

THE EFFECTIVENESS OF USING YOUTUBE MEDIA ON JUNIOR HIGH SCHOOL STUDENTS' PROCEDURAL TEXT WRITING SKILLS

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ABSTRACT

This study investigates the effectiveness of YouTube as a learning medium in improving students' procedural text writing skills. A quantitative quasi-experimental design with a non-equivalent control group pretest–posttest was employed. The sample consisted of two eighth-grade classes at SMP Negeri 19 Medan, with 30 students in the experimental group and 26 in the control group. Data were collected through writing tests assessed using an analytic rubric covering structure, content, sequence, language use, and mechanics. The findings revealed that both groups showed improvement after treatment, with the experimental group demonstrating relatively higher gains, particularly in structure, sequence, and language aspects. The paired sample t-test indicated significant improvement in both groups ($p < 0.05$). However, the independent sample t-test showed no significant difference between the groups ($p > 0.05$). N-Gain scores were low in both groups (0.29 experimental; 0.27 control), and the effect size was small. In conclusion, YouTube tends to improve students' writing skills but does not yield a statistically significant advantage over conventional instruction. The results suggest that the effectiveness of YouTube depends on its integration with appropriate teaching strategies.

Keywords: YouTube as learning media, Procedural text writing, Writing skills improvement, Quasi-experimental design

ABSTRAK

Penelitian ini mengkaji keefektifan YouTube sebagai media pembelajaran dalam meningkatkan keterampilan menulis teks prosedural siswa. Desain kuantitatif kuasi-eksperimental dengan kelompok kontrol yang tidak setara serta pengukuran pra-tes dan pasca-tes digunakan dalam penelitian ini. Sampel penelitian terdiri dari dua kelas kelas delapan di SMP Negeri 19 Medan, dengan 30 siswa di kelompok eksperimen dan 26 siswa di kelompok kontrol. Data dikumpulkan melalui tes menulis yang dinilai menggunakan rubrik analitik yang mencakup struktur, isi, urutan, penggunaan bahasa, dan mekanika. Temuan menunjukkan bahwa kedua kelompok mengalami peningkatan setelah perlakuan, dengan kelompok eksperimen menunjukkan peningkatan yang relatif lebih tinggi, terutama dalam aspek struktur, urutan, dan bahasa. Uji t sampel berpasangan menunjukkan peningkatan yang signifikan pada kedua kelompok ($p < 0,05$). Namun, uji t sampel independen menunjukkan tidak ada perbedaan yang signifikan antara kedua kelompok ($p > 0,05$). Skor N-Gain rendah pada kedua kelompok (0,29 eksperimental; 0,27 kontrol), dan ukuran efeknya kecil. Kesimpulannya, YouTube cenderung meningkatkan keterampilan menulis siswa tetapi tidak memberikan keunggulan yang signifikan secara statistik dibandingkan dengan pengajaran

konvensional. Hasil ini menyarankan bahwa efektivitas YouTube bergantung pada integrasinya dengan strategi pengajaran yang tepat.

Kata kunci: YouTube sebagai media pembelajaran, Penulisan teks prosedural, Peningkatan keterampilan menulis, Desain kuasi-eksperimental

A. INTRODUCTION

Learning media are tools or intermediaries used to support and facilitate the teaching and learning process. Simply put, media means aids, while learning is the process of assisting students in learning activities (Haptanti, Hikmah and Basuki, 2024). The use of learning media plays a crucial role in improving learning outcomes because it can clarify the delivery of information, streamline the learning process, and enhance student understanding (Azzahra Kamila Cahyani Masdar *et al.*, 2024). Furthermore, media can attract attention, increase learning motivation, and help overcome limitations of space, time, and the senses. Psychologically, media can stimulate learning interest, facilitate conceptual understanding, and provide a more meaningful learning experience (Haptanti, Hikmah and Basuki, 2024). Therefore, the appropriate use of media can help students be more active and understand the material better. In Indonesian language learning, student learning outcomes can be seen through writing skills, particularly in writing procedural texts. YouTube is an audio-visual-based medium that presents a variety of information in an engaging and easily accessible manner (Usman, 2021). Procedural texts are texts that contain objectives and steps to achieve a specific result (Alviana, Mudiono and Arafik, 2025).

Assessment of procedural text writing skills includes the accuracy of structure and the use of linguistic rules, such as command sentences, imperative verbs, sequential conjunctions, as well as correct spelling and punctuation. Thus, the ability to

write procedural texts reflects students' understanding of text structure, including objectives, materials (if necessary), and steps arranged in a coherent and logical manner. Writing skills are the ability to express ideas, concepts, and experiences in a systematic and logical written form. These skills are not only technical but also crucial in supporting students' written communication skills (Missa *et al.*, 2024). One important writing skill to be learned at the junior high school level is writing procedural texts. These texts serve as instructions explaining the steps involved in carrying out an activity. Therefore, mastering procedural texts can help students understand the sequence of work sequentially and improve their practical and communicative skills. To support learning to write procedural texts, engaging media that are in line with technological developments are needed. One such medium is YouTube. This channel presents cooking videos with clear, coherent, and easy-to-understand steps. These videos can serve as concrete examples in teaching procedural texts. The use of YouTube in writing lessons aims to increase students' motivation, interest, and understanding in systematically composing procedural texts (Wibowo, Gunawan and Hidayat, 2025).

YouTube is an audio-visual-based medium that presents a variety of information in an engaging and easily accessible manner (Usman, 2021). Through YouTube, students can directly see examples of the steps in a procedure. One example of a relevant channel is Devina Hermawan's channel, which can be accessed through the link <https://www.youtube.com/@devinaherm>

awan. This channel presents cooking videos with clear, coherent, and easy-to-understand steps. These videos can serve as concrete examples in teaching procedural texts. Using YouTube in writing lessons aims to increase students' motivation, interest, and understanding in systematically composing procedural texts (Wibowo, Gunawan and Hidayat, 2025). Through videos, students can directly understand the sequence of activities, language use, and structure of procedural texts. Furthermore, learning becomes more interactive and less monotonous, enabling students to be more active in the learning process. YouTube also functions as a medium that can enhance students' creativity and digital literacy. Students not only receive information but can also analyze and develop ideas from the videos they watch into written work. This makes writing learning more engaging, creative, and meaningful.

YouTube was chosen because it can present information visually and audibly, making it easier to understand than conventional methods. Students can directly see the process or steps of an activity, making it easier to understand the structure of procedural texts. In addition, this media is also in accordance with students' habits in the digital era, so that learning becomes more contextual and relevant. Based on this description, the study entitled "The Effectiveness of Using YouTube Media on the Writing Skills of Procedural Texts of Grade VIII Junior High School Students" is important to conduct. This study aims to test the effectiveness of using YouTube in improving students' writing skills through an appropriate research design. The results of the study are expected to provide benefits for teachers in selecting effective learning

media and improving students' abilities in writing procedural texts effectively.

B. METHODS

Research Design

This research used a quantitative approach with a quasi-experimental method. Quasi-experimental methods are appropriate in the school context because researchers typically work with pre-formed classes (intact groups), making individual randomization difficult. However, testing the effect of the treatment can still be done through before-after measurements and comparisons with a control group (de Vocht et al., 2021; Denny et al., 2023). This method is used to determine the effect of a particular treatment on a controlled condition. The design used was a Non-equivalent Control Group Pretest–Posttest Design, involving two groups (the experimental and control classes) who were both given pretests and posttests, but only the experimental class received the treatment (Denny et al., 2023). This design is robust for evaluating educational interventions because it allows for analysis of score changes (gains) as well as comparison of final results between groups (Denny et al., 2023). A quantitative approach was used to test the effectiveness of using YouTube videos on students' procedural text writing skills through statistical calculations. The Non-equivalent Control Group Design scheme (Juni Agus Simaremare, Ratna Sari Hutaeruk and Harlen Simanjuntak, 2023) is shown, with O1 as the pretest for the experimental group, O2 as the posttest for the experimental group, X as the treatment using video tutorials, and O3.

Table 1. Research Desain

Group	Pretest	Treatment	Posttest
Experiment	O ₁	X	O ₂
Control	O ₃	-	O ₄

Information:

O₁ and O₃ = Pretest

X = Learning with Youtube

O₂ dan O₄ = Posttest

Population and Sample

The population was all students of SMP Negeri 19 Medan in the even semester of the 2025/2026 academic year. The sample was determined using cluster sampling (based on class), namely two comparable eighth-grade classes: one as an experimental class with 30 students and one as a control class with 26 students. The use of nonequivalent groups requires caution regarding validity threats (e.g., selection bias), so a pretest was used to capture the initial conditions as a basis for comparison. The research was conducted at SMP Negeri 19 Medan in the even semester of the 2025/2026 academic year. The study was planned to last approximately 3–4 weeks, adjusting the learning schedule and meeting allocation for the treatment.

Measurement

This study used a pre-test and post-test to collect data. To collect data, the study administered a writing assessment. Students were asked to write procedural texts on various topics. The purpose of this test was to assess students' writing skills both before and after the treatment (Ichsan *et al.*, 2025). Assessment of procedural text writing skills is generally conducted using an analytical rubric, which is an assessment based on several aspects that are assessed separately and combined into a total score (Nisa *et al.*, 2022).

Thus, the calculation of the Maximum Score is as follows:

a. *Maximum score*

Number of aspects: 5

Maximum score per aspect: 4

Total maximum score: $5 \times 4 = 20$

Therefore, the overall maximum score is 20.

b. Final Score

To convert the score to a scale of 0–100, use the following formula:

Final Score:

$$\text{Score} = \frac{\text{Obtain Score}}{\text{Maximum Score}} \times 100$$

Since the maximum score is 20, then:

$$\text{Score} = \frac{\text{Obtain Score}}{20} \times 100$$

The assessment categories in this study were based on a range of scores to determine students' ability to write procedural texts. A score of 86–100 was categorized as excellent, 76–85 as good, 66–75 as adequate, and ≤ 65 as poor. These categories indicate students' level of mastery of the aspects of procedural text writing. The assessment was conducted using an analytical rubric that covered text structure, content appropriateness, step sequence, language use, and spelling and punctuation. Thus, these assessment categories provide a concise and clear overview of students' writing abilities. From the assessment categories above, the assessment rubric for Writing Procedural Text Skills can be determined, compiled based on the practice of assessing procedural texts used by researchers in assessing the structure and linguistic characteristics of writing procedural texts as follows (Arizal, Mardiaty and Jumiatik, 2021)

Table 2. Rubric Assessment Categories

No	Aspects Assessed	Score 4 (Very Good)	Score 3 (Good)	Score 2 (Fair)	Score 1 (Poor)
1	Text Structure (Objective, Materials/ Tools, Steps)	Complete and systematic	Complete but not systematic	Incomplete	Tottaly incomplete
2	Content Suitability	Very on-point and logical	Quite appropriate	Not quite right	Inappropriate
3	Clarity and Sequential Steps	Consistent, clear, and easy to understand	Quite consistent	Not coherent	Incoherent and confusing
4	Language Use	Effective sentences and standard language	There are a few errors	Many errors	Language is non-standard and difficult to understand
5	Spelling & Punctuation	No errors	1–2 errors	Several errors	Many errors

Data Analysis

Descriptive statistics: mean, minimum–maximum, and standard deviation for the pretest and posttest in both classes. Each student's writing was assessed using an assessment rubric covering content, structure, organization, language rules, and spelling and punctuation (Wibowo, Gunawan and Hidayat, 2025). The purpose of this test was to assess students' writing skills both before and after the treatment.

To determine the student's ability level before and after treatment, the mean formula is used:

$$M = \frac{\sum X}{N}$$

Description:

M = Mean (average)

$\sum X$ = Total scores

N = Number of students

Calculations are performed for pretest and posttest scores. The next step is to calculate the percentage of feasibility and readability of the data according to the statements given in this calculation (Ningsih and Pritandhari, 2019)

Standard deviation is used to determine the spread of data and the variation in student scores. The standard deviation formula is:

$$D = \sqrt{\frac{\sum (X - M)^2}{N}}$$

Where:

SD = Standard deviation

X = Individual score

M = Mean

N = Number of students

Prior to parametric analysis, prerequisite tests were conducted, including tests of normality and homogeneity of variance. Normality was examined using the Shapiro–Wilk test, which is suitable for different sample sizes and distribution characteristics ((Uhm and Yi, 2023)), while homogeneity of variance was assessed using Levene's test.

Hypothesis Testing

Hypothesis testing was conducted by comparing the improvement (gain) in procedural text writing skills between the experimental and control classes. Gain

was calculated from the difference between posttest and pretest scores. Prior to the difference test, the gain data were tested for normality (Shapiro–Wilk) and homogeneity of variance (Levene). If the prerequisites were met, a two-sample independent t-test was used; if not, a Mann–Whitney U test was used. The test decision was set at $\alpha = 0.05$; if $p < 0.05$, H_0 was rejected.

C. RESULTS AND DISCUSSION

This study aims to analyze the effect of learning treatments on improving student abilities, as measured by pre-test and post-test scores in the experimental and control groups. Descriptive analysis was conducted to provide an initial overview of the data distribution before further testing.

Descriptive Analysis of Research Data

Based on the analysis results, it was found that there was an improvement in all assessment aspects after the learning treatment. The aspects analyzed included structure, content, steps, language, and spelling. In general, all aspects showed an increase in average scores from pre-test to post-test. This indicates an improvement in student abilities after participating in the learning process. Furthermore, this improvement also demonstrates that students are able to adapt to the learning provided. However, the level of improvement in each aspect was not uniform. Therefore, a more detailed analysis of each aspect is necessary to understand the pattern of improvement. Thus, these descriptive results serve as the basis for further analysis at the inferential stage. A description of student learning outcomes before and after the treatment can be seen in Table 3 below.

Table 3. Statistical Description of Pre-test of Experimental and Control Groups

Aspects	Experiment (Mean $\pm$ SD)		Control (Mean $\pm$ SD)	
	Pre	Post	Pre	Post
Text Structure	2,70 $\pm$ 0,87	3,22 $\pm$ 0,89	2,42 $\pm$ 0,97	2,92 $\pm$ 1,02
Content Suitability	2,48 $\pm$ 0,80	2,89 $\pm$ 0,70	2,50 $\pm$ 0,78	2,79 $\pm$ 0,83
Clarity and Sequential Steps	2,33 $\pm$ 0,88	3,15 $\pm$ 0,66	2,25 $\pm$ 1,15	2,88 $\pm$ 1,04
Language	1,85 $\pm$ 0,77	2,59 $\pm$ 0,69	1,79 $\pm$ 0,72	2,21 $\pm$ 0,93
Spelling & Punctuation	1,41 $\pm$ 0,57	1,74 $\pm$ 0,76	1,62 $\pm$ 0,58	1,88 $\pm$ 0,68

Table 3 shows that all aspects experienced an increase in average scores in both the experimental and control groups after receiving the

learning treatment. In the structure aspect, the experimental group experienced an increase from 2.70 to 3.22, while the control group increased

from 2.42 to 2.92. This indicates that the experimental group improved significantly compared to the control group. The greater increase in the experimental group indicates that the treatment had a more effective impact on the structure aspect. Furthermore, the relatively stable standard deviation values indicate that the improvement occurred fairly evenly across students. Thus, the structure aspect is an indicator of learning success in the experimental group.

In the content aspect, both groups also experienced improvement, but the difference in improvement was relatively small. The experimental group increased from 2.48 to 2.89, while the control group increased from 2.50 to 2.79. This indicates that the improvement in both groups tended to be balanced. This indicates that the treatment did not significantly impact the content aspect. Furthermore, the nearly identical initial average scores of both groups indicate that students' initial abilities in this aspect were relatively equal. Thus, the improvement was likely influenced by the general learning process, not just the treatment. Therefore, the content aspect showed a moderate contribution to student achievement.

In the steps aspect, a significant improvement was seen in the experimental group compared to the control group. The experimental group's score increased from 2.33 to 3.15, while the control group's score increased from 2.25 to 2.88. The difference in improvement in the experimental group was greater, indicating that the treatment had a stronger impact on students' ability to understand the steps. Furthermore, the standard deviation in

the experimental group decreased from 0.88 to 0.66, indicating that learning outcomes were more equitable. This indicates that the instruction provided was able to help students understand the procedures more systematically. Meanwhile, in the control group, the variation in scores remained quite high. Thus, the steps aspect demonstrates the effectiveness of the treatment.

In terms of language, both groups also experienced improvement, but the experimental group's improvement was higher. The experimental group's score increased from 1.85 to 2.59, while the control group's score increased from 1.79 to 2.21. This indicates that the treatment contributed to improving students' language skills. However, the average score for this aspect was still relatively low compared to other aspects, indicating that language skills remain a challenge for students. Furthermore, the variation in scores in the control group was higher than in the experimental group, indicating irregularity in improvement. Thus, the treatment had a better impact on improving language skills than conventional learning.

In the spelling aspect, improvement occurred in both groups, but by a relatively small margin. The experimental group improved from 1.41 to 1.74, while the control group improved from 1.62 to 1.88. Although the control group had higher final scores, the improvement in both groups remained relatively low. This indicates that spelling is the most difficult aspect to improve. Furthermore, the low average scores indicate that students still struggle with correct spelling. This could be due to a lack of practice or focus on this aspect. Therefore, specific learning strategies

are needed to improve students' spelling skills.

Overall, the analysis results indicate that the experimental group tended to experience higher improvement than the control group in most aspects, particularly in structure, steps, and language. However, in the content and spelling aspects, the differences in improvement between groups were not significant. This indicates that the treatment has the potential to improve students' abilities, although not optimally in all aspects. Furthermore, the variation in scores in

some aspects indicates that improvement did not occur evenly across all students. Therefore, these descriptive results need to be supported by inferential analysis to determine the significance of differences between groups. Thus, it can be concluded that the treatment resulted in a trend toward greater improvement, although this cannot be statistically confirmed without further testing.

To more clearly compare the pretest and posttest results for each group based on each aspect, a graphical visualization is presented in Figure 1.

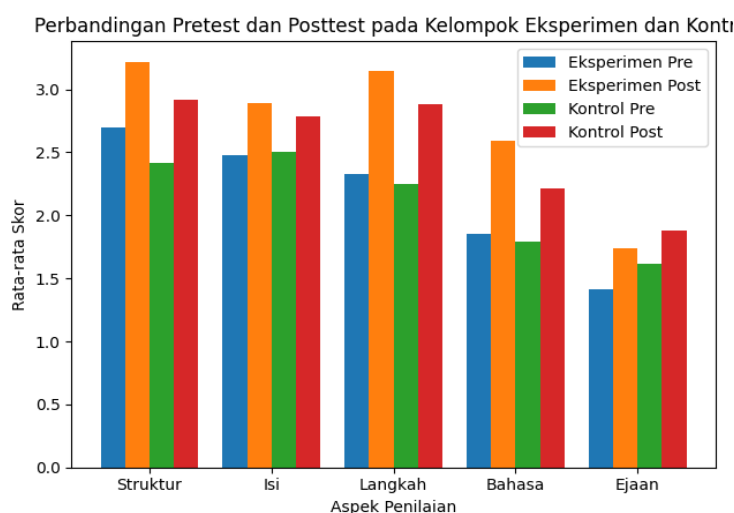


Figure 1. Comparison of Pre-test and Post-test Scores in the Experimental and Control Groups Based on Assessment Aspects

Figure 1 shows that all aspects experienced an increase in scores from pre-test to post-test in both the experimental and control groups. However, the experimental group's improvement tended to be higher than the control group's, particularly in the structure, steps, and language aspects. In the content aspect, the improvement between the two groups was relatively balanced, while in the spelling aspect, the improvement was still relatively low. This graph clarifies that the treatment provided had a better impact on certain aspects. Therefore, this visualization supports the results of the descriptive

analysis, which showed a tendency for higher improvement in the experimental group.

The fulfillment of the normality assumption indicates that the data distribution does not deviate significantly from a normal distribution. This is important because one of the requirements for using parametric statistical tests is that the data must be normally distributed (Hidayatullah, 2022). Furthermore, a normal data distribution allows for more accurate analysis in testing research hypotheses. Therefore, the results of this normality test indicate that the data are suitable for

analysis using parametric statistical tests. Therefore, the analysis can proceed to the next stage, the homogeneity test. By fulfilling the normality assumption, the results of subsequent analysis can be interpreted with greater validity and reliability.

Normality Test

The normality test was performed using the Shapiro-Wilk test. Data are considered normal when the significance value is >0.05 , indicating a normal distribution. The results of the data normality test using the Shapiro-Wilk test are presented in Table 4.

Table 4. Results of Pre and Post Test Normality Tests

Group	Test	Sig	Keterangan
Experiment	Pre-test	0,45 > 0,05	Normal
	Post-test	0,14 > 0,05	Normal
Control	Pre-test	0,09 > 0,05	Normal
	Post-test	0,10 > 0,05	Normal

Based on Table 4, the results of the Shapiro-Wilk normality test indicate that all data have a significance value greater than 0.05. For the pre-test variable, the control group had a significance value of 0.140, while the experimental group had a significance value of 0.445. This indicates that the pre-test data in both groups were normally distributed. Furthermore, for the post-test variable, the control group had a significance value of 0.095 and the experimental group had a significance value of 0.088. Both values are also greater than 0.05, indicating that the post-test data in both groups can be considered normally distributed. Therefore, all data in this study met the assumption of normality.

Meeting the assumption of normality indicates that the data distribution does not deviate significantly from a normal distribution. This is important because one of the requirements for using parametric

statistical tests is that the data must be normally distributed (Field, 2013). Furthermore, a normal data distribution allows for more accurate analysis in testing research hypotheses. Therefore, the results of this normality test indicate that the data are suitable for analysis using parametric statistical tests. Therefore, the analysis can proceed to the next stage, namely the homogeneity test. By meeting the assumption of normality, the results of subsequent analysis can be interpreted more validly and reliably.

Homogeneity Test

The next step is to conduct a homogeneity test. To determine the equality of variance between the experimental and control groups, a homogeneity test was conducted using Levene's Test. The results of the homogeneity test are presented in Table 5.

Tabel 5. Hasil Uji Homogenitas (Levene's Test) Antar Kelompok

Test	Levene Statistic (F)	Sig.	Information
Pretest	0,47	0,50	Homogen
Posttest	2,70	0,11	Homogen

Based on Table 5, the significance value for the pre-test variable was 0.45 and for the post-test it was 0.11. Both values are greater than 0.05, so it can be concluded that the variance between the experimental and control groups is homogeneous. This indicates that the data distribution in both groups is relatively equal and there are no significant differences in variance. Meeting this homogeneity assumption is one of the requirements for using parametric statistical tests, specifically the independent sample t-test. With homogeneous variance, comparisons between the two groups can be conducted more fairly and objectively. Furthermore, this condition

also indicates that the data characteristics in both groups are relatively balanced. Therefore, the analysis can proceed to the hypothesis testing stage. Therefore, the results of this homogeneity test support the use of parametric tests in this study.

Initial Ability Equivalence Test

The initial equality test was conducted to determine whether there were differences in initial abilities between the experimental and control groups before receiving the treatment. The results of the initial equality test using the independent sample t-test are presented in Table 6.

Table 6. Results of the Initial Equivalence Test (Pretest)

Test	t	Df	Sig. (2-tailed)	Information
Pre-Test	0,468	49	0,642	Not Significant

Based on Table 6, the results of the independent sample t-test show a significance value (Sig. 2-tailed) of 0.642, which is greater than 0.05. This indicates that there was no significant difference between the experimental and control groups in the pre-test scores. Therefore, it can be concluded that the initial abilities of both groups were equal before the treatment. Furthermore, the Levene's Test results showed a significance value of 0.497, which is greater than 0.05, indicating that the variances of both groups were homogeneous. Therefore, the interpretation of the t-test refers to the equal variances assumed row. This condition indicates that both groups have a relatively equal distribution of data.

This equality of initial abilities is a crucial requirement in quasi-experimental research because it ensures that differences in outcomes after treatment are not influenced by initial differences between groups. Thus, the treatment can be tested more objectively. Furthermore, these results also indicate that the initial

characteristics of students in both groups are relatively balanced. Thus, the results of this initial equivalence test strengthen the internal validity of the study and allow the analysis to proceed to the next stage, namely the improvement test and the test for differences in learning outcomes. Therefore, it can be concluded that the experimental and control groups had equivalent initial abilities.

Paired Sample t-test

The improvement test within each group was conducted to determine whether there were changes in student learning outcomes before and after the treatment. This test aims to assess the effectiveness of the learning provided to each group, both the experimental and control groups. Analysis was conducted by comparing pretest and posttest scores within the same group. In this study, the improvement test was conducted using a paired sample t-test using SPSS. This test was used because the data being compared came from the same subjects, namely the scores before and after the treatment.

Therefore, this test can indicate whether there has been a significant improvement in each group.

The results of the paired sample t-test were obtained from the Paired Samples Test table in the SPSS output, specifically the significance value (Sig. 2-tailed). The decision-making criteria

are: if the significance value is less than 0.05, there is a significant increase, whereas if the significance value is greater than 0.05, there is no significant increase. The results of the improvement test in the experimental and control groups are presented in Table 7.

Table 7. Results of the Improvement Test (Paired Sample t-test)

Group	Test	Mean	T	Df	Sig. (2-tailed)	Information
Experiment	Pre-test	53,89	-6,391	26	< 0,001	Signifikan
	Post-test	67,41				
Control	Pre-test	51,67	-5,393	23	< 0,001	Signifikan
	Post-Test	63,33				

Based on Table 7, the results of the paired sample t-test indicate that both the experimental and control groups experienced significant improvements in learning outcomes. In the control group, the average score increased from 51.67 in the pre-test to 63.33 in the post-test. The statistical test results showed a significance value of <0.001, which is less than 0.05, thus concluding that there was a significant improvement in the control group.

In the experimental group, the average score increased from 53.89 in the pre-test to 67.41 in the post-test. The test results showed a significance value of <0.001, which is also less than 0.05, thus declaring the improvement in the experimental group significant. Furthermore, the t-value in the experimental group (-6.391) was significantly greater in absolute terms than the control group (-5.393), indicating that the improvement in the experimental group tended to be stronger.

The significant improvements in both groups indicate that the learning process, both with special treatment and conventional learning, contributed to the

improvement in student learning outcomes. This indicates that students experienced development in their abilities after participating in the learning process. However, although both groups experienced significant improvement, this does not necessarily indicate a difference in the effect between the groups. Therefore, further analysis is needed to compare the results between the groups.

Thus, it can be concluded that there was a significant increase in learning outcomes in both the experimental and control groups. However, to determine whether the treatment was more effective than conventional learning, it is necessary to test for differences between the groups using an independent sample t-test.

Learning Outcomes Using N-Gain

This analysis aims to measure student improvement based on a comparison of pre-test and post-test scores. The previously conducted paired sample t-test was used to identify the significance of the improvement in learning outcomes in each group. However, this test did not indicate the

magnitude of the improvement. Therefore, N-Gain analysis was used to measure the level of proportional improvement in learning outcomes, thus

Table 8. Comparison of Pre-Test and Post-Test Values

Group	Pre-Test Mean	Post-Test Mean	Increasing
Control	51,67	63,33	11,66
Experiment	53,89	67,41	13,52

Table 8 shows an increase in learning outcomes in both groups. The control group experienced an increase of 11.66 points, while the experimental group experienced a higher increase of 13.52 points. This indicates that the instruction provided to both groups had a positive impact on student learning outcomes.

Table 9. Descriptive Statistics of N-Gain

Group	N	Mean	Std. Deviation	Category
Control	24	0,27	0,21	Rendah
Experiment	27	0,29	0,22	Rendah

Based on Table 9, the average N-Gain value for the control group was 0.27, while for the experimental group it was 0.29. Referring to the N-Gain interpretation criteria, both values are in the low category ($g < 0.3$). However, descriptively, the N-Gain value for the experimental group was higher than that for the control group.

Table 10. Results of the Independent Sample T-Test N-Gain

Variabel	t-hitung	df	Sig. (2-tailed)
N-Gain	-0,396	49	0,694

Based on Table 10, a 2-tailed significance value (Sig.) of 0.694 was obtained, which is greater than 0.05.

providing a more comprehensive picture of the effectiveness of the learning process.

This indicates that there was no significant difference between the improvement in student learning outcomes in the control and experimental groups.

In addition to the significance test, this study also analyzed the effect size to determine the magnitude of the treatment's influence on improving student learning outcomes. Based on the analysis, a Cohen's d value of -0.111 was obtained, which is in the small category. This finding indicates that the difference in learning outcomes between the two groups was relatively weak. In other words, although the experimental group had a higher average N-Gain score than the control group, the difference in improvement was not large enough to have a meaningful practical impact. This result aligns with the findings of the independent sample t-test, which showed no significant difference between the two groups. Thus, the use of YouTube in learning has not shown a strong impact on improving student learning outcomes.

The low N-Gain values in both groups indicate that the improvement in learning outcomes is still suboptimal. This could be due to several factors, including the relatively short duration of treatment, the suboptimal integration of learning media into learning activities, and limited student engagement in the learning process. Therefore, it can be concluded that the use of YouTube in this study tends to improve learning outcomes, but has not yet produced significant improvements or strong practical effects. This suggests that the effectiveness of learning media is determined not only by the type of media used, but also by the learning strategies implemented to optimize its use.

The results of the study showed that there was an increase in student

learning outcomes in both the experimental and control groups. This was evidenced by a paired sample t-test which showed a significant increase in both groups. However, based on the N-Gain analysis, the level of improvement that occurred was still in the low category. In addition, the results of the independent sample t-test showed that there was no significant difference between the two groups, which means that the use of YouTube media has not been proven to be significantly more effective than conventional learning. This finding can be explained by the characteristics of audiovisual-based learning media. YouTube media as a digital learning medium has the ability to present information visually and contextually, so it can help students understand the material more concretely. The use of YouTube media is also known to increase student attention and engagement in learning (Rosalina, Triyadi and Jaelani, 2024). This is in line with the results of research that showed an increase in learning outcomes in both groups, although the increase was not optimal. However, the results of this study showed that the increase that occurred was still in the low category and did not differ significantly between the experimental and control groups. This indicates that the use of YouTube media has not had a strong impact on improving student learning outcomes. This finding aligns with research that found that using YouTube videos in writing lessons does not necessarily lead to significant improvements without the support of appropriate learning strategies (Audina *et al.*, 2023). Meeting the assumption of normality indicates that the data distribution does not deviate significantly from the normal distribution. This is important because one of the requirements for using parametric statistical tests is that the data must be normally distributed (2024).

Other research also shows that the effectiveness of digital learning media is greatly influenced by learning design and student engagement. , in a meta-analysis study, found that audiovisual media can indeed improve writing skills, but its effectiveness depends on how the media is used in learning (2024). On the other hand, other research has shown conflicting results. This study showed that using YouTube in narrative writing lessons significantly improved student learning outcomes. This is evidenced by the calculated t-value, which is much larger than the table, concluding that YouTube is effective in improving students' writing skills (Aprilia, 2022). This study also showed that using YouTube in language learning can significantly improve students' writing skills, particularly in helping students develop ideas and understand text structure. (Miasari *et al.*, 2022) The differences in these research results may be caused by several factors. First, the duration of the treatment in this study was relatively limited, so it did not have an optimal impact on improving learning outcomes. Second, the learning design used may not have fully maximized YouTube's potential as an interactive medium. Third, diverse student characteristics also influence learning effectiveness, particularly in terms of motivation and learning styles.

The one-way (passive) use of YouTube without accompanying active learning activities, such as discussions, writing exercises, or feedback, can reduce learning effectiveness. This demonstrates that learning media cannot stand alone but must be integrated with appropriate learning strategies. Thus, the results of this study indicate that the use of YouTube in teaching procedural text writing tends to improve learning outcomes, but has not yet had a significant impact. This confirms that the effectiveness of learning media is determined not only by

the type of media used, but also by the quality of the learning implementation itself.

D. CONCLUSIONS

Based on the research results, it can be concluded that learning in both the experimental and control groups was equally effective in improving student learning outcomes, as indicated by significant increases in pre-test and post-test scores. However, the level of improvement based on the N-Gain analysis was still relatively low in both groups. Furthermore, the results of the difference test showed no significant difference in improvement between the experimental and control groups. This indicates that the use of YouTube has not been proven to be significantly more effective than conventional learning. However, descriptively, there was a tendency for higher improvement in the experimental group, but the effect was still relatively small. Based on the research results, it is recommended that teachers integrate the use of YouTube with more active and interactive learning strategies to optimally improve student learning outcomes. Students are expected to be more active in participating in learning and improve their independent practice. Furthermore, future researchers are advised to develop more innovative learning designs and extend the duration of the study. Furthermore, schools are expected to support the use of technology-based learning media to improve the quality of learning.

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