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Text-Based Instruction: Leveraging Mobile Media to Enhance EFL Learners' Paragraph Writing Performance

Yusak Suharno
Universitas Terbuka
yusak@ecampus.ut.ac.id

*Testiana Deni Wijayatiningsih
Universitas Muhammadiyah Semarang
*testiana@unimus.ac.id

Eko Andy Purnomo
Universitas Muhammadiyah Semarang
ekoandy@unimus.ac.id

Enny Dwi Lestariningsih
Universitas Terbuka
ennydl@unimus.ac.id

*Corresponding author

ABSTRACT

This study investigates the efficacy of mobile media in enhancing students' paragraph writing skills, motivation, and behavioural involvement. This research seeks to reconcile traditional pedagogical approaches with students' digital practices amid the swift incorporation of technological devices in education. A quasi-experimental approach comprised two groups: an experimental group employing mobile-based media and a control group using conventional methods. Data were gathered via writing evaluations, motivating surveys, and classroom observations. The findings indicate that students in the experimental group exhibited considerably enhanced writing performance compared to the control group. Furthermore, their motivation and behavioural involvement are heightened owing to mobile media's interactive and accessible characteristics. The results indicate that mobile media effectively enhances student-centred learning and encourages active engagement in writing activities. This study emphasizes mobile media's capacity to revolutionize writing instruction and stimulate future pedagogical advancements.

Keywords: text-based instruction, mobile media, writing paragraph

INTRODUCTION

In an age where mobile technology is deeply integrated into daily life, its capacity as an educational instrument, particularly for improving writing abilities, is substantial. Writing is an essential communication skill in academic, professional, and personal contexts (Bailey & Judd, 2018; Han et al., 2021; Rofiqoh et al., 2022; Sundari & Febriyanti, 2023; Wijayatiningsih et al., 2022; Yamaç et al., 2020). Traditional writing training frequently encounters substantial obstacles: restricted instructional time, insufficient personalized feedback, and disparate degrees of student participation. Mobile media, because of its variety, accessibility, and adaptability, offers an innovative answer to these difficulties by equipping learners with tools that facilitate the enhancement and refining of their writing skills (Booton et al., 2023; Ramadhan et al., 2020; Shafiee et al., 2013).

Mobile media includes various digital devices, such as smartphones, tablets, and applications, facilitating learning activities beyond the conventional classroom setting. When utilized in writing teaching, these tools can revolutionize students' approach to paragraph structure (Masyhud et al., 2023; Pingmuang & Koraneekij, 2022a; Ramadhan et al., 2020). Mobile applications include functionalities such as grammar and spell checks, stylistic recommendations, plagiarism detection, and creative writing ideas. These systems offer instantaneous, tailored feedback, assisting students in recognizing their errors and acquiring knowledge from them in real-time.

Moreover, mobile media facilitates collaborative learning environments. Students may participate in peer review procedures utilizing platforms such as Google Docs, enabling them to submit their written compositions and obtain feedback from peers or educators. This fosters a more collaborative method of writing instruction, wherein students gain from diverse viewpoints and constructive feedback (Masyhud et al., 2023; Rahimi & Fathi, 2022; Sundari & Febriyanti, 2023; Wiethof et al., 2021). Collaborative writing tools facilitate students co-authoring paragraphs and essays, promoting teamwork while enhancing their writing abilities.

The availability of mobile devices significantly contributes to the improvement of writing skills. In contrast to conventional educational tools limited to the classroom, mobile devices are portable and always accessible. This adaptability enables students to practice writing and obtain feedback regardless of their location during transit, at home, or in a study environment (Febriani et al., 2023; Lee, 2022; Lin et al., 2022; Yamaç et al., 2020). The simplicity of mobile applications promotes regular practice, which is essential for mastering writing, as ongoing involvement with writing activities results in the steady enhancement of coherent and well-structured paragraphs.

Moreover, interactive mobile media can cater to various learning methods and proficiency levels. Students may need more assistance with fundamental writing skills, including sentence structure and syntax. In contrast, others may concentrate on refining their arguments' complexity and their ideas' coherence. Students can tailor learning content and pace to their needs through personalized settings in various mobile applications (Mitha & Basri, 2024; Rohman et al., 2024; Yamaç et al., 2020). This customization maintains learner engagement and offers a bespoke educational experience that can expedite their writing advancement.

Integrating mobile media into writing teaching corresponds with the tastes and behaviours of contemporary digital-native students. Contemporary learners are familiar with engaging with technology for educational and recreational purposes. Teachers can foster engaging learning environments using mobile technologies, integrating interactive, game-like elements with educational information (Lam & Chiu, 2018; Wijayatiningsih et al., 2021). It enables students to maintain motivation and engagement in enhancing their writing abilities, as they can monitor their progress, establish objectives, and obtain immediate rewards for their endeavours.

In summary, interactive mobile media provides a novel and efficient method for improving paragraph writing abilities. Mobile technologies can mitigate the limitations of conventional writing teaching through immediate feedback, collaboration opportunities, accessibility, and tailored learning experiences. As mobile technology advances, its significance in education, especially writing, is expected to increase, fostering more engaged, proficient, and self-assured writers.

Specifically, the mobile media in writing had significant function that interactive multimedia plays in both in-class and distant learning are given a high level of priority. In addition, distance learning is being planned and implemented to meet the problems posed by the industrial revolution 4.0, society 5.0, and the learning of the 21st century (Cahyani et al., 2021; Liu et al., 2024; Syawaludin et al., 2022; Wright, 2017). In addition, this situation is observed in the English Language Education Study Program at one of universities in Indonesia, which is comprised of online learning for writing classes through mobile media.

The initial observations in the writing class indicated that many students' writing outcomes in paragraphs still contained errors. These errors include but were not limited to, the absence of a subject or verb in a single sentence, inconsistent punctuation, and the non-organization of coherence between sentences through inconsistent conjunctions. Regarding the indicators of content writing and punctuation in their paragraphs, 64% of students suffered a decline in marks. As a result, lecturers needed to reflect on the flexible writing learning process and maintain solidarity to address this issue.

Next, the process of learning how to write, had been processed through online tutorials; however, it had yet to be merged with a model that is by the conditions of the various backgrounds of students' comprehension and the requirements of learning in the 21st century.

In addition, learning to write required a comprehensive set of cognitive abilities and processes. More is needed to learn; some activities are carried out sequentially and detailed. When students participated in online learning, they were expected to convey their ideas in writing in a communicative and applicable manner. However, the capacity to communicate ideas in writing continues to face several challenges that impact the writing products they produce. Students were also expected to be able to generate academic writing that was logical and cohesive. It was a requirement. Therefore, to produce graduates who can convey their writing in a manner that is solution-oriented, effective, and applicable, teachers are necessary to continue developing online writing learning material that is interactive, applicable, and effective. Writing instructors are required to use technology to facilitate the development of interactive writing learning media in the

current era of the fourth industrial revolution and society 5.0. It ensures that students can improve their writing competencies more independently, regardless of the time or location (Abadi et al., 2023; Mahmud et al., 2022). Specifically, in the Industrial Revolution 4.0 and Society 5.0 era, implementing higher education entirely based on information technology and online learning has become an everyday necessity (Almubarokah & Arifani, 2021).

According to the findings of Alobaid (2020); Booton et al. (2023); Febriani et al. (2023); and Tang & Hew (2022), the learning process which involves merging a text-based approach and interactive mobile media in online writing learning. This statement conforms with those findings. By utilizing interactive online tutorials, this integration provides an alternative to the traditional method of learning how to write paragraph coherently. The use of interactive mobile learning media and text-based instruction in distance learning writing courses is, therefore, a solution to the challenges that arise and can be incorporated into the learning process especially in English Education class. So, the objectives of the current research are how to develop mobile media in writing to improve students writing paragraphs and its effectiveness.

Interactive Mobile Media in Writing Paragraph

Over the last ten years, there has been a flurry of educational research surrounding using mobile, interactive media to teach writing. Many studies have examined mobile devices' potential to improve students' writing abilities, specifically their ability to write coherent and well-organized paragraphs. This literature review summarizes essential studies that show how interactive mobile media might improve writing skills.

Improving writing with Mobile-Assisted Language Learning (MALL) has been a significant focus of studies investigating the use of mobile media in the classroom. According to research on MALL, students can enhance their writing skills using mobile devices since they are more engaged and can practice writing continuously. For example, Lin et al. (2022) discovered that students' paragraph structure, grammatical precision, and vocabulary improved when using mobile apps for writing projects. According to the study, students had more chances to practice writing in real-time with mobile devices, which allowed for integrating feedback and corrections, improving learning results.

Research has shown that real-time feedback on writing utilizing interactive mobile media has a favourable influence. It highlights the role of mobile apps in providing writing feedback (Inan-Karagul & Seker, 2021). The study emphasized that these applications greatly enhanced students' paragraph writing quality, which offers immediate corrections for grammar, sentence structure, and word choice. As they worked on their assignments, students could use these tools as virtual instructors, receiving feedback on their work and suggestions for improvement in grammar and style.

Using mobile devices for group projects has also demonstrated promise in improving students' writing abilities in the classroom. Students can improve the quality of their writing through real-time collaboration made possible by mobile devices, primarily when used with shared writing platforms such as Google Docs. Using mobile media for collaborative writing, Ardiasih et al. (2019; Masyhud et al. (2023); & Teng (2021) investigated if and how students'

paragraph writing improved. Because students could polish their ideas and increase paragraph cohesiveness through peer feedback and suggestions, the study indicated that students were more likely to create better-structured paragraphs when they worked in groups via mobile platforms.

Several studies have investigated how mobile media might deliver individualized learning experiences; this is especially helpful for students with varying learning requirements. For instance, research by Hmidani & Zareian (2022) examined the efficacy of mobile apps that adapt writing assignments to each student's current ability level. The research demonstrated that students could hone in on areas of their writing that needed improvement by using interactive writing apps that permit personalization according to learners' strengths and areas of weakness. Students' paragraphs became more ordered and logical after that.

The use of gamified components in interactive mobile media has the potential to boost engagement and motivation for writing assignments. Students who used gamified writing applications showed more interest in writing, according to research by Hasanah & Aziz (2021); Lam & Chiu (2018); & Samosa et al. (2021) who studied the function of gamification in mobile learning. According to the research, students' paragraph structure and fluency improved over time due to using these applications more frequently and earning points, badges, and awards for their writing.

One of the most critical factors in helping students improve their writing is the increased sense of independence that mobile learning devices provide. Students in a writing class that used mobile apps were more likely to take an active role in their education (Pingmuang & Koraneekij, 2022). Students were more capable of working independently as learners when they had access to writing tools and instructional resources whenever they needed them. According to the study, students who completed writing assignments on mobile devices were more likely to do independent research, try out new writing styles, and self-correct, all of which contributed to their improved paragraph writing skills.

Research on mobile media also examines scaffolding, a vital component of writing performance. In their discussion of mobile apps, Masyhud et al., (2023); & Ramadhan et al. (2020) have highlighted how these tools can aid students in organizing their paragraphs while they write. Mobile media apps that provide detailed instructions, ideas for starting sentences, and examples of paragraphs immensely helped students gain self-assurance and improve their writing. Moreover, paragraphs written by students using these scaffolding characteristics were better structured and logically constructed than those written by students using more conventional ways.

Many studies show how mobile media improves paragraph writing, but there are also studies showing the problems. For instance, Chen (2019) noted that students may acquire an unhealthy dependence on grammatical correction apps for mobile devices, which could impede their ability to write independently. The efficacy of mobile-assisted writing education can be hindered for some pupils due to technological access and digital literacy hurdles.

In conclusion, the literature on using mobile devices to teach writing shows that these tools can improve students' paragraph writing. Students are engaged through gamification and autonomy, while mobile applications provide real-time feedback, collaboration, and personalization of

learning experiences. Although there are some obstacles, research in different educational settings has shown that mobile media can be an excellent tool for boosting students' writing.

Mobile Media in Writing Using Text Based Instruction

Text-based instruction has always been essential in education, especially when teaching students how to write. Many researchers have looked at how students' writing skills can be improved by delivering text-based teaching using mobile media. Methods such as text-processing tools, messaging platforms, and mobile apps are commonly used in this technique to deliver text-based educational content and feedback. Some researches delve into the prior research on the effects of integrating mobile media with text-based instruction on writing abilities, particularly paragraph writing. Ye & Li (2022) studied the impact of text-message-based grammar instruction on mobile devices. As part of the research, students were sent daily SMS messages with grammar rules and sentence-building assignments. According to the research, students' grammar accuracy and paragraph construction skills were found to improve with repeated exposure to brief, text-based instruction. Writing improved due to the regularity and briefness of text-based instruction, which enforced linguistic principles and patterns.

Similarly, Kurd et al. (2023) looked into the feasibility of using mobile phones to transmit grammar and vocabulary lessons via text message. Their research showed that students' improved paragraph writing directly resulted from their improved understanding of sentence structure, facilitated by mobile-assisted text-based learning. Students were motivated to practice writing more frequently due to the significant benefits of getting grammar lessons via text messaging, which include their portability and convenience.

Several mobile applications offer text-based scaffolding to aid students in paragraph development. A study by Aboulfotoh (2024) used mobile writing software that provides instructional text prompts and paragraph writing templates. The software gave students text-based instructions to write paragraphs with an organized structure, including topic sentences, information to back up the topic, and a conclusion. According to the research, students could write paragraphs that were more cohesive and structured through text-based scaffolding tools. Likewise, Pingmuang & Koraneekij (2022)investigated mobile writing environments that utilized text-based prompts and real-time text feedback to support writing assignments. They discovered that text-based scaffolding enhanced students' paragraph quality and structure. This method allowed learners to improve their writing by providing clear, actionable guidance.

To sum up, the studies on the use of mobile media in text-based writing instruction have shown that it is beneficial in enhancing students' ability to write paragraphs. Research shows that text-based scaffolding tools, grammar correction applications, and mobile messaging platforms can help teachers deliver timely, individualized, and interactive lessons. In addition to improving their grammar and sentence structure, students also benefit from text-based feedback and prompts when building well-organized paragraphs. When utilizing mobile media for more intricate writing assignments, it is crucial to consider specific constraints like screen size and the

level of feedback. Text-based mobile training is still a viable option for improving students' writing abilities, especially their paragraph writing.

METHODOLOGY

The research and development method are a research method whose ultimate goal is to form a valid product and measure the effectiveness of the product application. The development employed the 4-D method of the Thiagarajan, Semmel, and Semmel instructional system development model (4-D model), which has been modified (Cresswell, 2014; Cresswell & Plano, 2018). This development model consisted of defining (creating the need analysis and students 'motivation), designing (designing the media), developing (validating and revising the media), and disseminating (implementing in the classroom). This study also employed a quasi-experimental design (Cresswell & Plano, 2018), especially the single-group pretest-posttest. Twenty-five students from one of University in Indonesia participated in the current study. Both male and female students were taking an English writing paragraph course. Their ages ranged from twenty-five to thirty-eight. It used a convenient sampling (purposive) to select students for this study because every year, the class only have one class. Several instruments were implemented in this investigation, such as a paragraph writing test developed to evaluate the development of the media and its effectiveness, questionnaires, observation, media validation sheets, and feedback from students who utilized the media. The questionnaire employed motivation questionnaire which adopted from Kulusakli (2021). The behavioural engagement observation had employed based on Mafulah & Cahyono (2023). The data had been analysed using t-test and validation product analysis.

RESULT AND DISCUSSION

Developing Mobile Media in Writing Paragraphs using Text Based Instruction

The four-step research and development process were used to carry out this study. They were defining, designing, developing, and disseminating.

a. Defining

The first step in the define stage was to analyse students' requirements in writing classes. It was accomplished by distributing a questionnaire on student learning styles using Google Forms. According to the findings of the questionnaire, students who have a visual learning style make up thirty percent of the total, students who have an auditory learning style make up eighteen percent, students who have a reading learning style make up twenty-seven percent, and students who have a kinaesthetic learning style make up twenty-five percent. Therefore, to cater to students' visual learning styles, it is essential to have text-based media accessible via mobile devices. It can potentially boost student engagement and motivation in composing paragraphs.

Table 1. *Motivation Questionnaire*

Motivation Questionnaire	Mean	Standard Deviation
Enjoyment	2.35	0.52
Self-Efficacy	2.38	0.62
Instrumentality	2.28	0.66
Recognition	2.04	0.82
Effort	2.18	1.21
2.25	0.76	

Table 1 explicates that self-efficacy became the highest mean score because most of the students have positive perspectives with their self-efficacy in writing. In addition, writing is critical to students' success; they believe their writing ability dramatically adds to their accomplishments. Writing essays comes naturally, and they enjoy creative writing tasks. Classes that require much writing are some of their favourites because the students are encouraged to think critically and express themselves clearly. Before beginning any writing activity, they always plan, which helps them organize their thoughts and generate better work. Becoming a better writer is their top priority, not just because it will help their work but also because they appreciate perfection in their writing. Earning a writing project is significant because it demonstrates their hard work and attention to the trade.

While the lowest result is the recognition which describes about reading what the students have written is something that they like doing. They take pleasure in compiling paragraphs. There will be more opportunities for them to write in the classroom. Good writing skills are necessary if they want to get a decent job. On the other hand, they had less discussion with their partner to give feedback each other. This motivation result is in line with the research from (Challob, 2021; Fathi et al., 2019; Guo & Bai, 2022)

In addition, the behavioural engagement observation had done in twenty-five students. The analysis of observation results as follows.

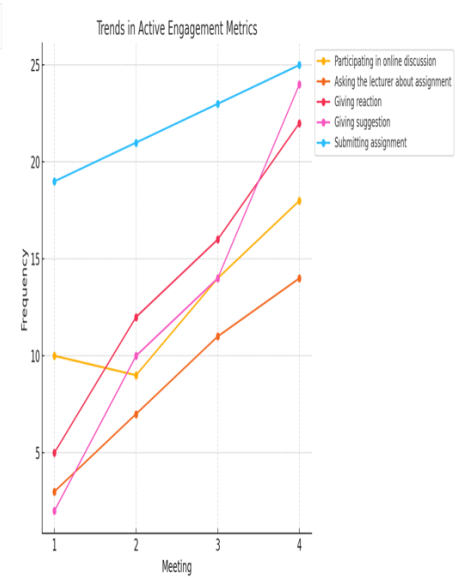


Figure 1. Active Engagement Result

The number of participants in online discussions increased from 10 in the first meeting to 18 in the fourth meeting, suggesting that engagement increased over time. The number of inquiries directed at the lecturer regarding assignments increased significantly from the initial to the final meeting, suggesting that participants were more inclined to ask questions. The number of reactions increases considerably from 5 at the beginning to 22 by the fourth meeting, indicating a substantial increase in active participation in responding. The frequency of suggestions increased markedly, from 2 at the commencement of the meeting to 24 in the final meeting. Lastly, the submitting assignments indicator has maintained a consistently high tally of 19 since its inception, and it has only slightly increased to 25 in the most recent meeting. In summary, the graph suggests a consistent increase in various forms of active engagement throughout the meetings, with the most significant increase in the provision of suggestions. This result is accordance with (Fisher et al., 2018; Shi et al., 2021;

Tang & Hew, 2022). They discussed that the students go above and beyond in a writing class, they truly engage in learning, not merely checking off boxes. Participatory class discussions, group projects, constructive criticism from classmates, writing assignments, and practice writing for real-world contexts are all part of the curriculum. Collaborating, sharing ideas, and receiving input from classmates are all highly encouraged. Students are more invested when teachers use technology, give them options in class projects, and create a welcoming atmosphere. The objective is to maintain student engagement, motivation, and critical thinking while they practice and improve their writing abilities during the semester.

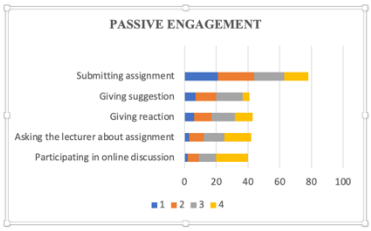


Figure 2

These data demonstrated that participants tended to be more engaged in submitting assignments at the beginning of the meeting. However, as time progressed, their level of engagement in other categories also decreased. These categories included providing suggestions, reacting, asking questions to the instructor, and participating in online discussions. This study is in line with (Ardi & Rianita, 2022; Arifin & As'ad, 2019).

b. Designing

The media initially had a plain, uninteresting image background throughout the design revision stage; this allowed for minimal input from the validator, leading to the development of a media background and media settings that could be accessible via mobile phones, laptops, or desktop. It needed responsive design, using dynamic and interactive backgrounds, more prominent colours and contrasts, optimizing images and content, interactive features and easy navigation, smooth animations or transitions, and video backgrounds are some of the ways that media backgrounds can be developed to be accessible via devices like mobile phones, laptops, or computers. The design revision can be seen in Figure 3,4,5.

Figure 3. Opening Design

Figure 4. Menu Design

Figure 4 shows that the media menu consisted that lesson, evaluation, and references. The lesson section display is designed according to student needs and is

equipped with colourful, attractive images of writing activities.

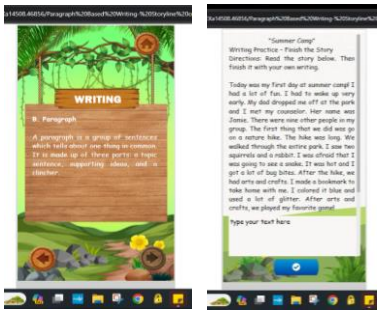


Figure 5. Lesson Section

c. Developing

At this stage, the revised media is assessed by media validators and language experts to meet the validity rules before being tested in class with students. The results of the initial expert validation are shown in Table 2.

Table 2. Validation Results

No	Validator	Validation
1	Learning Media	4.00
2	Writing	4.05
3	Assessment	4.25
Means		4.1
Category		4.25

From the validation results above, it can be concluded that the simple Android gamification media based on Task-Based Language Teaching is feasible to use and test on a small class scale in the semester one on Public University. The average validation results are more than 4.00, so they are in the very good category.

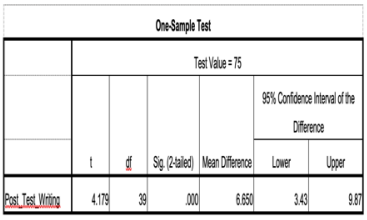
To investigate the effectiveness of mobile media in writing, this study used t-test to analyse the data. The hypothesis are;

Hypothesis:

$H_0 = \mu \geq \mu_0$ (Writing reaches completion)

$H_1 = \mu < \mu_0$ (Writing does not reach completion)

The results of the data analysis were carried out using one sample test to determine whether or not there was an increase in the ability to learn writing paragraph.



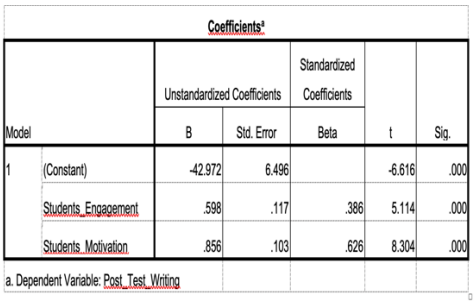
One-Sample Test

	Test Value = 75					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Post_Test_Writing	4.179	39	.000	6.650	3.43	9.87

Figure 6. One-Sample Test

The acception of H_0 when the $t_{count} > t_{table}$ value had a significance level set by the researchers of 5%, meaning that the reading ability has achieved completion. Based on the calculation results, $t_{(count)} = 4.179$ and $t_{(table)} = 1.696$ are obtained. Because $t_{count} > t_{(table,)}$ (4.179 > 1.696), then H_0 is accepted and H_1 is rejected. Thus, it can be concluded that the writing value had achieved completion. In conclusion, the mobile media implementation is effective to apply in hybrid learning.

In addition, the influence of motivation and student engagement on reading as follows.



Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-42.972	6.496		-6.616	.000
	Students_Engagement	.598	.117	.386	5.114	.000
	Students_Motivation	.856	.103	.626	8.304	.000

a. Dependent Variable: Post_Test_Writing

Figure 7. The Influence of Motivation and Reading Engagement

Based on the coefficients table, the regression equation Y = -42.972 + 0.598x_1 + 0.856 x_2 means that increasing motivation and students' engagement by 1 unit will increase writing by 0.598 and 0.856. For activeness and students' engagement, it can be seen that the sig value = 0% <5% so that H_0 is accepted, meaning that the regression coefficient is significant or activeness and students' engagement have a significant effect on writing. This result is in line with (Lestariningsih et al., 2022; Widyastuti & Wuryanto, 2020).

To sum up, the text-based approaches supported by mobile media have improved students' paragraph-writing skills. This media provides flexibility in learning, increases student engagement, and facilitates fast and accurate feedback. In addition, this approach is relevant to the needs of digital-era learning, where technology integration is critical to supporting the development of literacy and writing skills. This study reinforces the importance of technology as an innovative and efficient learning tool for more optimal results.

CONCLUSION

All in all, it has been demonstrated that employing text-based strategies supported by mobile media is an excellent way to improve students' paragraph writing skills. This medium allows for greater flexibility in the learning process, boosts student involvement, and makes it easier to deliver timely and correct feedback. In addition, this method applies to the requirements of education in the digital age, which emphasizes the importance of incorporating technology to facilitate the growth of comprehensive literacy and writing abilities. The findings of this study highlight the significance of technology as a cutting-edge and effective educational instrument that can significantly improve the quality of outcomes.

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