

Implementing Differentiated Instruction in Writing Procedure Text for Grade X Students (Phase E) at SMA N 1 Wonosari, Indonesia

Fatma Sari¹, Kartin Lihawa², Usman Pakaya³

¹Postgraduate Program of English Education, Universitas Negeri Gorontalo, Gorontalo, Indonesia

^{2,3}Department of English Education, Faculty of Letter and Culture, Universitas Negeri Gorontalo, Gorontalo, Indonesia

Corresponding Author: Kartin Lihawa

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ABSTRACT

This research aims to know any difference of students' ability in writing procedure text who were taught through implementation differentiation instruction and conventional teaching. Employing a mixed-method approach, this research focuses on 128 students of SMA Negeri 1 Wonosari, Boalemo Regency, Gorontalo Province as research population and 32 students of class X B, as the experimental class and X C, as the control class, respectively, as research samples. Data collection involves two methods, which are PASL survey to obtain students' interests and learning styles, as well as an essay test. As a means of assessing the effect of the treatment on students writing, a scoring rubric proposed by Brown (2007) is utilized. Data analysis involves a statistical analysis, specifically t-test, followed by the experimental data analysis with the pre-test and post-test models. Based on the findings, the result of calculation showed the value of Tcount as 5.53 and the value of Ttable is 1.822. Therefore, since Tcount > Ttable, H0 is rejected, which implies that there is statistical evidence to support the presence of a significant difference in students' writing ability through the implementation of differentiated instruction. In summary, the research suggests that differentiated instruction has a positive impact on students' writing ability compared to conventional teaching methods, based on the statistical analysis and the rejection of the null hypothesis.

Keywords: writing ability, differentiated instruction, mixed-method approach

INTRODUCTION

Teachers are responsible for the holistic development of students and play a crucial role in fostering their growth. The concept of differentiated instruction is highlighted as a way to meet the diverse learning needs of students. It emphasizes the need for teachers to understand and cater to individual differences in abilities, interests, and preferences. The implementation of differentiated instruction requires systematic planning and aligning with curriculum components. According to Hadiansya (2022), teachers serve as managers, facilitators, and leaders in the learning process, responsible for developing students' mental, physical, social, and spiritual aspects. They play a crucial role in transforming conventional learning into student-centered learning, focused on strengthening competence and character development. Government Regulation Number 57 of 2021 concerning National Education Standards emphasizes the importance of creating a learning atmosphere that provides sufficient space for initiative, creativity, and independence, in accordance with students' talents, interests, and physical and spiritual development (Government Regulation

Number 57, 2021, Article 12 paragraph 1, point f. To address the diverse learning needs of students, differentiated instruction is a valuable approach. Tomlinson (1999) defines differentiated instruction as a teacher's effort to adjust the learning process in the classroom to meet the individual learning needs of students. It involves using instructional strategies that consider students' development, abilities, needs, and characteristics, leading to increased motivation through optimal learning activities. In the context of teaching writing, the implementation of differentiated instruction is crucial. Writing is considered one of the most challenging language skills for students (Richards & Renandya, 2002). The process of writing involves multiple aspects, including content development, organization, vocabulary usage, language proficiency, and mechanics such as spelling, punctuation, and paragraphs (Brown & Heekyeong, 2015). Differentiated instruction can be applied to various elements of the writing process. Content differentiation involves addressing students' ideas and developing them into coherent and logical paragraphs. Process differentiation focuses on providing instructional approaches tailored to students' readiness, interests, and learning profiles. Product differentiation considers students' individual and shared characteristics when assessing their written work (Hockett, 2018; Tomlinson, 1999). The implementation of differentiated instruction in writing procedure texts can address the challenges faced by students in organizing their ideas systematically and producing optimal results. It allows students to choose topics that align with their interests and readiness, leading to quality writing outcomes. By implementing differentiated instruction, teachers can maximize the potential of all students by providing individualized teaching approaches (Andersen, 2009; Tomlinson, 2000). Based on the explanation, the aim of this research is to know any difference of students' ability in writing procedure text who were taught

through implementation differentiation instruction and conventional teaching.

LITERATURE REVIEW

Concept of Writing

Writing is the activity of using graphic symbols to convey meaning to readers. It involves using letters or combinations of letters that correspond to the sounds made when speaking (Byrne, 1988). Writing is a challenging skill that requires careful attention to accuracy (Parra, 2019). It is a complex cognitive activity that involves thinking, drafting, and revising, requiring specific skills that may not come naturally to everyone (Brown, 2001). Writing also entails organizing and integrating information into cohesive and unified paragraphs and texts (Nunan, 1989). It is the process of arranging words into sentences, sentences into paragraphs, and paragraphs into coherent text (Donn, 1988). Writers have the luxury of time to choose words, revise their writing, and think deeply about their ideas (Brown and Yule, 1996). Writing is considered the most difficult skill to acquire among the four English skills (Argyropoulou, 2021). It is a demanding and challenging skill in foreign language learning that requires proficiency in grammar, fluency, coherence, authenticity, and a clear purpose (Brown, 2001). Writing remains the primary way for students in formal education to demonstrate their knowledge (Brown and Heekyeong, 2015). Writing consists of several aspects: content, organization, vocabulary, grammar, and mechanics. Content involves developing thoughts or ideas into a relevant text (Brown and Heekyeong, 2015). Organization refers to the structured arrangement of ideas for better comprehension (Brown and Heekyeong, 2015). Vocabulary selection relates to using words that are appropriate to the topic (Brown and Heekyeong, 2015). Grammar involves using language elements correctly, such as sentence formation and subject-verb agreement (Brown and Heekyeong, 2015). Mechanics encompass spelling, punctuation, capitalization, and

readability (Brown and Heekyeong, 2015). Other components of writing include topic sentences, supporting sentences, coherence, cohesion, unity, and completeness (Boardman, 2002). The writing process consists of several stages that are interconnected. The stages commonly include planning, drafting, editing, and producing a final version. During planning, the writer thinks about what to write and organizes ideas (Harmer, 2004). Drafting involves creating a rough version of the writing (Harmer, 2004). Editing includes reflecting on and revising the text, making changes to ensure it aligns with the topic (Harmer, 2004). The final version is the polished and refined text after editing (Harmer, 2004). Other models may include pre-writing, first draft composing, feedback, second draft writing, and proofreading (O'Brien, 2004; Caswell & Mahler, 2004). These steps allow writers to develop their writing effectively (Meristiani and Agistina, 2022).

Procedure text

A procedure text is a genre that provides instructions on how to do something or how to make something (Safitri and Maisaroh, 2022). It involves producing words in the correct order, following punctuation conventions, and maintaining proper language conventions and rules (Brown and Yule, 1996). The purpose of a procedure text is to provide sequenced information or directions for people to perform activities safely, efficiently, and appropriately (Prawati et al., 2013). The structure of a procedure text consists of three parts: (a) Title/goals, (b) Literature of materials, and (c) Steps/procedure/method (Safitri and Maisaroh, 2022). The generic structure of a procedure text includes the aim/goal, ingredients/materials, and steps/instructions (Safitri and Maisaroh, 2022). Additionally, the structure of a procedure text is easy to recognize, with each stage serving a specific function, and it may include comments about usefulness, significance, danger, or fun (Prawati et al., 2013). When writing a

procedure text, it is important to focus on action sequences and use clear and easy-to-understand language (Prawati et al., 2013). The generic structure typically includes an introductory statement stating the aim or goal, a list of materials (if applicable), and a sequence of steps in the order they need to be done (Prawati et al., 2013). Titles, subtitles, numbers, diagrams, and photos are often used to enhance clarity and understanding (Prawati et al., 2013).

Differentiated instruction

Differentiated instruction is an educational approach that considers student differences and aims to design learning opportunities tailored to individual needs (Tomlinson, 1999; Bushie, 2015). It involves adjusting teaching based on students' interests, learning profiles, and readiness, and goes beyond one-on-one instruction to accommodate diverse student groups (Dixon et al., 2014). Teachers play a crucial role in understanding student learning characteristics and making adjustments for successful implementation (Demir, 2021). The characteristics of differentiated instruction include concept-based instruction, flexible grouping, and active student engagement (Tomlinson, 2001). It also involves strategies like tiered assignments, intentional composition of student working groups, tutoring systems, staggered non-verbal learning aids, mastery learning, and granting autonomy to students (Pozaz et al., 2019). The principles of differentiated instruction emphasize creating a supportive learning environment, quality curriculum, continuous assessment, responsive teaching, and effective classroom leadership and routines (Tomlinson & Moon, 2013). Effective differentiated instruction prioritizes learner needs, offers flexibility, and provides challenging opportunities for student growth and achievement (Argyropoulou, 2021). These principles and characteristics highlight the importance of personalization, flexibility, and student-centeredness in the differentiated instruction approach, aiming

to enhance learning outcomes and meet diverse student needs.

In the implementation of differentiated instruction in teacher education, it is crucial to recognize and address the diverse characteristics students bring to the classroom, such as their backgrounds, learning profiles, and interests (Bushie, 2015). Conducting an initial ability test can help identify students' readiness, interests, and learning styles, which guide instructional planning (Hardiansya, 2022). Skilled educators understand the significance of differentiated instruction in writing classes, where they tailor their approach based on students' readiness, background knowledge, skills, interests, and learning styles (Tomlinson, 1999). They differentiate content, teaching methods, output assessment, and learning environments to accommodate individual student needs (Tomlinson, 1999; Nunan, 2003). By considering these principles, teachers can design meaningful and engaging lessons that promote student learning and achievement. To implement differentiated instruction in the classroom, teachers can follow the strategies proposed by Ramsook et al. (2013), which include differentiating content, process, and product. By modifying how students access the material, employing varied activities and strategies, and assessing understanding through diverse pathways, teachers can accommodate students' readiness, interests, and learning profiles (Ramsook et al., 2013; Santangelo & Tomlinson, 2009). Overall, differentiated instruction recognizes and addresses student diversity, promotes personalized learning experiences, and aims to meet the unique needs of students in the classroom (Tomlinson, 1999; Bushie, 2015). By applying its principles and strategies, teachers can create an inclusive and effective learning environment.

Conventional Teaching

Conventional teaching, also known as traditional teaching, places the teacher as the main figure in the classroom, with a

focus on lecture-based methods and limited student engagement (Haberman, 1995 in Awada & Faour, 2022; Djamarah, 1996). In conventional teaching, students primarily listen, take notes, ask and answer questions, and receive evaluations from the teacher (Citra, 2017). This approach lacks opportunities for students to reflect on the material, connect it with previous knowledge, or apply it to real-life situations. On the other hand, differentiated instruction is a student-centered approach that considers individual student differences and aims to design learning experiences tailored to their needs (Tomlinson, 1999). It emphasizes personalization, flexibility, and active engagement to enhance learning outcomes (Argyropoulou, 2021). Differentiated instruction involves modifying content, process, product, and the learning environment to accommodate diverse student profiles (Tomlinson & Moon, 2013; Ramsook et al., 2013). Conventional teaching places the teacher as the central figure, while differentiated instruction focuses on students and their individual needs (Citra, 2017). The advantages of conventional teaching include efficiency, low cost, adaptability, and promoting listening as a learning method (Subaryana, cited in Citra, 2017). However, it lacks opportunities for student-centered learning and active engagement. In conclusion, differentiated instruction and conventional teaching represent contrasting approaches to education. Differentiated instruction prioritizes student-centeredness and customization, while conventional teaching centers around the teacher and emphasizes lecture-based learning. The student-centered and flexible nature of differentiated instruction aims to meet diverse student needs and promote meaningful learning experiences.

The New Paradigm in learning

In the new learning paradigm, the learning development framework is not a linear model but a continuous cycle Hadiansah, (2022). The new paradigm learning includes

mapping of competency standards, independent learning and minimal competency assessment so as to guarantee more flexibility for educators to formulate learning designs and assessments according to the characteristics and needs of students. According to Sufyadi (2021), PBB is learning that is oriented towards strengthening competence and character development in accordance with Pancasila values or the realization of a Pancasila student profile. This understanding can be interpreted that PBB ensures meaningful learning practices. To create meaningful learning, of course, learning must take sides and give independence to students. Independent learning, allows students to be involved in learning according to their developmental stages and characteristics. Student-centered implies that learning must pay attention to the needs, abilities, and characteristics of students, both in-class and outside-class learning activities. The new paradigm learning is a learning transformation intervention at the educational unit level. In practice, learning transformation is an effort to change conventional learning towards student-centered learning, oriented towards strengthening competence and character development in accordance with Pancasila values. Besides that, learning is designed to be carried out based on the principle of

differentiated learning, namely the learning process must pay attention to the development, needs, and characteristics of students (Ministry of Education and Culture 2021).

In the Regulation of the Minister of Education and Culture No. 16 of 2022 concerning process standards in early childhood education, the education level, and the education level, it is stated that the learning process standards consist of lesson planning, implementation of learning, and assessment of the learning process. Furthermore, according to the Minister of Education and Culture No. 16 of 2022 concerning process standards in article 7 paragraph (2) in the learning process in the independent curriculum, various strategies can be used. Which provides a meaningful learning experience with the characteristics (a) Provides opportunities to apply the material to real problems and contexts; (b) encourages the active participation of students; (c) optimizes the use of available resources within the education unit and/or community environment.

From the above statement, it can be concluded that learning the new paradigm is a student-centered learning concept by carrying out continuous assessments and also implementing a learning process that implements differentiated learning.

Framework of thinking

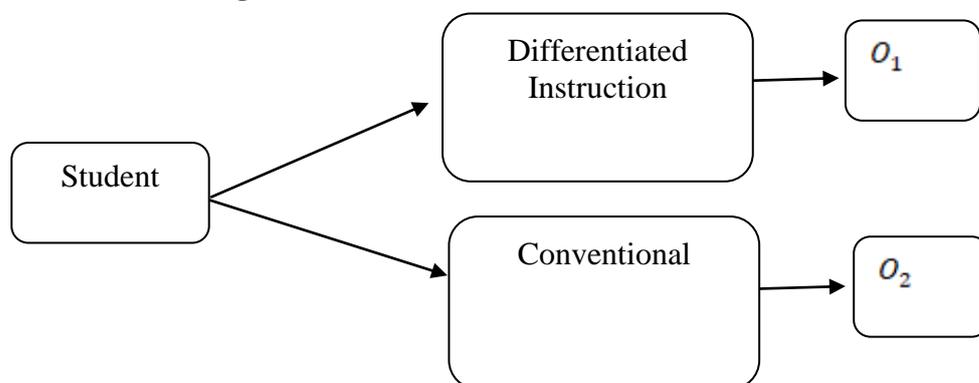


Figure 1. Framework for Thinking

Information:

O_1 = Students' ability in writing procedure text through implementation of differentiated instruction

O_2 = Students' ability in writing procedure text without implementation of differentiated instruction (conventional)

Hypothesis

H_0 = There is no difference in students' writing ability through implementation differentiated instruction

H_1 = There is difference in students' writing ability through implementation differentiated instruction

MATERIALS & METHODS

The research conducted in this study used a mixed-method approach, combining qualitative and quantitative data. The research location was SMA Negeri 1 Wonosari, Boalemo Regency, Gorontalo Province, and the design used was a Nonequivalent (Pretest and Posttest) Control Group Design. The study aimed to compare the effectiveness of differentiated instruction and conventional teaching in teaching writing skills, specifically procedure texts. The population consisted of 128 students, and the sample included two classes (one experimental and one control class) selected through purposive sampling. The treatment procedure involved various activities such as pre-tests, grouping students based on learning styles and readiness, teaching language features of procedure texts, and implementing differentiated instruction in content, process, and product. Data were collected through surveys and tests, and a scoring rubric was used to assess student writing. The data analysis involved calculating averages, standard deviations, and variances, as well as conducting a t-test for comparing the pre-test and post-test results. The study aimed to examine the relationship between the independent variable (differentiated instruction) and the dependent variable (writing skills).

RESULT

This research aims to know any difference of students' ability in writing procedure text who were taught through implementation differentiation instruction and conventional teaching. In doing so, the researcher employed several procedures tests and survey to obtain the effect of treatments on the students as well as the preferences and learning styles of each student, which were analyzed quantitatively and qualitatively. The data was obtained using an essay test, which was assessed by using a scoring rubric from Brown (2007) to assess whether aspects of student writing is affected.

The data description of the study

Data description served to describe the data that has been collected from field data sources. The data itself found from survey and the result of pretest and posttest in experiment class and control class.

Survey Analysis

The analysis of 32 surveys provided insights into the preferences and learning styles of students in relation to learning English, specifically in writing procedure texts. The students demonstrated diverse interests and aspirations, with a motivation to succeed and bring happiness to their parents. Incorporating multimedia and music into English language instruction could enhance their engagement. The students expressed a fascination with cultural experiences and a desire to explore different parts of the world, which can be leveraged to incorporate global perspectives into instruction. In terms of favorite subjects, students had individual inclinations, with some showing interest in religion and others expressing a dislike for chemistry. These preferences can guide teachers in designing instructional strategies that align with students' interests and strengths. The surveys also revealed variations in learning styles, with students preferring guidance from others and hands-on demonstrations when learning new things. Repetitive learning and a preference for group learning

were also identified. Teachers can incorporate direct instruction, practical examples, review activities, and collaborative projects to cater to students' preferred learning approaches. Students preferred a quiet and calm classroom environment for optimal concentration, and teachers can create such an atmosphere to minimize distractions. Extension activities and additional resources can be provided for students who finish their work early, keeping them engaged. Repeated explanations and demonstrations were valued by students for improving their learning. In summary, the analysis highlights the importance of recognizing and accommodating individual preferences and learning styles. By incorporating multimedia, encouraging collaboration, adapting classroom environments, and employing repetitive instruction, teachers can optimize student engagement, motivation, and writing ability in the context of procedure texts. Students' preference for writing recipes and manuals can be attributed to their familiarity with

these topics in their daily lives, giving them confidence and background knowledge.

Pre-test and Post-test Result of Differentiated instruction (Experiment Group) and Conventional teaching (Control Group)

Pre-test and Post-test Result of Experiment Group Pretest

The purpose of the pretest was to assess the students' English proficiency level before implementing differentiated instruction. The data obtained from the pretest in the Experiment Group shows a range of scores, with the highest score recorded as **56.9** and the lowest score as **41.3**. The median score, representing the middle value of the data, is **48.45**. The mode, which is the most frequently occurring score, is **44.40**. The standard deviation is calculated as **4.2**, indicating the average amount of deviation from the mean score. Additionally, the variance is reported as **17.69**, representing the spread of the scores. As in the table below:

Table 1. Summary of data results in the Pretest class for the Experiment Group

Data	N	Score Min	Score Max	Variant	Median	Mode	Standard Deviation
Pre Test (Experimental Class)	32	41.3	56.9	17.69	48.45	44.40	4.2

Table 2. The list of frequency distribution of Experiment Group pretest scores (differentiated model)

List of Frequency Distribution		
Interval Grade	Absolute frequency (F)	Relative frequency (%)
41-43	4	13%
44-46	5	16%
47-49	9	28%
50-52	7	22%
53-55	6	19%
56-58	1	3%

The information provided in table 1 reveals the results of the Pre-Test conducted in the Experiment Group, where differentiated instruction was implemented. The scores obtained by the students in this group range from 41 to 58. Among the students in the Experiment Group, the most common score range is between 47 and 49, with 9 students falling within this range. On the other hand, the score range of 56 to 58 is the least frequent, with only 2 students achieving scores in this range. By using a graph, it can be shown as in the following:

Post test

The purpose of the post-test was to assess the students' proficiency in writing procedural texts before implementing differentiated instruction. The data collected from the post-test in the experimental class indicates a range of scores. The highest score recorded is 88.13, while the lowest score is 68.57. The median score, representing the middle value of the data, is 77.50. The mode, which is the most frequently occurring score, is also 77.50. The standard deviation is calculated as 4.7,

indicating the average amount of deviation from the mean score. Additionally, the

variance is reported as 22.15, representing the spread of the scores.

Table 3. Summary of data results in the Post test class for Experiment Group

Data	N	Score Min	Score Max	Variance	Median	Mode	Standard Deviation
Post Test (Experimental Class)	32	68.57	88.13	22.15	77.50	77.50	4.7

Table 4. The list of frequency distribution of Experiment

List of frequensi distribution		
Interval Grade	Interval Grade	Absolute Frequency
68-71	1	3%
72-74	7	22%
75-77	4	13%
78-80	10	31%
81-83	4	13%
84-86	4	13%
87-89	2	6%
Total	32	100%

The information presented in Table 3 provides insights into the Post-Test results of the Experiment Group, where differentiated instruction was implemented. The scores obtained by the students in this group range from 68 to 89. Among the students in the Experiment Group, the most common score range is between 78 and 80, with 19 students falling within this range. On the other hand, the score range of 68 to 71 is the least frequent, with only 1 student achieving a score in this range.

Table 5. Pre-test and Post-test Result

Criteria	Pre-test	Post-test
Maximum Score	56.9	88.13
Minimum Score	41.3	68.75
Total	1545	2506.97
Average	48.28	78.34

Source: Analyzed Data, 2023

The provided tables present a comprehensive analysis of the pre-test and post-test results. In the pre-test, the highest score achieved was 56.9, while the lowest score recorded was 41.3. The total score for the pre-test was 1545, with an average score of 48.28. In the post-test, the maximum score reached was 88.13, and the minimum

score was 68.75. The total score for the post-test was 2506.97, and the average score was 78.34. These findings indicate a notable improvement in performance from the pre-test to the post-test, with higher scores observed in the post-test phase.

Pre-test and Post-test Result of Control Group

Pre-Test

The purpose of the pretest was to assess the proficiency of students in writing procedure texts prior to implementing conventional learning methods. The data collected represents the pretest scores from the control class, revealing a maximum score of **58.8** and a minimum score of **37.5**. The median score, which represents the middle value in the dataset, is **47.80**. The mode, or the most frequently occurring score, is **43.10**. The standard deviation is calculated as **4.2**, indicating the average amount of deviation from the mean score. Additionally, the variance is reported as **29.44**, representing the spread of the scores. As in the table below:

Table 6. Summary of data results in the pretest Control Group

Data	N	Score Min	Score Max	Variant	Median	Mode	Standard Deviation
Pre-Test (conventional Class)	32	37.5	58.8	29.44	47.80	43.10	4.2

Table 7. Frequency distribution of Control Group pretest scores

List of frequensi distribution		
Interval Grade	Interval Grade	Absolute Frequency
37-40	1	3%
41-44	8	25%
45-48	7	22%
49-52	13	41%
53-56	2	6%
57-60	1	3%
Total	32	100%

Table 7 displays the distribution of results across six interval ranges, which span from 37 to 60. Within the control group, the most frequent range observed is 49-52, with 13 students falling within this category. On the other hand, the least frequent ranges are 37-40 and 57-60, each containing only one student. By using a graph, it can be shown as in the following

Post Test

The purpose of the post-test was to evaluate the proficiency of students in writing procedure texts after implementing

conventional learning methods. The data collected from the post-test in control classes revealed a maximum score of **81.9** and a minimum score of **58.1**. The median score, representing the middle value in the dataset, is **71.30**. The mode score, indicating the most frequently occurring score, is **68.80**. The standard deviation is calculated as **5.1**, representing the average amount of deviation from the mean score. Additionally, the variance is reported as **26.80**, reflecting the spread of scores in the dataset.

Table 8. Summary of data results in the Pretest class for the Control Group

Data	N	Score Min	Score Max	Variance	Median	Mode	Standard Deviation
Post Test (Control Class)	32	58.1	81.9	26.80	71.30	68.80	5.1

Table 9. Frequency distribution of Posttest values for the Control Group

List of frequensi distribution		
Interval Grade	Interval Grade	Absolute Frequency
58-61	2	6%
62-65	0	0%
66-69	9	28%
70-73	9	28%
74-77	8	25%
78-81	3	9%
82-85	1	3%
Total	32	100%

Table 9 presents the distribution of results across seven interval ranges, spanning from 58 to 85. Within the control group, the most frequent ranges observed are 66-69 and 70-73, with 18 students falling within each of

these categories. Conversely, the least frequent range is 82-85, consisting of only one student. By using a graph, it can be shown as in the following

Table 10. Score distribution of Posttest values for the Control Group

Criteria	Pre-test	Post-test
Maximum Score	58.8	81.9
Minimum Score	37.5	58.1
Total	1515.9	2288.1
Average	47.37	71.50

Source: Analyzed Data, 2023

The pre-test scores were analyzed to assess participants' performance before any treatment or learning intervention. The maximum pre-test score was 58.8, representing the highest achievement observed in the pre-test group, while the minimum score was 37.5, indicating the lowest level of performance within the same group. These scores highlight the range of aptitude and proficiency among participants before the treatment. Moving to the post-test scores, the maximum score increased to 81.9, suggesting improvement or mastery of the assessed criterion compared to the pre-test. However, the minimum post-test score was 58.1, indicating that not all participants achieved the same level of advancement. The total scores for the pre-test and post-test reflected the cumulative performance of all participants, amounting to 1515.9 and 2288.1, respectively. This difference indicates the overall progress made by participants as a result of the treatment or learning experience. The average score in the pre-test was 47.37, representing the typical performance level before any intervention, while the average score in the post-test increased to 71.50, indicating an overall improvement in performance. These findings suggest that, on average, participants demonstrated enhanced mastery of the assessed criterion following the treatment or learning intervention.

The Combined Value of Post-test Results of Experimental and Control Group

Differentiated instruction is implemented on X B (32 students) as the experimental class and conventional teaching method is implemented on X D (32 students) as

control class. The following are the post-test scores for the experimental class and the control class.

Table 11. Combined Value of Post-test Results of Experimental and Control Group

Criteria	Post-test	
	Experimental Class	Control Class
Maximum Score	88.13	81.9
Minimum Score	68.75	58.1
Total	2506.97	2288.1
Average	78.34	71.50

Source: Analyzed Data, 2023

The post-test results of the experimental and control classes were analyzed to compare their performance. The experimental class achieved a maximum score of 88.13, indicating the highest level of achievement observed in that group, while the control class achieved a maximum score of 81.9. The experimental class also had a minimum score of 68.57, representing the lowest level of performance within that group, whereas the control class had a minimum score of 58.1. The total scores for the experimental and control classes were 2506.97 and 2288.1, respectively, indicating the overall performance of each group. The average score for the experimental class was 78.34, while the control class had an average score of 71.50, representing the typical performance levels in each group. These findings provide insights into the performance disparities between the experimental and control classes and suggest the potential impact of the treatment on the outcomes.

Test data analysis of requirements

Data Normality Test

Normality testing is used to determine the distribution of data where if the data is not normally distributed, then the path test is not feasible to continue, or the results are not feasible to describe the situation in the field for the object under study. Kolmogorov-Smirnov normality test results are seen in table below:

Normality Test Results

Table 12. Normality Test Results

No	Class	Test	L _{count}	L _{table}	Description
1	Experiment	Pre-Test	0.103173	0.156	Normally Distributed
		Post-Test	0.11178	0.156	Normally Distributed
2	Control	Pre-Test	0.07894	0.156	Normally Distributed
		Post-Test	0.07815	0.156	Normally Distributed

Source: Analyzed Data, 2023

The data provided indicates that the scores obtained by both the experimental group and the control group in both the pre-test and post-test assessments follow a normal distribution. This means that the scores are spread out in a predictable manner, with the majority of scores clustering around the mean and fewer scores occurring further away from the mean. In the experimental group's pre-test, the L_{count} value is 0.10317, and the L_{table} value is 0.1576. These values suggest that the distribution of scores in the pre-test is close to a normal distribution. Similarly, in the post-test, the L_{count} value remains consistent at 0.11178, indicating that the distribution of scores in the post-test is also normally distributed. For the control group, the pre-test scores exhibit a similar pattern. The L_{count} value is 0.07894, and the L_{table} value is 0.078943, indicating a normal distribution

of scores. Likewise, in the post-test, the L_{count} value is 0.07815, reaffirming a normally distributed distribution of scores. The similarity between the L_{count} and L_{table} values for each group and test indicates that the scores in both the pre-test and post-test follow a normal distribution pattern. This conformity to normality is important in statistical analysis as it allows for more accurate interpretations and meaningful analyses of the data. Researchers can confidently apply statistical tests and make reliable conclusions based on the assumption of normality.

Homogeneity Test

The homogeneity test is used to determine whether the data obtained from the learning outcomes of students have the same characteristics (homogeneous) or not, which is shown in the table below.

Table 13. Homogeneity test

Statistic	Pre-test		Post-test	
	Experimental	Control	Experimental	Control
F _{count}	1.03		1.21	
F _{table}	1.822		1.822	
Conclusion	Homogenous		Homogenous	

Source: Analyzed Data, 2023

Based on the F_{count} values and the corresponding F_{table} value, the conclusion states that the data in both the experimental and control groups is homogenous. This implies that there is no significant difference in variances between the groups for both the pre-test and post-test assessments. In summary, the F_{count} values represent the calculated F-statistics for the pre-test and post-test data in the experimental and control groups. The F_{table} value serves as a reference value for comparing the F_{count} values. The conclusion of homogeneity indicates that there is no significant

difference in variances between the groups, suggesting that the groups are comparable in terms of variability.

T-Test

After providing the previous finding, here is presented the table that represents the t-test regarding the collected data.

Table 14. T test result

Test	Characteristics		Result	Description
	T _{count}	T _{table}		
T-Test	5.53	1.822	T _{count} > T _{table}	H ₀ Rejected

Source: Analyzed Data, 2023

The t-test conducted in this study aimed to determine if there is a significant difference in students' writing ability when differentiated instruction is implemented. The results of the t-test led to the rejection of the null hypothesis, indicating that differentiated instruction has a measurable impact on students' writing ability. The analysis of the data showed that the experimental group, which received the treatment, had higher scores in the post-test compared to the control group, suggesting that the treatment had a positive effect on student performance. The analysis of maximum and minimum scores, total scores, and average scores further supported the notion that the treatment led to improved performance. These findings highlight the importance of targeted instructional approaches and suggest that further research on the specific elements of the treatment would be valuable for enhancing student achievement.

DISCUSSION

The present study investigated the impact of implementing differentiation instruction on students' ability to write procedure texts in English language teaching. The findings revealed diverse preferences among students, and understanding these preferences can help teachers design engaging learning experiences. Students favored hands-on demonstrations and guidance from others, indicating a need for explicit instruction and practical application. Teachers can incorporate modeling and step-by-step guidance to support comprehension and skill development. Students showed variations in preferences for individual or group learning, so a balance of independent and collaborative tasks can be beneficial. Creating a calm classroom environment and providing self-paced activities can enhance concentration and engagement. By adopting differentiation instruction strategies, teachers can address diverse needs and promote engagement, motivation, and writing proficiency. The study also

implemented treatments involving differentiated instruction in content, grouping, readiness, and product, as well as reflective practices. Further research is needed to explore the long-term effects of differentiation instruction. The findings align with prior studies, but limitations exist, such as time constraints and small sample size. Differentiated instruction can reduce disparities among students and create a more inclusive learning environment. Further research is needed to explore the impact of differentiation instruction across various language skills and content areas. Overall, differentiation instruction has a positive impact on students' writing abilities in procedure texts, but more research is needed in diverse educational settings to fully understand its implications and benefits.

CONCLUSION

The aim of this research is to know any difference of students' ability in writing procedure text who were taught through implementation differentiation instruction and conventional teaching. The findings of this study provide evidence that the implementation of differentiated instruction in English language teaching, specifically focusing on procedure texts, has a positive impact on students' writing abilities. The results align with previous research by Argyropoulou (2021) and Ibrahim and Abdullah (2020), highlighting the effectiveness of differentiated instruction in enhancing students' language skills. By tailoring instruction to individual learning needs, preferences, and readiness, differentiation creates a more inclusive and equitable learning environment, allowing students to make significant improvements in their writing performance. The findings also suggest that differentiated instruction has the potential to reduce disparities among students in terms of their writing abilities, addressing the diverse strengths and challenges that learners bring to the classroom. By recognizing and accommodating individual differences,

teachers can create a personalized learning experience that promotes engagement, motivation, and academic success. However, it is important to acknowledge the limitations of this study, such as the constraints related to time and the focus on a specific genre and language skill. Further research is needed to explore the broader impact of differentiated instruction in different language learning contexts and to examine its long-term effects on students' overall language proficiency. In summary, this research provides valuable insights into the benefits of differentiated instruction in English language teaching. Educators and curriculum developers can consider incorporating differentiated strategies and approaches to cater to the diverse needs of learners, ultimately fostering more effective and inclusive language learning environments.

The researcher provides suggestions for students, teachers, and future researchers based on the findings of the study. Students are encouraged to actively engage in their own learning process by identifying their preferences and learning style, aligning their studies with their interests, and tailoring their study techniques accordingly. Teachers are recommended to implement differentiated instruction by incorporating a variety of teaching strategies, materials, and assessments, providing options for students to choose topics or assignments, utilizing flexible grouping strategies, and offering clear instructions and scaffolding. Future researchers are encouraged to increase sample size and diversity, conduct longitudinal studies, explore subject-specific contexts, investigate the impact on motivation and attitudes towards learning, and incorporate qualitative research methods to gain a deeper understanding of differentiated instruction. By following these recommendations, students can enhance their learning outcomes, teachers can meet the diverse needs of students, and future researchers can advance the field of differentiated instruction and contribute to evidence-based strategies.

While this study provides valuable findings and implications, it is important to acknowledge and address its limitations. The small sample size limits the generalizability of the findings, and future research should include a larger and more diverse sample. The study's focus on a specific educational context may restrict the transferability of the results, and further research should replicate the study in different settings. The reliance on self-report measures may introduce response bias, and future research could employ a multimodal approach to gather more comprehensive data. Additionally, the study primarily focused on short-term effects, and longitudinal research is needed to assess the long-term impact of differentiated instruction. Furthermore, the study primarily considered students' perspectives, and future research should incorporate teachers' insights to gain a more comprehensive understanding. By addressing these limitations, researchers can improve the design and execution of studies on differentiated instruction and enhance our understanding of its benefits and limitations in diverse educational contexts.

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