Journal of Educational Sciences
Journal homepage: https://jes.ejournal.unri.ac.id/index.php/JES

P-ISSN 2581-1657
E-ISSN 2581-2203

The Effectiveness of Smart Apps Creator-Based Media Integrated With The Genre Process Approach in Improving Grade X Students' Non-Literary Writing Skills

Erva*, Kastam Syamsi
Faculty of Language, Arts, and Culture, Yogyakarta State University, Yogyakarta, 55281, Indonesia

ARTICLE INFO

Article history:

Received: 19 Feb 2026
Revised: 27 Feb 2026
Accepted: 05 March 2026
Published online: 15 March 2026

Keywords:

Genre Process Approach,
Non-Literary Text,
SAC Media,
Writing Skills

** Corresponding author:*

E-mail: ervaagus.2024@student.uny.ac.id

Article Doi:

https://doi.org/10.31258/jes.10.3.p.1173-1187

This is an open access article under the CC BY-SA license.

A B S T R A C T

This study aims to determine the effectiveness of SAC-based media integrated with the genre process approach in improving the non-literary writing skills of Grade X senior high school students. The research employed a quasi-experimental method using a pretest–posttest control group design. The participants were tenth-grade students divided into an experimental class, which received writing instruction using SAC-based media integrated with the genre process approach, and a control class, which was taught using conventional methods. Data were collected through a written essay test on negotiation text material. The findings indicate that SAC-based media integrated with the genre process approach significantly improved students' non-literary writing skills compared to conventional instruction. The posttest comparison between the experimental and control classes yielded a sig. (2-tailed) value of 0.001 (< 0.05), indicating a significant difference in the mean posttest scores of both groups. Furthermore, the analysis of learning improvement in the experimental class, based on pretest and posttest mean scores, also showed a sig. (2-tailed) value of 0.001 (< 0.05), confirming a significant difference before and after treatment. Overall, students taught using SAC-based media demonstrated higher improvement than those taught through conventional methods.

1. Introduction

Writing is a productive and complex language skill that involves higher-order thinking processes such as planning, organizing, and presenting ideas systematically (Saputra & Marzulina, 2016; Haris et al., 2025). It requires coherent development of ideas to ensure clarity for readers, not merely the transformation of spoken language into written form (Nofitasari & Nugraha, 2025). Writing is essential for students because it enables them to express ideas while strengthening

critical and analytical thinking (Nurilah et al., 2025). Mastery of writing allows individuals to communicate ideas, thoughts, feelings, and information effectively (Rohmawati & Wahyono, 2020). For students, writing competence reflects both language mastery and content understanding (Telaumbanua, 2022). Through writing activities, students learn to structure ideas logically, connect prior knowledge with new information, and communicate systematically (Rosyid et al., 2026). Therefore, writing instruction must be implemented in a structured and systematic manner.

In Indonesian schools, writing instruction is part of Indonesian language subjects. Under the Merdeka Curriculum, learning adopts a genre- or text-based approach that emphasizes various text types, including multimodal texts. A text represents the writer's ideas expressed in written form and is generally classified into literary and non-literary categories. Literary texts tend to be subjective and universal, whereas non-literary texts emphasize objectivity and adapt to societal developments (Kusumawati et al., 2015). Non-literary texts present factual and accurate information on specific topics, including observation reports, descriptions, procedural texts, scientific papers, speeches, and advertisements (Setyoningrum et al., 2025). They contain facts and opinions structured to inform, persuade, or influence readers, thereby expanding knowledge (Hasanah & Laili, 2023). In the Merdeka Curriculum, non-literary texts are included in Grade X learning outcomes; thus, mastery of non-literary writing is essential for first-grade senior high school students, including those at SMA Negeri 3 Magelang. However, many students still encounter difficulties in composing such texts effectively.

These difficulties are largely caused by the absence of systematic guidance in the writing process. Teachers often assign tasks without explaining stages such as planning, drafting, revising, and editing. Meanwhile, instructional approaches significantly influence students' understanding of the material (Syamsi & Lestyarini, 2023). In addition, the lack of explicit modeling and iterative feedback during classroom instruction limits students' metacognitive awareness of how ideas are generated, organized, and refined into coherent texts. Without structured guidance, students struggle to generate ideas and organize coherent texts, and they frequently experience uncertainty in aligning their writing with the communicative purpose and structural conventions of non-literary genres. This condition indicates the need for an approach that guides students step by step in writing non-literary texts while simultaneously fostering procedural competence and independent revision skills.

The genre process approach integrates the process and genre approaches to improve writing skills. Babalola (2012) explains that it was developed to address the limitations of applying each approach separately. Gao (2007) states that this approach combines writing process models and genre theory while emphasizing contextual understanding, communicative purposes, text characteristics, and feedback practices. This approach helps students understand the relationship between communicative purposes and textual structures within specific genres. Deng, Chen, and Zhang (2014) note that students recognize these connections through recursive stages such as pre-writing, drafting, revising, and editing, which promote awareness of effective writing processes. It also aligns instruction with

students' real-life experiences by encouraging planning and independent monitoring (Zhang, 2018). Yan (2005) adds that the approach enhances motivation and prepares students to write beyond academic contexts.

Another contributing factor to low writing proficiency is the limited use of innovative instructional media. Writing instruction often emphasizes the final product rather than the process (Fadhila & Rakhmawati, 2024). Teachers commonly collect and assess final texts without providing sufficient process-oriented feedback, which may reduce engagement. Instructional media frequently rely on conventional, one-directional tools such as PowerPoint presentations and LCD projectors. A needs analysis involving 15 Indonesian language teachers in Magelang City and 69 Grade X students of SMAN 3 Magelang revealed that writing instruction lacked a specific approach or model. Approximately 60% of teachers had difficulty attracting students' attention, and around 80% of students experienced challenges in writing lessons. The media used were considered less innovative and insufficiently supportive of engaging learning. The absence of clear writing stages caused confusion when composing non-literary texts, indicating that existing materials have not effectively supported writing development.

To address these issues, interactive technology-based instructional media are needed. Instructional media help students understand concepts and develop skills (Hasan et al., 2021). Gagne (1974) emphasizes that media selection should align with instructional purposes, such as gaining attention, presenting information, or providing feedback. Proper use of media can enhance interaction, reduce boredom, and improve learning outcomes (Nurdyansyah, 2019; Hasan et al., 2021). Technological advancement demands interactive learning environments that foster active engagement. Technology integration increases access to information and improves instructional effectiveness. Mobile learning allows students to access materials flexibly through smartphones without time and space limitations (Mohanna, 2015). Smartphone applications are widely used in language learning and provide significant benefits for teachers and students (Basak et al., 2018; Patwary & Sajib, 2025).

One platform for developing Android-based instructional media is Smart Apps Creator (SAC), which enables application development without programming skills (Nasrullah et al., 2022; Sa'adah et al., 2025). SAC offers user-friendly features, cross-platform flexibility, animation tools, and integrated web services that enhance interactivity (Isrokatun, 2023). These advantages support the development of mobile learning media to facilitate writing instruction. Previous studies show that both Smart Apps Creator and the genre process approach positively affect writing skills. Ratnasari and Ansori (2024) found that Smart Apps Creator improved students' ability to construct effective sentences. Isrokatun et al. (2023) reported increased engagement and thinking skills through SAC. Rachawong and Pushawisot (2025) and Diana Zulita (2024) confirmed that the genre process approach enhanced writing skills and reduced writing anxiety. Based on this background, this study examines the effectiveness of Smart Apps Creator-based instructional media integrated with the genre process approach in teaching non-literary writing to first-grade senior high school students.

2. Methodology

This study used a quasi-experimental method with a pretest–posttest control group design. Pretests and posttests were used to measure students' initial and final abilities before and after treatment. The research subjects consisted of two classes, namely class X/E1 as the experimental class and class X/E2 as the control class at SMA Negeri 3 Magelang. The experimental class was given treatment in the form of the use of SAC (Smart Apps Creator) based learning media integrated with the genre process approach in writing learning, while the control class used conventional learning methods commonly applied by teachers. The pretest and posttest instruments in both classes were in the form of negotiation text writing tests. The research process was carried out in three stages, namely pretest, learning, and posttest activities. Before the treatment learning, the experimental and control classes carried out a pretest activity in the form of writing a negotiation text, then were given treatment learning. The treatment activity for the experimental class was to apply non- literary text writing learning using SAC-based learning media integrated with the genre process approach, while the control class applied conventional learning in accordance with the teachers' habits in the classroom. After the treatment learning activity was carried out, the experimental and control classes returned to work on the posttest questions. The data obtained from the pretest and posttest activities were then analysed using IBM SPSS version 31. Before testing the effectiveness, prerequisite tests were carried out in the form of normality and homogeneity tests. Next, hypothesis testing was carried out using an independent sample t-test to determine the initial abilities and differences in learning outcomes between classes and a paired sample t-test to determine the increase in student learning outcomes in the experimental class.

3. Results and Discussion

The effectiveness of learning media was tested to determine the extent of its influence on the learning process. In addition, it was used to determine whether learning media could improve students' ability to write non-literary texts. To that end, an analysis was conducted on data derived from the pretest and posttest scores of students in the experimental class (given treatment) and the control class. The pretest was conducted before the students were given treatment. The aim was to obtain data on students' initial abilities in writing non-literary texts. Meanwhile, the posttest was conducted at the end of the learning process after the students were given the treatment. The pretest and posttest data are presented below. The following presents the frequency distribution of the pretest and posttest scores for the control group and the experimental group, which can be seen in tables 1 and 2.

Table 1. Frequency Distribution of Pretest and Posttest Scores for the Control Group

Pretest Score			Posttest Score		
Score	**Frequency**	**Percentage (%)**	**Score**	**Frequency**	**Percentage (%)**
40	1	3%	55	1	3%
45	2	6%	60	1	3%

50	5	15%	65	3	9%
55	5	15%	70	6	18%
60	4	12%	75	10	30%
65	8	24%	80	8	24%
70	3	9%	85	3	9%
75	4	12%	90	1	3%
80	1	3%			

Table 2. Frequency Distribution of Pretest and Posttest Scores for the Experimental Group

Pretest Score			Posttest Score		
Score	**Frequency**	**Percentage (%)**	**Score**	**Frequency**	**Percentage (%)**
40	1	3%	80	8	22%
45	1	3%	85	11	31%
50	5	14%	88	5	14%
55	6	17%	90	6	17%
60	8	22%	95	6	17%
65	2	6%			
70	4	11%			
75	5	14%			
80	3	8%			
85	1	3%			

Based on the frequency distribution table, it can be seen that the scores obtained by the experimental group and the control group vary. Most of the pretest scores of the experimental group and the control group are still low. This indicates that some students still have difficulties in learning to write non-literary texts. Meanwhile, the posttest scores of the experimental group also differ from those obtained by the control group. This difference suggests that the instructional treatment contributed to a noticeable shift in students' performance levels, particularly in the experimental group, where a greater proportion of students moved into higher achievement categories after the intervention. The mean pretest and posttest scores of the control group and the experimental group can be seen in the histogram in Figure 1 below.

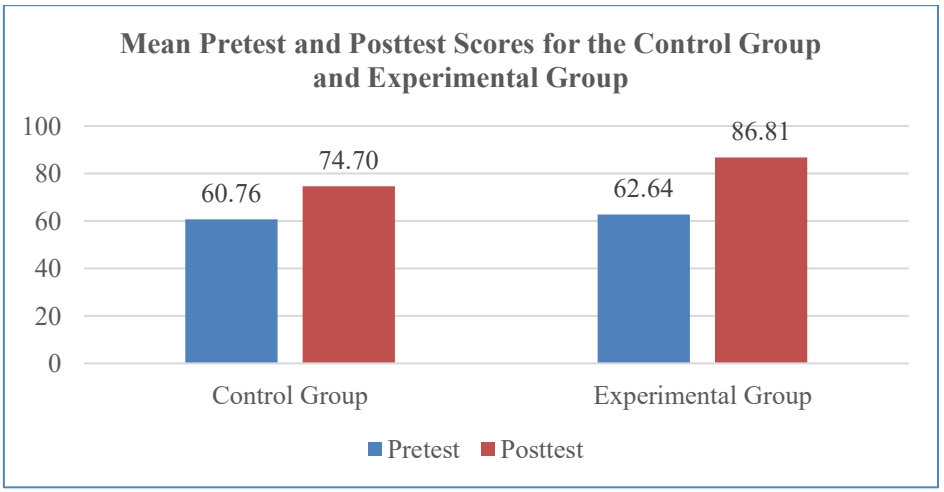

Figure 1. Mean Pretest and Posttest Scores for the Control Group and Experimental Group

The effectiveness of learning media was tested in three ways, namely: (1) testing the initial writing ability of non-literary texts of students in the experimental and control classes, with data taken from the pretest results; (2) testing the difference in learning outcomes between the experimental and control classes, with data taken from the results of the pretest for both classes, and (3) testing the improvement in learning outcomes of the experimental class by comparing the results of the pretest and posttest for the experimental class. The effectiveness test was conducted using IBM SPSS version 31. However, before the effectiveness test was conducted, the researcher conducted a prerequisite test first.

a. Prerequisite Tests

1) Normality Test

Normality tests were conducted to determine whether the pretest and posttest data in the experimental and control classes were normally distributed using IBM SPSS Statistics version 31. Because the sample size was less than 50, the analysis used the Shapiro–Wilk test with a significance level of 0.05. The decision criterion applied was that data are considered normally distributed when the significance value exceeds 0.05, indicating that the distribution does not significantly deviate from normality assumptions required for parametric analysis. Ensuring normal distribution is essential in quasi-experimental research, as it strengthens the validity of subsequent independent and paired samples t-tests used to evaluate treatment effects. The results of the normality test can be seen in table 3 below.

Table 3. Normality Test of Pretest and Posttest Data for the Experimental Class and Control Class

Tests of Normality

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
Experimental Pretest	.176	36	.006	.956	36	.166
Experimental Posttest	.127	36	.192	.939	36	.064
Control Pretest	.148	33	.065	.964	33	.341
Control Posttest	.183	33	.007	.951	33	.147

a. Lilliefors Significance Correction

The test results show that the significance values for the pretest and posttest in the experimental class were 0.166 and 0.064, respectively, while in the control class they were 0.341 for the pretest and 0.147 for the posttest. All of these significance values are greater than 0.05, so the pretest and posttest data in both classes are declared to be normally distributed. These findings confirm that the assumption of normality was fully satisfied, thereby permitting the use of parametric statistical procedures and strengthening the reliability of the subsequent hypothesis testing results. The following are the results of the normality test using IBM SPSS version 31.

2) Homogeneity Test

A homogeneity test is conducted to determine whether the data comes from a population with similar variances. The data is considered homogeneous if the significance value is greater than 0.05, whereas if the significance value is less than 0.05, the data shows variance differences or is heterogeneous. Fulfilling this

assumption of variance homogeneity is important in quasi-experimental research because it ensures that comparisons of means between the experimental and control groups are conducted under statistically equivalent conditions and are not biased due to differences in data distribution. The results of the data homogeneity test can be seen in table 4 below.

Table 4. Results of Homogeneity Tests for Pretest and Posttest Scores of the Experimental and Control Groups

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Pretest Score	Based on Mean	.663	1	67	.418
	Based on Median	.204	1	67	.653
	Based on Median and with adjusted df	.204	1	63.534	.653
	Based on trimmed mean	.664	1	67	.418
Posttest Score	Based on Mean	2.255	1	67	.138
	Based on Median	1.910	1	67	.172
	Based on Median and with adjusted df	1.910	1	58.684	.172
	Based on trimmed mean	1.956	1	67	.167

Based on the results of the homogeneity test, the significance value based on the mean in the pretest data was 0.418 and in the posttest data was 0.138, both of which were greater than 0.05. Thus, it can be concluded that the pretest and posttest data in the experimental and control groups had the same variance or were homogeneous. This result indicates that the variability of scores between the two groups was statistically equivalent, meaning that any subsequent differences in mean performance cannot be attributed to unequal dispersion of data. Therefore, the assumption of homogeneity was fulfilled, allowing the independent samples t-test to be conducted with greater confidence in the validity and comparability of the statistical findings.

b. Product Effectiveness Test

After the prerequisite test was completed and the research data met the prerequisite test results, the data was analysed to test its effectiveness. The product effectiveness test included three forms of testing, namely: (1) testing the initial ability of students in the experimental and control classes to write non-literary texts, with data taken from the pretest results, (2) testing the difference in learning outcomes between the experimental and control classes, with data taken from the pretest results of both classes, and (3) testing the improvement in learning outcomes of the experimental class by comparing the pretest and posttest results of the experimental class. The effectiveness test was conducted using IBM SPSS version 31.

1) Initial Assessment of Students' Abilities

The initial ability test was conducted to determine whether the initial abilities of the experimental class and the control class were the same or different. The independent sample t-test formula was used to test these initial abilities. This test is important in quasi-experimental designs because it ensures that both groups are at an equivalent level of ability before the treatment is given, so that any improvements that occur

after the intervention can be attributed more accurately to the treatment applied. Thus, the results of this test serve as the basis for the internal validity of the study and strengthen the interpretation of the effectiveness of the learning media being tested. The results of the test are shown in table 5 below.

Table 5. Results of Initial Student Ability Tests

				Significance					
		t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Pretest Score	Equal variances assumed	.729	67	.234	.468	1.881	2.580	-3.269	7.032
	Equal variances not assumed	.733	66.973	.233	.466	1.881	2.568	-3.245	7.007

Based on the table, the sig. value (2-tailed) of 0.468, which is greater than 0.05, indicates that there is no significant difference between the mean pretest scores of the experimental class and the control class. This result indicates that both groups had relatively equal initial levels of ability in writing non-literary texts before the treatment was given. This equivalence reinforces the assumption that the differences in learning outcomes that emerged at the posttest stage were not caused by differences in basic abilities, but rather by the influence of the learning intervention applied to the experimental class. Thus, the internal validity of the study is further maintained because the treatment effect can be interpreted more objectively and in a controlled manner.

2) Testing Differences in Student Learning Outcomes

The learning outcome difference test aims to determine whether there is a difference in learning outcomes between students who use non-literary text writing learning media based on the genre process approach and students who learn with other learning resources. This test was conducted to identify the direct impact of the treatment on students' final achievements and to ensure that the improvement in the experimental class was statistically higher than that in the control class. In addition, this analysis provides an empirical basis for determining the relative effectiveness of Smart Apps Creator-based media compared to the conventional learning approach used in the comparison group. The results of the data analysis can be seen in table 6 below.

Table 6. Results of Tests on Differences in Student Learning Outcomes

		t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Posttest Score	Equal variances assumed	7.952	67	<.001	<.001	12.109	1.523	9.069	15.148
	Equal variances not assumed	7.819	55.115	<.001	<.001	12.109	1.549	9.005	15.212

Based on the table, the sig. value (2-tailed) of 0.001, which is smaller than 0.05, indicates that there is a significant difference between the mean posttest scores of the experimental class and the control class. These results indicate that the treatment given to the experimental class had a significant impact on improving non-literary text writing skills compared to the learning in the control class. The difference in the mean scores at the posttest stage indicates that the integration of Smart Apps Creator media with the genre process approach was able to produce more optimal learning outcomes. Thus, this improvement is not only statistical in nature, but also reflects the pedagogical effectiveness of the learning strategy applied.

3) Testing Improvements in Student Learning Outcomes

Before the learning outcome improvement test was conducted, students in the experimental class (X/E1) were first given treatment in the form of Indonesian language learning using smart apps creator media. This test aimed to determine the improvement in students' non-literary text writing skills, which were analysed using the Paired Sample T-test through SPSS version 31. The use of this statistical procedure allowed for a direct comparison between students' pretest and posttest scores within the same group, thereby providing a precise measurement of the magnitude of change attributable to the instructional intervention. The results of the data processing can be seen in table 7 below.

Table 7. Results of Tests on Student Learning Achievement Improvement

		Paired Differences							Significance	
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	One-Sided p	Two-Sided p
Pair 1	Pretest - Posttest	-24.167	10.261	1.710	-27.638	-20.695	-14.131	35	<.001	<.001

Based on the table, the sig. value (2-tailed) of 0.001, which is smaller than 0.05, indicates a significant difference between the students' learning outcomes in the pretest and posttest data. This finding confirms that the treatment given through the use of media based on Smart Apps Creator resulted in a statistically significant improvement in non-literary text writing skills. The effectiveness of learning media based on Smart Apps Creator integrated with the genre process approach was also calculated by comparing the increase in posttest and pretest scores between the experimental and control classes. The results of these calculations are clearly presented in the following table 8.

Table 8. Calculation Results of The Difference in Posttest and Pretest Scores Between The Experimental Class and The Control Class

Class	N	Mean Pretest	SD Pretest	Mean Posttest	SD Posttest	Gain Score	Effect Size (d)	Category
Experimental	36	62.64	11.24	86.81	5.01	24.17	2.78	Very Large
Control	33	60.76	10.09	74.70	7.49	13.94	1.57	Large

Statistical analysis results show an increase in students' writing skills after the implementation of Smart Apps Creator-based learning media integrated with the Genre Process Approach. Based on descriptive statistical calculations, the mean pretest score in the control class was 60.76 and increased to 74.70 in the posttest, resulting in a gain score of 13.94. Meanwhile, the experimental class showed a higher increase, from an mean of 62.64 on the pretest to 86.81 on the posttest, with a gain score of 24.17. This shows that the increase in scores in the experimental class was approximately 10.23 points greater than in the control class. In addition, the results of the effect size analysis showed a Cohen's d value of 2.78 in the experimental class, which is in the very large effect category, while the control class obtained a value of 1.57, which is in the large effect category. These findings indicate that the learning treatment using Smart Apps Creator media combined with the Genre Process Approach has a stronger impact on improving students' writing skills.

The higher improvement in the experimental class can be explained by the learning stages applied in the classroom. In the building knowledge of the field stage, students were introduced to the topic and context of the text through interactive material presented in the Smart Apps Creator media. The material not only contained explanations of concepts, but also text examples, illustrations, and interactive activities that helped students understand the structure and purpose of non-literary text writing. Through the presentation of more interesting and visual material, students found it easier to activate their prior knowledge and understand the context of the topic to be written.

Next, in the modelling of the text stage, students study text examples provided in the learning media. At this stage, students are guided to identify text structures, such as the opening, body, and closing sections, as well as the linguistic elements used. Text analysis activities integrated into the media help students understand how ideas are systematically organised in a text. This understanding becomes an important foundation for students when they begin to compose their own texts. The next stage is joint construction of the text, where students jointly compose texts under the guidance of the teacher. In this process, the Smart Apps Creator media provides structured writing step-by-step guidance, from developing ideas, drafting an outline, to composing paragraphs. This activity helps students overcome difficulties in finding and organising ideas, which are often the main obstacles in writing activities. The final stage is independent construction of the text, where students write texts independently based on the understanding they have gained in the previous stages. With systematic learning stages and the support of interactive media, students are able to produce more structured, clear writing that complies with the rules of non-literary text writing. This is reflected in the higher posttest scores in the experimental class compared to the control class. Overall, the results of statistical analysis and the learning process in the classroom show that the integration of Smart Apps Creator media with the Genre Process Approach is able to provide more effective support in writing learning. The combination of systematic learning stages and the use of interactive digital media provides clear scaffolding for students in the writing process, resulting in a more significant improvement in writing skills.

Smart Apps Creator is computer-based software that allows users to develop applications for smartphones without requiring programming skills. Ricky et al. (2021) state that Smart Apps Creator has significant benefits as a learning medium because it supports student independence in learning and provides features for creating quizzes and educational games. This application functions as a desktop application that can be used to produce Android and iOS-based mobile applications without writing code, and is capable of exporting products in HTML and .exe formats. The development results can be saved in .ahl or .apk file formats, which can be run on laptops or Android-based smartphones. With these characteristics, Smart Apps Creator can be used as a learning support medium based on e-learning. Mobile learning is the result of the integration of cloud computing and e-learning, forming a flexible learning resource that can be accessed anytime and anywhere without being limited by space and time (Zao, 2017).

Faqih's (2020) research shows that the development of mobile learning-based learning media has become very relevant in line with the rapid development of science and technology (IPTEK), especially during the pandemic when all learning activities are carried out from home. This condition encourages students to expect the presence of mobile learning-based learning media that can be developed innovatively, so that the delivery of material by teachers is not monotonous and remains in line with the times. Furthermore, the results of research by Khoirudin et al. (2021) indicate that the use of Smart Apps Creator contributes to improving student learning outcomes.

The results of research by Muyaroah and Fajartia (2017) show that the use of Android-based learning media has been proven effective in improving student learning outcomes. Furthermore, Harlis and Budiarti (2018) developed a mobile learning application that was considered effective and efficient, enabling educators to deliver learning materials more optimally, improve students' understanding of the material, and guide school-age children to use their devices more productively. In addition, research conducted by Jan et al. (2016) revealed that the application of mobile learning in the learning process provides better results than conventional methods centred on teacher explanations, as demonstrated by an increase in student achievement scores.

Research findings at the senior high school level in Indonesia show that 67.7% of students stated that Android-based learning media are interesting to use in the learning process (Rohman et al., 2019). The presence of Android-based applications is considered to be able to reduce various obstacles often experienced by students, such as limited ownership of textbooks, books left at home, and lost or damaged books. In addition, these applications make it easier for students to understand learning materials, both independently and in a school environment, through the presentation of interactive content that minimises learning fatigue. The use of Android applications also makes it easier for teachers to manage learning and serves as a means of supporting learning administration (Andrianto et al., 2019). Thus, the concept of Android application-based learning is expected to help educators respond to technological developments and provide more interesting learning media through digital applications.

The substantial effect size can be explained by the integration of SAC with the genre process approach. The structured stages prewriting, drafting, revising, editing, and publishing were digitally scaffolded through interactive templates, multimedia explanations, embedded exercises, and immediate feedback mechanisms. These features supported systematic idea development, improved organization, and enhanced linguistic accuracy. Unlike conventional instruction in the control group, which relied primarily on textbook-based explanation, the SAC-based environment facilitated active learning, autonomy, and iterative revision. The combination of process-based pedagogy and interactive digital media likely amplified cognitive engagement, which contributed to the large gain score observed in the experimental class.

The magnitude of the effect indicates that SAC integration does not merely create statistically detectable differences; rather, it produces strong pedagogical benefits in developing students' non-literary writing competence. The improvement reflects both enhanced writing structure and deeper conceptual understanding of genre conventions. Overall, the findings confirm that Smart Apps Creator-based learning media integrated with the genre process approach exerts a large and practically significant impact on students' writing achievement. The effectiveness is evidenced not only by significant t-test results but also by substantial gain scores and large effect sizes, indicating meaningful instructional value for Grade X SMA/MA students.

4. Conclusion

The findings of this study confirm the effectiveness of Smart Apps Creator (SAC)-based learning media integrated with the genre process approach in improving students' non-literary text writing skills. The results indicate that both groups initially demonstrated comparable writing abilities before the treatment was administered. After the implementation of the instructional intervention, students who learned through SAC integrated with the genre process approach achieved higher improvements in writing performance compared to those who received conventional instruction.

The structured stages of the genre process approach prewriting, drafting, revising, editing, and publishing supported by interactive digital features in SAC, contributed to more systematic idea development, improved text organization, and enhanced language accuracy. The integration of digital media and process-based pedagogy created a more engaging and guided learning environment, enabling students to actively construct and refine their written texts. Therefore, it can be concluded that SAC-based learning media integrated with the genre process approach provides meaningful pedagogical benefits and serves as an effective instructional strategy for teaching non-literary writing to Grade X SMA/MA students. The findings suggest that combining interactive technology with structured writing processes can significantly enhance students' writing competence and classroom engagement.

References

Andrianto P. R., Insap Santosa, P., & Nugroho, E. (2019). Faktor - Faktor yang Mempengaruhi Kesuksesan Pembelajaran Daring dalam Revolusi Industri 4.0. *Sainteks*, 56–60.

Babalola, H.A.L. (2012). Effect of Process-Genre Based Approach on the Written English Performance of Computer Science Students in a Nigerian Polytechnic. *Journal of Education and Practice*, 3, 1-2. https://www.iiste.org/Journals/index.php/JEP/article/view/1630

Basak, S.K., Wotto, M., & Bélanger, P. (2018). E-Learning, M-Learning, dan D-Learning: Conceptual Definition and Comparative Analysis. *E-Learning and Digital Media*, 15(4) 191-216. https://doi.org/10.1177/2042753018785180

Deng, L., Chen, Q., & Zhang, Y. (2014). *Developing Chinese EFL Learners' Generic Competence: A Genre-Based & Process Genre Approach*. Springler- Verlag Berlin Heidelberg.

Fadhila, A., & Rakhmawati, A. (2024). Model Pembelajaran Project-Based Learning (PBL) Berbasis Kearifan Lokal dalam Keterampilan Menulis Siswa SMA. *Disastra: Jurnal Pendidikan Bahasa dan Sastra Indonesia*, 6(1), 157-164. http://dx.doi.org/10.29300/disastra.v6i1.3316

Faqih, M. (2020). Efektivitas Penggunaan Media Pembelajaran Mobile Learning Berbasis Android dalam Pembelajaran Puisi. *Jurnal Konfiks*, 7(2), 27-34.

Gagné, R. M. (1974). *Instruction and the Condition of Learning. In W. M. Bart & M. R. Wong (Eds.), Psychology of School Learning: Views of the Learner (Volume I: Environmentalism) (pp. 153–175)*. Schenkman Publishing Company.

Gao, J. (2007). Teaching Writing in Chinese University: Finding An Eclectic Approach. *The Asian EFL Journal*, 18, 1-2.

Haris, M. F., Daeng, K., & Asia M, A. M. (2025). The Effectiveness of Somatic, Auditory, Visual, Intellectual (SAVI) Methods in Learning Description Text Writing Skills in Class VII Students of SMP Negeri 24 Makassar. *Journal of Educational Sciences*, 9(3), 1570-1584. https://doi.org/10.31258/jes.9.3.p.1570-1584

Harlis, H., & Budiarti, R.S. (2018). Development of Appypie-Based Android Application as a Learning Media About Alga in Monera and Protista Course for Students Majoring in Biology Education. *BIODIK*, 4(2), 114-120.

Hasan, M., Milawati, Darodjat, Harahap, T.K., Tahrim, T., Anwari, A.M., Rahmat, A., Masdiana, & Indra P., I.M. (2021). *Media Pembelajaran*. Tahta Media Grup.

Hasanah, U., & Laili, U. N. (2023). Pengembangan Buku Ajar Keterampilan Menulis Teks Nonsastra Berdasarkan Pendekatan Proses bagi Siswa SMP/MTs Kelas VIII. *Jurnal Kiprah Pendidikan*, 2(3), 255–270. https://doi.org/10.33578/kpd.v2i3.191

Isrokatun, Hanifah, N., Yusuf, A.R., Rosmiati, R., & Khoerunnisah, R. (2023). The Development of Android-Based Learning Mobile App to Practice Critical Thinking Skills for Elementary School Students. *Pegem Journal of Education and Instruction*, 13(2), 161-172. https://doi.org/10.47750/pegegog.13.02.20

Jan, S.R., Ullah, F., Ali, H., & Khan, F. (2016). Enhanced and Effective Learning Through Mobile Learning an Insight into Students Perception of Mobile Learning at University Level. *International Journal of Scientific Research in Science, Engineering and Technology (IJSRSET)*, Print ISSN, 2395-1990.

Khoirudin, R., Ashadi, A., & Masykuri, M. (2021). Smart Apps Creator 3 to Improve Student Learning Outcomes During the Pandemic of COVID-19. *JPBI (Jurnal Pendidikan Biologi Indonesia)*, 7(1), 25-34.

Kusumawati, Syambasril, & Ramdani, D. (2015). Kemampuan Memahami Teks Nonsastra Siswa MTs. *Jurnal Pendidikan dan Pembelajaran Khatulistiwa*, 4(12), 1-11. https://doi.org/10.26418/jppk.v4i12.12864

Mohanna, M. (2015). *Using Knowledge Engineering for Modeling Mobile Learning Systems* [Unpublished doctoral dissertation]. Université Laval, Canada.

Muyaroah, S., & Fajartia, M. (2017). Pengembangan Media Pembelajaran Berbasis Android dengan Menggunakan Aplikasi Adobe Flash Cs 6 pada Mata Pelajaran Biologi. *Innovative Journal of Curriculum and Educational Technology*, 6(2), 22-26.

Nasrullah, A., Mahuda, I., Mubarika, M. P., Meilisa, R., & Fajari, L. E.W. (2022). Android-Based Mathematics Learning Media Assisted by Smart Apps Creator on Self-Regulated Learning Title. *IJAE: International Journal of Asian Education*, 3(3), 160-165. https://doi.org/10.46966/ijae.v3i3.292

Nofitasari & Nugraha, S.I. (2025). Using a Genre-Based Approach for Differentiated Instruction to Enhance Students' Writing Skills. *Journal of Educational Sciences*, 9(6), 6749-6761. https://doi.org/10.31258/jes.9.6.p.6749-6761

Nurdyansyah. (2019). Media pembelajaran inovatif. UMSIDA Press.

Nurilah, Syarifuddin, & Suciwati, I. (2025). The Impact of Feedback in Improving Students' Descriptive Writing Skills: A Case Study at SMPN 1 Hu'u. *Journal of Educational Sciences*, 9(4), 2668-2677, https://doi.org/10.31258/jes.9.4.p.2668-2677

Patwary, Md. N., & Sajib, Md. N. F. (2025). Exploring Tertiary Students' Perceptions of Using Smartphones to Enhance EFL Writing: Pedagogical Implications. *The International Journal of Technology, Knowledge, and Society*, 21(2), 51-72. https://doi.org/10.18848/1832-3669/CGP/v21i02/ 51-72

Rachawong, M., & Phusawisot, P. (2025). The Effects of Process-Genre Approach on Writing Performance and Writing Anxiety of Thai EFL University Students. *World Journal of English Language*, 15(5), 113-126. URL: https://doi.org/10.5430/wjel.v15n5p113

Ratnasari, D., & Ansori, I. (2024). Media Smart Apps Creator Berbasis Problem Based Learning Meningkatkan Kemampuan Menulis Kalimat Efektif. *Jurnal Penelitian dan Pengembangan Pendidikan*, 8(1), 10-21. https://doi.org/10.23887/jppp.v8i1.68614

Ricky, E.N., Hudah, M., & Widyatmoko, F.A. (2021). Pengembangan Aplikasi Pembelajaran Pencak Silat Berbasis Multimedia. *Altius: Jurnal Ilmu Olahraga dan Kesehatan*, 10(1), 40-52. https://doi.org/10.36706/altius.v10i1.13990

Rohman, A. N., Utami, E., & Raharjo, S. (2019). Deteksi Kondisi Emosi pada Media Sosial Menggunakan Pendekatan Leksikon dan Natural Language Processing. *Jurnal Eksplora Informatika*, 9(1), 70-76. https://doi.org/10.30864/eksplora.v9i1.277.

Rohmawati, E.A., & Wahyono, H. (2020). Strategi Kata Utama dalam Pembelajaran Menulis Teks Eksposisi di SMAN 3 Magelang. *Indonesian Journal of Education and Learning*, 3(2), 360-366. https://doi.org/10.31002/ijel.v3i2.2510

Rosyid, F. E., R, S. ., Karneli, Y., & Muhammadi, M. (2026). The Effect of Problem-Based Learning and Learning Motivation on Descriptive Writing Skills. *Journal of Educational Sciences*, 10(2), 2199-2209. https://doi.org/10.31258/jes.10.2.p.2199-2209

Saputra, H., & Marzulina, L. (2016). Teaching Writing by Using Process Genre Approach to the Eighth Grade Students of SMP Negeri 22 Palembang. *Edukasi: Jurnal Pendidikan dan Pengajaran*, 2(1), 1-12. https://jurnal.radenfatah.ac.id/index.php/edukasi/article/view/592

Sa'adah, M., Reinita, Wahyuni, E., Anita, Y. (2025). Validity and Practicality of Smart Apps Creator Interactive Media in Pancasila Education for Elementary Schools. *Journal of Educational Sciences*, 9(6), 5061-5072. https://doi.org/10.31258/jes.9.6.p.5061-5072

Setyoningrum, R. A., Basuki, I. A., & Harsiati, T. (2025). Asesmen Membaca Teks Nonsastra dalam Buku Bahasa Indonesia Kurikulum Merdeka Kelas VIII. *Stilistika: Jurnal Pendidikan Bahasa dan Seni*, 14(1), 1–12. https://doi.org/10.59672/stilistika.v14i1.4867

Syamsi, K., & Lestyarini, B. (2023). *Strategi Pembelajaran Keterampilan Berbahasa*. UNY Press.

Telaumbanua, Sadieli. (2022). The Effect of Project Based Blended Learning Towards Negotiation Text Writing Ability Moderated by Learning Motivation. *Al-Ishlah: Jurnal Pendidikan*, 14(2), 2327-2334. https://doi.org/10.35445/alishlah.v14i1.1159

Yan, G. (2005). A Process Genre Model for Teaching Writing. *English Teaching Forum*, 43(3), 18-26.

Zao, C. (2017). An Empirical Research on Improving the Depth of Interaction Through Collaborative Problem-Solving Learning Activities. *e-Education Research*, 38(10), 87-92.

Zhang, Y. (2018). Exploring EFL Learners' Self-Efficacy in Academic Writing Based on Process-Genre Approach. *English Language Teaching*, 11(6), 115-124. http://doi.org/10.5539/elt.v11n6p115

Zulita, D. (2024). *Pengembangan Buku Ajar Menulis Teks Nonsastra Berdasarkan Pendekatan Proses Genre untuk Siswa SMP/MTs*. [Tesis, tidak diterbitkan]. Universitas Negeri Yogyakarta.

How to cite this article:

Erva., & Syamsi, K. (2026). The Effectiveness of Smart Apps Creator-Based Media Integrated With The Genre Process Approach in Improving Grade X Students' Non-Literary Writing Skills. *Journal of Educational Sciences*, *10(3)*, 1173-1187.