standards, and creates a more equitable and inclusive learning environment.

In this context, differentiated learning strategies emphasize the importance of educators' responsiveness to diverse learning preferences in the classroom. It confirms the potential of pedagogical approaches to improve learning outcomes significantly and encourages further research and application in various educational settings.

For the follow-up activity, the researcher suggests to the stakeholders:

1. Teacher

- A. Before the teaching-learning process, it is suggested that the teacher make a pre-learning observation about the learning style students need regarding the material.
- B. Considering different strategies, techniques, and learning media
- C. Planning a Lesson plan that accommodates students' learning styles and needs and uses various media and learning resources.

2. Next Researcher

- A. This research was conducted in one school, so the result is insufficient to generalize the effect of differentiated learning on students' ability to explain text material. Thus, it is suggested that the next research use more samples.
- B. In addition, the next researcher can use different materials, approaches, and techniques to explore the research topic more thoroughly and improve the research culture among education stakeholders.

6. Conclusion

Implementing differentiated learning strategies at SMP Negeri 42 Surabaya has significantly improved students' reading comprehension of explanatory texts and demonstrated the positive impact of accommodating various learning styles in the classroom. The study clearly illustrates the effectiveness of the customized teaching method, highlighted by the striking improvement in student performance and the remarkable increase in students achieving "Very Good" grades. The transition from a teacher-dominated approach, characterized by extensive lectures and limited student engagement, to a different and more dynamic and inclusive learning strategy, improved academic outcomes. It fostered a more engaging and supportive educational environment. This shift underscores the critical role of pedagogical adaptability in promoting student success and challenging the traditional one-size-fits-all education model.

Furthermore, the outcomes of this research underline the broader implications of integrating differentiated learning strategies in educational settings. It advocates for a shift towards more responsive and student-centered teaching practices that acknowledge the unique learning preferences of each student, thereby contributing meaningful insights to the dialogue on effective teaching methods and their influence on learning achievements. The evident success of this intervention, demonstrated by significant academic improvements, calls for a critical reassessment of conventional teaching practices. It stresses the importance of ongoing pedagogy innovation that aligns with students' diverse needs, ensuring a more equitable and effective learning experience. Ultimately, this study reinforces the transformative potential of differentiated learning strategies in improving educational outcomes, emphasizing the need for continued exploration and application of varied teaching methodologies to foster an inclusive and adaptable educational landscape.

7. Limitations

This study offers interesting findings, but it is not without its limitations. The focus of this study was on a limited scope of one class of 30 students, which may limit the generalizability of the findings to other educational contexts or grade levels. In addition, the measurement of students' learning styles was also based on a self-reported questionnaire. This method may not fully capture the complexity of everyone's learning preferences and could potentially introduce bias. The intervention was relatively short, potentially reducing differentiated instruction's long-term benefits or barriers. In addition, the study assumed a level of teacher proficiency with differentiated learning strategies without accounting for variability in teacher training or the appropriateness of implementation of the approach.

Furthermore, the research design also lacked a control group for comparison, which made it difficult to separate the effect of differentiated teaching from other influential factors. In addition, the analysis relied on quantitative analysis, potentially overlooking qualitative factors such as student engagement, motivation, and classroom dynamics that play an important role in the learning process.

8. Suggestions

Future research could address these limitations by broadening the scope of participants, including objective and diverse learning style assessments, increasing the duration of the intervention, evaluating the consistency of the teaching methodology, including a control group, and applying various qualitative and quantitative research methods to gain a comprehensive picture of the impact of differentiated learning.

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Authors contributions

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