

Learning Culture-Responsive Biographical Writing Through a Google Sites Assisted Multiliteracies Model Based on High School Students Learning Styles

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Article Info

History Articles

Received:

12 Oktober 2025

Accepted:

18 November 2025

Published:

30 Desember 2025

Keywords:

biographical writing,
culturally responsive
teaching, Google Sites,
learning styles,
multiliteracies model

Abstract

This study aimed to examine the effectiveness of a Google Sites-assisted multiliteracies model in teaching culture-responsive biographical writing based on senior high school students' learning styles. The study employed a mixed-methods approach using a sequential explanatory design. The participants were 30 tenth-grade students selected through purposive sampling. Quantitative data were collected through a culture-responsive biographical writing test and a learning styles questionnaire, while qualitative data were obtained through classroom observations, interviews, and documentation. The quantitative findings showed a significant improvement in students' writing performance after the implementation of the instructional model. The average writing score increased from 78 to 87, and learning mastery improved from 90% to 100%. Improvements were found across all learning style groups, with visual learners demonstrating the highest gain, followed by auditory and kinesthetic learners. The qualitative findings revealed that the integration of texts, images, videos, and other digital resources through Google Sites enhanced students' engagement, supported information processing, and facilitated the development of more comprehensive and well-organized biographical texts. The study concludes that the Google Sites-assisted multiliteracies model is effective in improving students' culture-responsive biographical writing skills while accommodating diverse learning styles.

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INTRODUCTION

Writing is widely recognized as one of the most complex language skills (Kouhpeyma & Kashefian, 2020). Because it requires mastery of various linguistic aspects, critical thinking, creativity, and the ability to organize ideas systematically. Critical thinking is defined as the ability to formulate reasoned conclusions based on prior knowledge, apply information effectively to address problems, and identify relevant information sources to support informed decision-making and problem solving (Zulaeha et al., 2021).

In line with this view, (Mahmur et al., 2021) define writing as a productive language skill that enables individuals to communicate their ideas through meaningful sequences of words, phrases, sentences, paragraphs, and extended discourse. According to (Puspita, 2016), writing is considered the most difficult language skill to master because it demands proficiency in other language skills as well. Similarly, (Wagiran et al., 2018) argue that writing is more challenging for language learners than other language skills since its mastery requires not only linguistic competence but also the ability to integrate various non-linguistic aspects.

Based on these perspectives, writing instruction requires special treatment and intensive guidance to support students in developing their writing abilities. (Amalia et al., 2021) emphasizes that intensive writing practice can significantly improve students' overall writing competence. Therefore, writing instruction should employ appropriate strategies, learning models, and instructional media that can effectively facilitate students in developing their writing skills.

Within the Merdeka Curriculum, students at Phase E are expected to produce various types of texts logically, critically, and creatively in accordance with communicative purposes. One of the learning outcomes that students are required to achieve is the ability to write biographical texts. A biographical text is a factual text that presents an individual's life history,

experiences, achievements, and life values that can serve as inspiration and examples for readers (Fitria et al., 2024). Through the process of writing biographical texts, students not only learn how to organize text structures and develop ideas but also gain an understanding of the values reflected in the lives of the figures they write about.

The learning of biographical texts becomes more meaningful when it is connected to cultural contexts. Culture-responsive biographical texts enable students to become familiar with cultural figures, understand local wisdom values, and develop an appreciation for cultural diversity. This approach is consistent with the objectives of the Merdeka Curriculum, which emphasizes character development and the strengthening of the Pancasila Student Profile, particularly in the dimensions of global diversity, critical reasoning, and creativity. Consequently, learning to write culture-responsive biographical texts is not only oriented toward the development of language skills but also toward fostering students' cultural awareness and character development.

Culture and character development also constitute important concerns in this study. As science and technology continue to advance in the digital era, cultural values are often overlooked. Many students have limited understanding of culture and the norms and values inherited through cultural traditions. One way to address this issue is through education. In this regard, (Jayanti et al., 2021) argue that education plays a crucial role in fostering a generation that takes pride in its cultural heritage while also developing the ability to adapt to cultural diversity within society.

Despite its importance, students still encounter various difficulties in writing biographical texts. Preliminary observations and interviews with teachers at MA Nurul Qur'an revealed that writing instruction is still largely dominated by conventional teaching methods, resulting in students becoming passive and less engaged in the learning process. Students also experience difficulties in determining appropriate topics, gathering relevant information about the figures they write about, developing the content

of their texts, and organizing their writing coherently in accordance with the structure of a biographical text. These challenges ultimately contribute to the low quality of students' written work.

In addition to instructional factors, differences in learning styles also influence students' success in understanding and developing learning materials. Each student has a unique learning preference, whether visual, auditory, or kinesthetic. These differences require teachers to adopt instructional models that accommodate diverse learning styles, ensuring that all students have equal opportunities to achieve the intended learning outcomes.

One instructional model that has the potential to address these challenges is the multiliteracies model. This model emphasizes learners' ability to understand, process, and produce information through various forms of literacy, including linguistic, visual, digital, and cultural literacy (Kurniawan & Subyantoro, 2016). Multiliteracies-based instruction enables students to engage with diverse sources of information and connect them to their personal experiences and real-life contexts (Khadka, 2018).

Furthermore, this model aligns with the demands of twenty-first-century education, which emphasize the development of critical thinking, creativity, communication, and collaboration skills. Nevertheless, instructional approaches that predominantly emphasize teacher-centered lectures and knowledge transmission are no longer relevant to the demands of twenty-first-century education, which requires learners to develop higher-order thinking, collaboration, communication, and problem-solving skills (Zulaeha et al., 2024).

The implementation of the multiliteracies model can be further enhanced through the use of digital media. One potential platform is Google Sites, which allows the integration of various learning resources within a single environment, including texts, images, videos, hyperlinks, and worksheets. The use of Google Sites provides students with opportunities to access information from multiple sources while supporting a more

interactive, flexible, and student-centered learning process. Through the integration of digital media into multiliteracies-based instruction, students are expected to develop ideas more comprehensively and produce higher-quality written work.

Several previous studies have demonstrated the effectiveness of the multiliteracies model in improving students' literacy and language skills. (Rifai & Setyaningsih, 2019) found that the digital multiliteracies model was more effective than the creative-productive model in teaching students to write fantasy stories. Their findings indicate that the integration of various digital literacy resources can assist students in generating ideas and producing higher-quality written texts.

Similarly, (Tita & Septiana, 2023) reported that the implementation of multiliteracies-based instruction had a positive effect on junior high school students' fantasy story writing skills, particularly in terms of plot development, text organization, and vocabulary use. In addition, (Gini et al., 2023) demonstrated that the multiliteracies model improved senior high school students' exposition writing skills through the utilization of diverse learning resources that supported idea development and systematic text construction. Meanwhile, (Nurnugroho & Rochmiyati, 2024) found that the multiliteracies model effectively enhanced elementary school students' reading comprehension skills by promoting more active and meaningful learning experiences.

Although these studies have confirmed the effectiveness of the multiliteracies model in enhancing literacy and writing skills, most have focused on fantasy stories, exposition texts, or reading comprehension. Research examining the application of the multiliteracies model in teaching biographical writing remains limited, particularly in the context of culture-responsive biographical texts. Furthermore, previous studies have generally not utilized Google Sites as an instructional medium capable of integrating multiple digital literacy resources within a single platform. Studies investigating the relationship between the effectiveness of the multiliteracies

model and students' learning styles are also relatively scarce, especially at the senior high school level within the context of the Merdeka Curriculum.

Based on these research gaps, the present study aims to analyze the implementation of culture-responsive biographical writing instruction through a multiliteracies model supported by Google Sites, considering students' learning styles at the senior high school level. This study is expected to contribute to the development of multiliteracies-based writing instruction, digital literacy integration, and culturally responsive education. Furthermore, it seeks to provide an alternative instructional approach that accommodates the diversity of students' learning styles and supports more effective writing instruction.

METHOD

This study employed a mixed-methods approach using a sequential explanatory design, which was conducted in two consecutive phases: a quantitative phase followed by a qualitative phase. The quantitative phase was designed to examine the effectiveness of a Google Sites-assisted multiliteracies model in teaching culture-responsive biographical writing based on students' learning styles. The qualitative phase was conducted to explain and elaborate on the quantitative findings through observations, interviews, and document analysis. The overall research design is presented in the following figure.

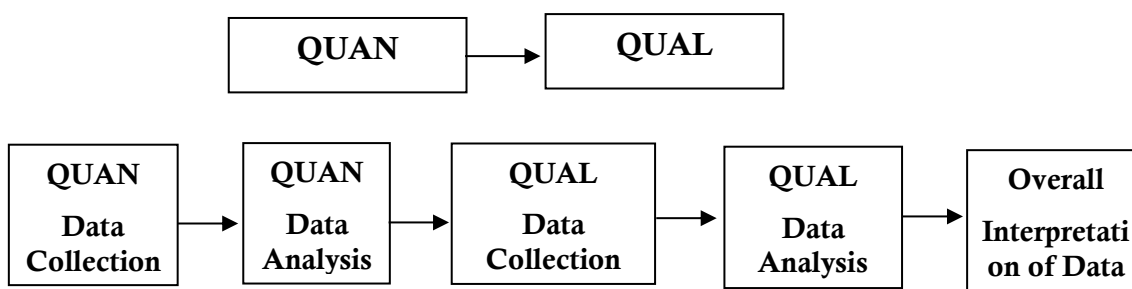


Figure 1. Sequential Explanatory design

The population of this study consisted of tenth-grade students enrolled in senior high schools, Islamic senior high schools, and vocational high schools in Pucakwangi District, Pati Regency. The sample was selected using purposive sampling by choosing a school whose academic characteristics and curriculum were aligned with the objectives of the study. The participants comprised 30 tenth-grade students from MA Nurul Qur'an. All participants received instruction through the Google Sites-assisted multiliteracies model.

According to Sugiyono (2023), a variable is any characteristic or phenomenon determined for investigation in order to obtain information and draw conclusions about a particular object of study. This research involved three types of variables: an independent variable, a dependent

variable, and a moderating variable. The independent variable was the Google Sites-assisted multiliteracies instructional model. The dependent variable was students' culture-responsive biographical writing skills, while the moderating variable was students' learning styles, categorized as visual, auditory, and kinesthetic.

Quantitative data were collected through a culture-responsive biographical writing test and a learning styles questionnaire. Students' writing performance was assessed based on several criteria, including biographical text structure, content development, language use, writing organization, and culture-responsive values. Qualitative data were obtained through classroom observations, interviews with teachers and students, and documentation of students'

written products and learning activities conducted through Google Sites.

The quantitative phase employed a quasi-experimental pretest–posttest design. Prior to the intervention, students completed a pretest to assess their initial ability in writing culture-responsive biographical texts. Subsequently, they participated in learning activities using the designated instructional model and completed a posttest at the end of the intervention to measure their learning outcomes.

Quantitative data were analyzed using both descriptive and inferential statistics. Descriptive statistical analysis was conducted to determine the mean, percentage, maximum score, minimum score, and standard deviation. Before hypothesis testing, normality and homogeneity tests were performed to ensure that the data met the required assumptions. Hypothesis testing was then conducted to determine the effectiveness of the multiliteracies model across different student learning styles. Qualitative data were analyzed using the Miles and Huberman interactive model, which consists of data reduction, data display, and conclusion drawing. The qualitative findings were used to explain and strengthen the quantitative results, thereby providing a more comprehensive interpretation of the research findings.

RESULTS AND DISCUSSION

The findings are presented in accordance with the sequential explanatory mixed-methods design employed in this study. Quantitative results are presented first to examine the effectiveness of the Google Sites-assisted multiliteracies model in enhancing students' culture-responsive biographical writing skills across different learning styles. These findings are followed by qualitative results, which provide deeper insights into the learning process, the characteristics of students' written products, and the factors influencing learning outcomes. Finally, both sets of findings are integrated to provide a comprehensive interpretation of the effectiveness of the instructional model.

Quantitative Analysis Results

The findings revealed that the implementation of a Google Sites-assisted multiliteracies model in teaching culture-responsive biographical writing improved students' writing performance. A summary of students' learning outcomes before and after the instructional intervention is presented in Table 1.

Table 1. Results of Biographical Text Writing

No	Aspect	Before Learning	After Learning
1.	Average learning outcomes	78	87
2.	Learning completion	90%	100%

As shown in Table 1, students' culture-responsive biographical writing skills improved following participation in the Google Sites assisted multiliteracies instruction. While not all students achieved the expected level of learning mastery at the beginning of the study, full classical mastery was attained by the end of the instructional intervention. These findings suggest that the multiliteracies model effectively supported students in understanding the learning materials, processing information from multiple sources, and developing higher-quality written texts compared to their performance prior to the intervention.

The improvement in writing performance is consistent with the characteristics of the multiliteracies model, which emphasizes the utilization of diverse information sources and literacy practices. Through Google Sites, students were provided with access to learning materials in various formats, including texts, images, videos, and other digital resources. The availability of these multimodal learning resources enabled students to develop a deeper understanding of the cultural figures and cultural values that served as the focus of their biographical writing.

Further analysis based on learning styles indicated that improvements in writing performance occurred across all student groups,

although the magnitude of improvement varied among the different learning style categories.

A summary of students' learning outcomes according to learning styles is presented in Table 2.

Table 2. Improving Learning Outcomes

N	Learning Styles	Pre test	Post test	Improvement
1	Visual	66.20	91.27	25.07
2	Auditory	65.71	83.14	17.43
3	Kinesthetic	71.11	77.44	6.33

As presented in Table 2, students from all learning style groups demonstrated improvement in their writing performance after participating in the instructional intervention. However, the greatest improvement was observed among students with visual learning styles, followed by auditory and kinesthetic learners. These findings indicate that the Google Sites-assisted multiliteracies model provides greater benefits for students who tend to process information through visual representations.

The superior performance of the visual learning group may be attributed to the characteristics of the multiliteracies model, which offers a wide range of visually rich learning resources, including images, videos, illustrations, and digital content integrated within Google Sites. These resources enabled students to comprehend information more effectively and transform it into more comprehensive and well-structured written texts. Nevertheless, the achievements of the auditory and kinesthetic groups demonstrate that the multiliteracies model was also capable of accommodating diverse learning needs through discussion activities, presentations, information exploration, and writing practice. In addition to the learning outcomes, classroom observations revealed that the majority of students demonstrated good to

very good learning behaviors throughout the instructional process. This finding suggests that the multiliteracies model not only contributed to improved learning outcomes but also promoted active student engagement. The high level of student participation observed during the learning activities indicates that the integration of multiple learning resources within a single digital platform created a more engaging and meaningful learning experience. Overall, the findings demonstrate that the Google Sites-assisted multiliteracies model was effective in teaching culture-responsive biographical writing. Its effectiveness was reflected not only in the improvement of students' learning outcomes at the class level but also in its ability to accommodate diverse learning style characteristics. These findings support the view that instruction integrating multiple forms of literacy and digital technology can foster a more flexible, interactive, and learner-centered educational experience.

Qualitative Analysis Results

The qualitative findings revealed that the implementation of a Google Sites-assisted multiliteracies model in teaching culture-responsive biographical writing provided diverse learning experiences that accommodated students' different learning styles. These findings support the quantitative results, which demonstrated an improvement in students' writing performance following the implementation of the multiliteracies model.

Classroom observations indicated that students accessed information from a variety of resources available on Google Sites, including texts, images, videos, articles, and other digital materials. These learning activities encouraged students to develop integrated literacy skills, such as reading, observing, analyzing, discussing, and writing. Throughout the learning process, students did not merely receive information from the teacher; rather, they actively constructed their understanding through the exploration of multiple learning resources.

Analysis of students' written products revealed differences in writing characteristics

across learning style categories. Students with visual learning styles produced biographical texts that were more comprehensive, coherent, and well organized. Their writing demonstrated a greater ability to elaborate information about the selected figures and to establish stronger connections among ideas. Students with auditory learning styles showed good performance in organizing information systematically and chronologically, although the content development was generally less detailed than that of the visual learners. Meanwhile, students with kinesthetic learning styles tended to emphasize the life experiences and activities of the figures they described, but they still required improvement in content development, text organization, and linguistic accuracy.

These findings suggest that the multiliteracies model provided greater benefits for students with visual learning styles. The availability of images, videos, infographics, and other visual resources on Google Sites enabled these students to understand information more deeply and, consequently, to develop richer written content. In contrast, students with auditory learning styles benefited primarily from discussion and presentation activities, whereas kinesthetic learners were more effectively supported through information-gathering activities and the production of written texts.

The interview data with the teacher further supported these findings. The teacher explained that the multiliteracies model enabled students to access information from multiple sources and transform it into richer and more meaningful written texts. According to the teacher, Google Sites facilitated the integration of various learning resources within a single platform, allowing students to access information more efficiently. These perceptions were consistent with the observational findings, which showed increased student engagement in searching for, comparing, and processing information throughout the learning process.

Interviews with students also revealed that the diversity of learning resources helped them gain a deeper understanding of the cultural figures being studied. Students reported that the

combination of texts, images, and videos enabled them to obtain more comprehensive information than relying on a single learning resource. High-achieving students stated that they found it easier to develop the content of their writing because they could compare information from different sources. Meanwhile, students with moderate and lower levels of achievement reported that group discussions, visual materials, and instructional videos were particularly helpful in supporting their learning.

A comparison of students' writing before and after the intervention demonstrated a noticeable improvement in writing quality. Prior to the implementation of the multiliteracies model, many students experienced difficulties in developing content, maintaining factual accuracy, organizing biographical texts coherently, and applying appropriate linguistic features. After participating in the Google Sites-assisted multiliteracies instruction, students were able to present more complete information about the selected figures, organize biographical texts more systematically, apply linguistic conventions more accurately, and incorporate cultural values into their writing.

Overall, these findings indicate that the Google Sites-assisted multiliteracies model not only improved students' technical writing skills but also enhanced their understanding of the cultural figures and values explored during the learning process. The results reinforce previous studies suggesting that multiliteracies-based instruction can improve literacy development through the utilization of diverse information sources and digital media. Furthermore, the integration of Google Sites provided a flexible learning environment capable of accommodating students' diverse learning needs. Therefore, the Google Sites-assisted multiliteracies model proved effective in developing culture-responsive biographical writing skills among senior high school students with different learning style characteristics.

Discussion

The hypothesis testing results revealed a significant difference in students' culture-

responsive biographical writing skills before and after the implementation of the Google Sites-assisted multiliteracies model across different learning style categories. The paired-samples t-test yielded a significance value of less than 0.05, indicating that the research hypothesis was accepted. These findings suggest that the implementation of the Google Sites-assisted multiliteracies model contributed significantly to the improvement of senior high school students' culture-responsive biographical writing skills.

The improvement in writing performance was evident across all learning style groups. The analysis showed that the posttest mean scores were higher than the pretest mean scores for visual, auditory, and kinesthetic learners. This finding indicates that the Google Sites-assisted multiliteracies model was capable of accommodating diverse learning needs. Through the learning activities, students were provided with opportunities to access information from multiple literacy sources, including texts, images, videos, and other digital resources available on Google Sites. The availability of diverse learning materials enabled students to develop a deeper understanding of the cultural figures they studied before transforming that understanding into biographical texts.

The analysis based on learning styles further revealed that students with visual learning styles achieved the highest posttest mean scores compared to auditory and kinesthetic learners. This finding suggests that the characteristics of the Google Sites-assisted multiliteracies model are particularly compatible with the preferences of visual learners. Throughout the instructional process, students interacted extensively with visual materials, such as images of cultural figures, videos, infographics, digital articles, and various forms of information integrated into a single platform. These resources facilitated visual learners' comprehension of information, supported more systematic organization of ideas, and enabled more detailed content development in their writing.

This finding is consistent with learning style theory, which posits that visual learners tend to process information more effectively through

observation, reading, and visual representation. Within the multiliteracies framework, activities such as reading multiple sources, analyzing images, examining digital information, and connecting various forms of representation constitute essential components of the learning process (Kangas & Rasi, 2021). Consequently, students with visual learning styles may have greater opportunities to develop their writing skills more effectively within such learning environments.

In addition to improving writing skills, the implementation of the Google Sites-assisted multiliteracies model also promoted positive developments in students' learning engagement. Classroom observations indicated that students became more active in seeking information, participating in discussions, expressing opinions, and collaborating with peers to complete writing tasks. These activities reflected the development of critical thinking, collaboration, and creativity throughout the learning process (Pramida, Johan, & Darmawan, 2018). Rather than passively receiving information, students actively engaged in identifying, analyzing, evaluating, and synthesizing information into coherent biographical texts.

The findings of this study support previous research demonstrating the effectiveness of the multiliteracies model in enhancing students' literacy and writing skills. For example, (Ayuningsih & Zulaeha, 2019) found that a multiliteracies model assisted by public service advertisements was effective in teaching short story writing based on senior high school students' learning styles. Similar to the present study, their findings indicated significant differences between pre-intervention and post-intervention writing performance, confirming the effectiveness of the multiliteracies approach in writing instruction. Furthermore, both studies found that the model yielded the most favorable outcomes among students with visual learning styles. However, the present study extends previous research by examining the effectiveness of the multiliteracies model in the context of culture-responsive biographical writing through

the integration of Google Sites as a digital learning platform.

The findings of the present study are consistent with those reported by (Mahardika et al., 2022), who found that Google Sites effectively improved students' learning outcomes. Although their study focused on physics learning, both studies demonstrate the potential of Google Sites as an effective digital platform for enhancing student achievement. The present study extends its application to culture-responsive biographical writing.

The results also support those of (Yunus, Tita, & Hana, 2017), who found that the multiliteracies approach significantly improved students' writing literacy skills. Similar to their findings, the present study confirms that multiliteracies-based instruction facilitates students' access to and production of information, thereby improving writing performance. However, the present study focuses specifically on culture-responsive biographical writing at the senior high school level.

Furthermore, the findings align with (Mochamad, Hadi, & Jekti, 2025), who reported that the use of a digital learning platform increased students' engagement and improved the quality of biographical writing. Similarly, students in the present study became more active in exploring information, collaborating, and developing written products. Nevertheless, the present study emphasizes the effectiveness of the Google Sites-assisted multiliteracies model while also considering students' learning styles.

The present findings are also comparable to those of (Tasya & Ridha, 2025), who demonstrated that Project-Based Learning significantly enhanced students' biographical writing skills. Both studies highlight the importance of active student participation in the writing process. However, the present study further integrates culture-responsive content, digital learning resources, and learning style analysis.

In addition, the findings are consistent with (Asira, Huri, & Suprihatin, 2024), who found that serial picture media significantly improved students' biographical writing skills.

Both studies suggest that visually rich learning resources support idea generation and writing development. However, the present study employs a broader multiliteracies framework supported by Google Sites and multimodal resources.

The findings also support (Andriyana et al., 2025), whose bibliometric analysis identified technology-assisted learning approaches as a growing trend in biographical writing instruction. The present study provides empirical evidence that integrating Google Sites and multiliteracies-based instruction can effectively improve students' culture-responsive biographical writing skills.

Finally, the results are comparable to those of (Nurali, 2025), who reported that the integration of Culturally Responsive Teaching (CRT) and Project-Based Learning improved students' motivation and biographical writing performance. Similar to their findings, the present study demonstrates the importance of incorporating cultural contexts into writing instruction. However, the present study examines this issue through a Google Sites-assisted multiliteracies model and includes learning style differences as an additional variable.

Another finding that supports the present study comes from (Triana & Nila, 2025), who found that visual media significantly improved students' biographical writing skills. This finding is particularly relevant because visual learners achieved the highest writing performance in the present study, suggesting that multimodal and visually rich learning resources play an important role in supporting biographical writing development.

Overall, the findings address the research questions and support the hypothesis that teaching culture-responsive biographical writing through a Google Sites-assisted multiliteracies model enhances senior high school students' writing skills. The analysis of learning styles demonstrated that students with visual learning styles achieved the highest level of writing performance compared to auditory and kinesthetic learners. These findings suggest that the integration of a multiliteracies model, Google

Sites as a digital learning platform, and multimodal learning resources provides extensive opportunities for students to develop writing skills in ways that align with their individual learning characteristics.

CONCLUSION

This study found that the Google Sites-assisted multiliteracies model effectively improved senior high school students' culture-responsive biographical writing skills. Significant improvements were observed across all learning style groups, with visual learners achieving the highest writing performance. The integration of multimodal resources through Google Sites enabled students to access, process, and organize information more effectively, resulting in better-quality writing. Qualitative findings further revealed that the instructional model promoted active engagement, critical thinking, collaboration, and creativity during the learning process. Overall, the findings suggest that integrating multiliteracies pedagogy with digital learning platforms can enhance writing instruction while accommodating diverse learning styles and supporting the goals of the Merdeka Curriculum.

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