



The Effectiveness of Instagram Application as Learning Media to Improve Writing Skill Student in Biographies

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ABSTRACT

The integration of social media into English instruction offers opportunities to create more engaging learning environments, particularly for developing students' writing skills. This study investigated the effectiveness of the Instagram application as a learning medium for improving biography writing skills among eleventh-grade students at SMA Swasta Daerah Sei Bejangkar during the 2025/2026 academic year. The study employed a quantitative approach with a pre-experimental one-group pre-test and post-test design. From a population of 55 students, 29 students from Class XI-1 were selected through purposive sampling. Data were collected using pre-test and post-test biography writing assessments, supported by observation sheets, questionnaires, and documentation. The findings showed that the students' mean writing score increased from 61 on the pre-test to 77 on the post-test, accompanied by increased participation, interest, and motivation during the learning process. Statistical analysis indicated that the improvement was significant, leading to the acceptance of the alternative hypothesis and rejection of the null hypothesis. The study concludes that Instagram can serve as an effective learning medium for improving students' biography writing skills.

ARTICLE HISTORY

Submitted 20 05 2026
Revised 28 09 2026
Accepted 30 09 2026
Published 03 10 2026

KEYWORDS

Biography writing; instagram; learning media; social media; writing skills.

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DOI: <https://doi.org/10.30743/bahastra.v11i1.13587>

INTRODUCTION

Technology has become an integral component of education in the digital era, particularly in English language teaching and learning. The integration of social media and multimedia technologies has transformed conventional classrooms into more dynamic and engaging learning environments. Although teachers frequently rely on traditional learning resources such as textbooks and whiteboards, previous research suggests that these resources alone may not effectively enhance students' learning outcomes (DiGregorio & Sobel-Lojeski, 2010). Renaldi (2020) similarly found that conventional learning media, despite their accessibility and familiarity to teachers and students, were less effective in improving learning achievement than digital media. The continued reliance on textbooks and board-based instruction can reinforce teacher-centered learning and potentially limit students' opportunities to develop English language skills, particularly writing (Baskoro, 2025; Meliana et al., 2026).

Writing constitutes a fundamental component of academic communication through which individuals construct, organize, and communicate meaning within social contexts. The writing process requires learners to discover and organize ideas, transform them into written form, and subsequently reshape and revise their texts. At the senior high school level, biography text represents one of the text types students encounter in English instruction. A biography presents the life story of a particular individual by describing aspects such as identity, background, struggles, and significant experiences (Fitriani et al., 2019; Soviyah & Etikaningsih, 2018). To produce an effective biography, students need to arrange events chronologically, employ appropriate grammatical structures and past-tense forms, and develop their ideas into coherent paragraphs.

Despite these instructional expectations, many students continue to experience difficulties in writing biography texts. Limited vocabulary can restrict their ability to describe events and experiences accurately, while insufficient ideas can hinder the development of relevant and detailed content. Low motivation during writing activities may further reduce students' willingness to engage actively in the writing process. These difficulties often result in short, insufficiently developed, and poorly organized written texts (Rachma et al., 2023; Ulfiana et al., 2023). Such challenges highlight the need for instructional media that can support idea generation while increasing students' engagement and motivation in writing activities.

Teachers can address these challenges by incorporating innovative and interactive learning media that encourage greater student participation in writing activities. Instagram represents one social media platform that teachers can integrate into English language instruction, and it has become one of the most widely used social media applications on smartphones (Husda et al., 2025; Purba et al., 2023). The name Instagram combines “insta,” derived from “instant,” and “gram,” derived from “telegram.” Its visual and interactive features can provide students with stimuli for developing ideas and encourage more active and creative engagement with writing tasks. Through Instagram, students can observe visual content, communicate opinions, and practice writing within a more engaging learning environment (Fidian, 2020; Nurmayanti et al., 2025).

Previous studies have demonstrated the potential of Instagram to support students’ writing skills and learning motivation. Integrating Instagram into English instruction can create a more interactive learning environment and encourage students to participate actively in writing activities. Existing studies, however, have predominantly examined writing skills more generally, while research specifically investigating the use of Instagram to improve biography writing remains limited. This gap provides a basis for examining whether Instagram can effectively support students in developing the linguistic, organizational, and content-related skills required to write biographies. The present study therefore focuses specifically on the effectiveness of the Instagram application as a learning medium for improving students’ biography writing skills within a particular senior high school context.

Based on this research gap, the present study investigates the effectiveness of the Instagram application as a learning medium for improving students’ biography writing skills at SMA Swasta Daerah Sei Bejangkar during the 2025/2026 academic year. Specifically, the study examines whether students demonstrate improvement in biography writing after receiving instruction through Instagram. By addressing this question, the research seeks to provide empirical evidence regarding the potential contribution of social media-based learning to English writing instruction. The findings can provide pedagogical insights for teachers seeking to integrate familiar digital platforms into writing activities while promoting students’ participation and motivation. This focus aligns with the study entitled “The Effectiveness of Instagram Application as Learning Media to Improve Students’ Biographies Writing Skill at SMA Swasta Daerah Sei Bejangkar in the 2025/2026 Academic Year.”

METHOD

This study employed a quantitative approach with a pre-experimental design using a one-group pre-test and post-test framework. The researcher conducted the study at Daerah Sei Bejangkar Private Senior High School during the 2025/2026 academic year. The research sample consisted of 29 students who participated in the instructional and assessment procedures (Kittur, 2023; Yasin et al., 2024). This design enabled the researcher to examine changes in students’ biography writing performance by comparing their scores before and after the instructional intervention.

The researcher used a biography writing test as the primary instrument for data collection. The writing assessment comprised a pre-test and a post-test, while observation sheets, questionnaires, and documentation provided supporting data for the study. Before administering the instrument to the students, experts validated it to ensure its validity and appropriateness for assessing biography writing skills. The research procedure consisted of three sequential stages: pre-test, treatment, and post-test. During the treatment stage, the researcher used the Instagram application as a learning medium for teaching biography writing.

Table 1. Sample of the Research

Class	Type	Variable	Type
Instagram Media	Pre-test	X	Post-test
Conventional Media	Pre-test	Y	Post-test

The researcher analyzed the collected data using descriptive statistics and a paired-samples *t*-test with SPSS version 25. Descriptive statistics provided an overview of students’ biography writing performance before and after the treatment. The researcher employed the paired-samples *t*-test to determine whether students’ biography writing scores showed a statistically significant improvement following the implementation of Instagram as a learning medium. This statistical procedure compared the pre-test and post-test scores obtained from the same participants. The analysis provided the statistical basis for evaluating the effectiveness of Instagram in improving students’ biography writing skills.

RESULT AND DISCUSSION

Results

The researcher conducted the study from February 24 to February 26, 2026, involving eleventh-grade students at Daerah Sei Bejangkar Private Senior High School. The school is located on Jalan Besar Simpang Sei Bejangkar, Perkebunan Sei Bejangkar Village, Sei Balai District, Batu Bara Regency, North Sumatra Province. The study specifically involved 29 students from Class XI-1 who participated in the complete research procedure. The researcher administered a pre-test before implementing Instagram as a learning medium and a post-test after completing the instructional treatment. Table 2 presents the individual pre-test and post-test scores obtained by the students.

Table 2. Students' Pre-Test and Post-Test Scores

No.	Student Initials	Pre-Test (Before)	Post-Test (After)
1	AF	54	53
2	AR	52	78
3	AP	61	75
4	AT	77	63
5	BA	57	71
6	BF	72	80
7	DW	76	90
8	DC	60	86
9	DS	56	75
10	IP	52	80
11	JY	56	80
12	KK	58	82
13	KF	68	82
14	KU	68	74
15	KQ	58	76
16	MP	71	78
17	ML	54	76
18	MPP	60	82
19	NB	56	74
20	NA	71	78
21	NH	72	78
22	NL	56	72
23	RA	64	72
24	RN	62	78
25	RT	60	88
26	RH	58	74
27	SR	53	80
28	SC	68	82
29	SH	58	76

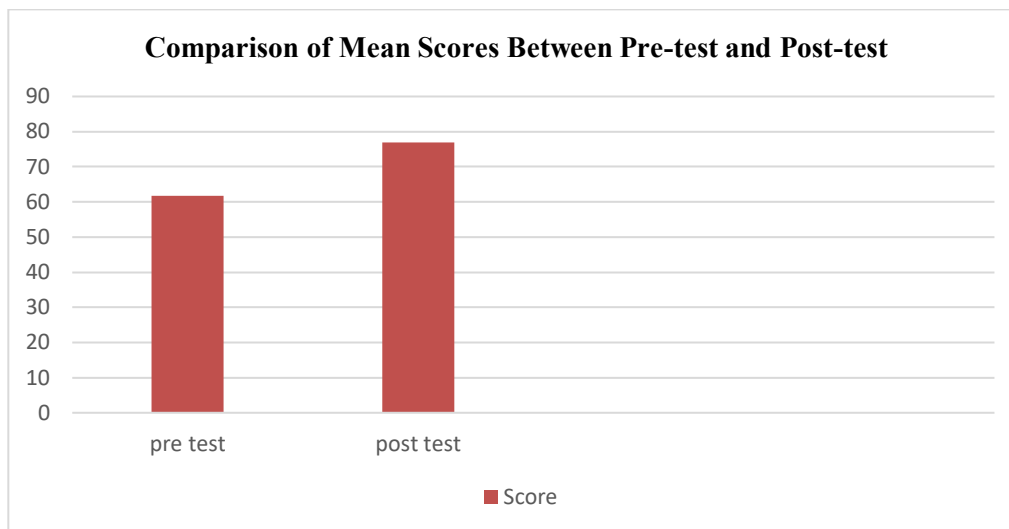
The individual scores presented in Table 2 show changes in students' biography writing performance following the instructional treatment. Most students obtained higher scores on the post-test than on the pre-test, although two students, AF and AT, recorded lower post-test scores. To provide a clearer overview of the overall score distribution, the researcher calculated descriptive statistics for both assessments. These statistics include the number of participants, minimum and maximum scores, mean scores, and standard deviations. Table 3 summarizes the descriptive statistics for the pre-test and post-test.

Table 3. Descriptive Statistics of the Pre-Test and Post-Test

Assessment	N	Minimum	Maximum	Mean	Std. Deviation
Pre-Test	29	52	77	61.66	7.432
Post-Test	29	53	90	77.00	7.091
Valid N (listwise)	29				

Table 3 shows that all 29 students completed both the pre-test and post-test. Pre-test scores ranged from 52 to 77, with a mean score of 61.66 and a standard deviation of 7.432, whereas post-test scores ranged from 53 to 90, with a mean score of 77.00 and a standard deviation of 7.091. The mean score therefore increased by approximately 15.34

points following the implementation of Instagram as a learning medium. Descriptively, this increase demonstrates that students achieved higher overall biography writing scores after participating in the Instagram-assisted learning activities. Inferential statistical analysis was subsequently conducted to determine whether the observed difference between the two assessments was statistically significant.



Graphic 1. Comparison of Mean Scores between the Pre-Test and Post-Test

Graphic 1 visually illustrates the difference between students' mean pre-test and post-test scores. The mean score increased from 61.66 before the treatment to 77.00 after students participated in biography writing activities through Instagram. The visual comparison therefore confirms the descriptive pattern reported in Table 3, with the post-test mean substantially exceeding the pre-test mean. This increase indicates improved biography writing performance following the instructional period. A paired-samples *t*-test was used to establish whether this observed improvement represented a statistically significant difference.

Table 4. Paired-Samples *t*-Test Results

Pair	Paired Difference Mean	Std. Deviation	Std. Error Mean	95% CI Lower	95% CI Upper	<i>t</i>	<i>df</i>	Sig. (2-tailed)
Pre-Test – Post-Test	-15.34483	9.48034	1.76045	-18.95096	-11.73870	-8.716	28	.000

The paired-samples *t*-test identified a mean difference of -15.34483 between the pre-test and post-test scores. Because the analysis calculated the difference as pre-test minus post-test, the negative value indicates that students achieved higher scores on the post-test than on the pre-test. The analysis yielded $t(28) = -8.716$ with a significance value reported by SPSS as .000, indicating a statistically significant difference between the two assessments ($p < .001$). The 95% confidence interval for the mean difference ranged from -18.95096 to -11.73870 and did not include zero, further supporting the statistical significance of the difference. These results provide evidence that students' biography writing performance improved significantly following instruction using Instagram as a learning medium.

Discussion

The findings demonstrate a substantial improvement in students' biography writing performance after the implementation of Instagram-assisted instruction. Students achieved a mean pre-test score of 61.66 and a mean post-test score of 77.00, corresponding to an increase of approximately 15.34 points. Although two students obtained lower post-test scores, the overall distribution indicates that most participants improved their writing performance after the instructional treatment. The paired-samples *t*-test confirmed that the difference between the pre-test and post-test scores was statistically significant, $t(28) = -8.716$, $p < .001$. Within the context of this study, these findings demonstrate that students achieved significantly higher biography writing scores after learning through Instagram.

The post-test results provide further evidence of the improvement observed after the treatment, with scores ranging from 53 to 90 compared with the pre-test range of 52 to 77. The mean difference of -15.34483 reflects the

direction of the comparison used in the statistical analysis rather than a decline in students' performance, because the calculation subtracted the post-test scores from the pre-test scores. The significant statistical result indicates that the improvement between the two measurement points was unlikely to have occurred solely as a result of sampling variation. The findings therefore support the alternative hypothesis (H_a) and reject the null hypothesis (H_o) regarding the difference between students' pre-test and post-test biography writing performance. Within the pre-experimental setting examined in this study, Instagram functioned as an effective learning medium for supporting improvement in students' biography writing skills.

CONCLUSION

This study found a significant improvement in the biography writing skills of eleventh-grade students at Daerah Sei Bejangkar Private Senior High School after the implementation of Instagram as a learning medium during the 2025/2026 academic year. Students' mean score increased from 61.66 on the pre-test to 77.00 on the post-test, while the paired-samples t -test confirmed a statistically significant difference between the two assessments, $t(28) = -8.716$, $p < .001$, leading to the acceptance of the alternative hypothesis (H_a) and rejection of the null hypothesis (H_o). Students also demonstrated greater participation, confidence, interest, and motivation when exploring and presenting biographical content, sharing their work, and providing peer feedback through Instagram. These findings indicate that Instagram provided an interactive and engaging learning environment that supported students' involvement in biography writing activities. Within the context of this study, Instagram functioned as an effective learning medium for supporting improvement in students' biography writing performance.

English teachers can integrate Instagram into biography writing instruction by using its visual and interactive features to facilitate idea development, content presentation, peer interaction, and feedback while maintaining clear instructional objectives. Teachers should combine its use with structured writing activities and continuous feedback to strengthen students' writing development rather than relying exclusively on the social media platform. The findings should nevertheless be interpreted within the limitations of the pre-experimental one-group pre-test-post-test design, which involved only 29 students from a single school and did not include a control group; consequently, the observed improvement cannot be attributed exclusively to Instagram without considering other possible influences. The relatively short research period, from February 24 to February 26, 2026, also limited the study's ability to examine the sustainability of students' writing improvement over time. Future research should involve larger and more diverse samples, incorporate control or comparison groups, extend the duration of the intervention, and examine whether Instagram produces comparable outcomes across different writing genres and educational contexts.

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