



STEM-EI

STEM Education International

The Influence of Traditional and Digital English Textbooks on Students' Learning Interest

Ahmad Samat, Geminastiti Sakkir*, Hasriani G

English Education Department, Universitas Negeri Makassar, Indonesia, 90224

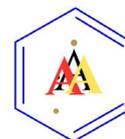
*Corresponding author: geminastitisakkir@unm.ac.id

Abstract: The purpose of this research is to analyse the influence of using traditional and digital English textbooks to improve students' learning interest. The research employed a quantitative method using a pre-experimental one-group pretest–posttest design. The subjects were 29 students of class XII.1 at SMAN 9 Tana Toraja, selected through cluster random sampling. Data were collected through pre- and post-observations. The results showed that the use of traditional textbooks increased the average learning interest score from 13.93 to 16.45, with a significance value of 0.000 (< 0.05), an effect size of 0.69 (medium category), and an N-Gain in the low category. Meanwhile, the use of digital textbooks increased the score from 15.76 to 23.55, with a significance value of 0.000 (< 0.05), an effect size of 1.84 (large category), and an N-Gain in the high category. Thus, both traditional and digital textbooks have a significant influence on improving students' learning interest.

Keywords: Traditional textbooks, Digital textbooks, Learning interest

Graphical Abstract



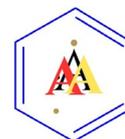


INTRODUCTION

The development of digital technology has transformed many aspects of education, including how learning materials are produced, distributed, and used. Traditional textbooks, which have long been the main source of learning, are now accompanied—or in some contexts replaced—by digital textbooks that can be accessed through computers, tablets, or smartphones. This shift has been particularly relevant in English language learning, where the integration of digital media allows learners to interact with authentic materials, multimedia resources, and global content. Despite the increasing popularity of digital textbooks, traditional textbooks still maintain an important position in education. Printed materials are tangible, easy to annotate, and less likely to cause digital fatigue or distractions. They provide students with a sense of stability and ownership in learning. However, digital textbooks introduce new advantages: interactive exercises, audio-visual features, and immediate access to additional resources. These elements can make learning more engaging and stimulating, especially for younger generations who are accustomed to using digital devices daily.

Learning interest is a crucial factor that influences students' motivation, participation, and academic achievement. As stated by Slameto (2010), interest is the tendency of a person to pay continuous attention to and gain satisfaction from a particular activity. When students are interested in a subject, they are more likely to engage deeply with the material, persist through difficulties, and retain information longer. Therefore, identifying learning media that effectively foster students' interest is essential for successful instruction. In addition to the influence of learning media on learning interests, students' perceptions of the books used also play an important role in determining the effectiveness of learning. Perception refers to an individual's interpretation or judgment of a stimulus, which may vary depending on personal experiences and contextual factors (Suprihanto et al., 2002). In this context, students' perceptions of traditional books and digital books can affect how much they are interested and motivated to learn using either of these media. Some students may feel more comfortable with traditional books because they are easier to read without eye strain from digital screens, while others may be more interested in digital books because of their interactive features that support more dynamic learning. Therefore, understanding students' perceptions of these two media is essential for identifying the most effective learning resources to enhance their learning interest. Therefore, this study is important to analyze how these two media influence students' interest in learning and how they perceive the use of traditional textbooks and digital English textbooks. Several previous studies have examined the use of digital textbooks and traditional textbooks in learning.

Previous research conducted by Prasetyo (2020) shows that the use of digital books can increase students' interest in learning because of the more interesting interactive features compared to traditional books. However, this research is still limited to the cognitive aspect and has not examined students' perceptions of both types of books. Another study by Dewi & Santoso (2021) found that some students are more comfortable using traditional books because they can help them focus more on learning without distractions from electronic devices. However, this study does not



compare the effectiveness of the two media to improve learning interest. Meanwhile, research by Wijaya (2022) examined the effectiveness of digital books in English learning and found that students who used digital books showed improvements in reading skills. However, this study did not specifically examine its impact on students' interest in learning. In addition, research by Sari (2023) shows that students' perceptions of digital books vary depending on age factors and technology usage habits, so this research still needs to be developed in a broader educational context. Finally, research by Hidayat (2023) found that the combination of traditional books and digital books is more effective in improving material understanding compared to the exclusive use of one type of book, but it has not specifically measured its influence on students' interest in learning.

Based on the previous studies, there are several research gaps that need to be addressed. Most of the existing research focuses only on one type of learning medium—either traditional textbooks or digital textbooks—without examining how each medium individually influences students' learning interest. In addition, although the role of digital media in learning has been widely explored, only a few studies have examined students' perceptions of both traditional and digital textbooks simultaneously. Previous research has also tended to emphasise cognitive outcomes, such as comprehension or reading skills, while paying less attention to the affective aspect, particularly students' interest in learning.

Therefore, this study aims to fill these gaps by analysing the influence of using traditional textbooks and digital English textbooks on improving students' learning interest, as well as exploring students' perceptions of the use of both media. It is important to highlight that this study does not intend to directly compare traditional textbooks with digital textbooks. Instead, it focuses on examining the effect of each medium separately to determine how each contributes to improving students' interest in learning. The results of this study are expected to provide theoretical contributions to the development of learning media in English education and practical insights for teachers and schools in selecting appropriate learning resources that align with students' needs and learning preferences. Based on this background, the title of this research is "The Influence of Traditional and Digital English Textbooks on Students' Learning Interest."

LITERATURE REVIEW

This study is grounded in four key theoretical frameworks relevant to the research objectives. The literature review systematically examined these core concepts: traditional textbooks, digital textbooks, students' learning interests, and the influence of traditional and digital textbooks on students' learning interests.

Traditional Textbooks

Traditional textbooks, often referred to as printed or print-based learning materials, are educational resources designed to support teaching and learning in formal education settings. These books consist of printed pages containing text, images, and

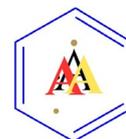


illustrations, bound together in a durable cover. They serve as structured learning resources that align with national curriculum standards (Sitepu, 2012; Wahab, 2013). In addition to delivering instructional content, printed textbooks commonly include exercises, summaries, and study guides that facilitate students' comprehension and mastery of material. According to Tarigan (2009), traditional textbooks can be categorised based on two aspects: the method of writing and the number of authors. From the writing perspective, there are three main types. First, single textbooks consist of one comprehensive volume that discusses a particular topic in depth. Second, bound textbooks are divided into several volumes, each focusing on a specific section of the subject, allowing learning to progress systematically. Third, serialised textbooks are arranged in sequences across educational levels, ensuring continuous and progressive learning from basic to advanced stages. From the authorship perspective, textbooks may be written by a single author or by a group of authors. A single-author textbook provides consistency in style and a unified vision, offering logical and coherent material presentation. However, it may lack diverse perspectives. In contrast, group-authored textbooks integrate multiple viewpoints and expertise, resulting in broader and more comprehensive content, though they may present challenges in maintaining stylistic and structural consistency.

Digital Textbooks

Digital books, or e-books, are electronic versions of printed books that can be accessed through digital devices such as computers, tablets, or smartphones. Ramasesh et al. (2014) define e-books as electronic forms of traditional printed texts that can be read using specific digital readers, while Saefullah (2017) explains that digital books are collections of text, images, sounds, and videos packaged in one application format compatible with various devices. The history of digital books began with the Gutenberg Project initiated by Michael S. Hart in 1971, followed by the creation of Dynabook at PARC in 1970, and later technological advancements such as Sony's Data Discman (1992), the Amazon Kindle, and the iPad, which revolutionised digital reading access. Digital books exist in several formats, including EPUB, PDF, and MOBI, each offering unique benefits depending on the device used. EPUB allows flexible adaptation of text to different screen sizes, while PDF maintains the original layout and formatting of printed documents. These formats make digital reading accessible across platforms and adaptable to users' preferences. From an educational perspective, digital books feature hypermedia elements that integrate text, images, audio, and video, allowing users to interact dynamically with content (Prasojo & Riyanto, 2011; Kustandi, 2011). Smaldino, Deborah, and Lowther (2018) further explain that e-book content can be easily modified or updated according to learners' needs. This flexibility makes digital books a valuable learning tool that presents up-to-date and interactive content designed to enhance engagement and motivation.

Andina (2012) classifies digital books into two main types, namely e-books and audiobooks. E-books may appear in PDF, HTML, or application-based formats, making them accessible both online and offline. Meanwhile, audiobooks, popularised by Apple through iTunes U, enable users to listen to books in audio form, offering flexible and practical access to educational content anytime and anywhere. This feature benefits

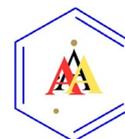


learners who prefer auditory learning or those engaged in multitasking, supporting continuous learning without requiring visual focus.

Learning Interest

Learning interest is an essential aspect that determines students' engagement and success in the learning process. Hilgard (as cited in Slameto, 2010) defines interest as a persisting tendency to pay attention to and enjoy certain activities, indicating an internal inclination that drives students to focus on and take pleasure in learning. Afni (as cited in Yustinus, 2013) explains that learning interest consists of enjoyment and willingness, which encourage students to concentrate, feel enthusiasm, and develop positive attitudes toward learning. Interest in learning fosters attention, strengthens memory retention, and reduces boredom, making students more eager to participate in classroom activities. Lee et al. (2011) describe learning interest as a personal preference that reflects an individual's prioritisation of certain subjects. When learning materials align with students' interests, they tend to be more intrinsically motivated and involved, whereas a mismatch between content and preference may result in low participation and minimal engagement. Therefore, interest and motivation are interrelated elements that mutually reinforce each other in promoting active and effective learning.

Slameto (2010) identifies several observable indicators of learning interest, including attention, pleasure, concentration, awareness, and willingness. These indicators describe how students focus, enjoy, and participate during learning activities. In this study, these aspects were adapted into four main observable behaviours—attention, enthusiasm, participation, and concentration—to measure students' learning interest during English lessons. Furthermore, according to Slameto (as cited in Setiani & Priansa, 2015), students' learning interest is influenced by both internal and external factors. Internal factors include physical and psychological conditions such as health, intelligence, attention, talent, maturity, and readiness. Healthy physical conditions and psychological preparedness allow students to focus, absorb, and retain information effectively. Students who are mature and ready to learn tend to show better motivation and higher learning interest. External factors, on the other hand, involve influences from the family, school, and social environment. Family factors include parenting style, family relationships, home atmosphere, and economic conditions that affect students' emotional and motivational states. School factors encompass teaching methods, curriculum design, teacher-student interactions, peer relationships, discipline, and learning resources, all of which contribute to shaping students' engagement. According to Skinner's (1953) behavioristic perspective, observable behaviours such as persistence in completing tasks, participation in discussions, and improved academic performance are indicators of students' motivation and learning interest. These behaviours reflect the extent to which students are involved and enthusiastic about the learning process. Overall, learning interest is shaped by the interplay between internal and external factors. When students possess strong physical and mental readiness and are supported by a positive environment at home and school, their learning interest tends to increase. Conversely, unfavourable internal or external conditions may hinder motivation and engagement. Understanding these factors is



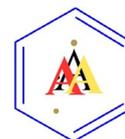
therefore essential to foster an effective and meaningful learning experience for students.

The influences of traditional and digital textbooks on the students' learning interest

The influence of traditional and digital textbooks on students' interest in learning has become a central topic in modern education. Traditional textbooks, as printed learning media, provide a straightforward and focused learning experience. They enable students to read without the distractions associated with digital devices and do not rely on technology or internet access, which helps sustain attention during study sessions. As Siregar and Suryani (2019) point out, printed books continue to play an important role despite technological advancements, as many students remain more comfortable and focused when using physical materials. However, traditional textbooks often lack interactivity and multimedia elements that can make learning more engaging for digital-native learners, making them appear less appealing to some students. In contrast, digital textbooks offer flexibility and interactivity that align with students' technological habits. They can be accessed anytime and anywhere through devices such as tablets, laptops, or smartphones. Digital textbooks often incorporate multimedia components—such as images, videos, animations, and hyperlinks—that enhance understanding and make learning more interesting and enjoyable. Rahmawati (2021) explains that these interactive features increase student motivation and participation, allowing them to explore topics independently and engage with content more deeply. Moreover, digital textbooks support personalised learning, as students can easily access additional online resources to expand their comprehension. Both traditional and digital textbooks significantly affect students' learning interest, though in different ways. Digital textbooks tend to enhance motivation and engagement through their dynamic presentation, while traditional textbooks foster focus and comprehension through a distraction-free reading environment. According to Aini and Hidayah (2020), digital materials promote students' enthusiasm and curiosity by integrating multimedia and interactive elements, yet traditional textbooks remain essential for maintaining attention and providing structured learning. Similarly, Pustaka (2017) found that some learners still prefer physical books due to the sense of comfort and stability they provide. Therefore, a balanced integration of both types of textbooks can be the most effective approach, combining the focus and structure of traditional books with the interactivity and engagement of digital learning materials to maximise students' interest and participation in the learning process.

METHOD

This study employed a quantitative pre-experimental research design using a one-group pretest–posttest format. According to Campbell and Stanley (1963), this design allows researchers to measure the effect of a treatment by comparing participants' performance before and after the intervention without the inclusion of a control group. It was chosen because it provides a practical way to observe how students' learning interests change after being exposed to specific instructional materials—in this case, traditional and digital English textbooks. The research was conducted at SMA Negeri 9



Tana Toraja, involving a one class of 29 students from Grade XII.1 during the 2025 academic year. The participants were selected using cluster random sampling, a technique that selects intact groups rather than individuals, as suggested by Fraenkel and Wallen (2012). This approach was considered appropriate because the class represented a typical sample of English language learners at the school.

Data collection was carried out in two main stages: pre-observation and post-observation, conducted before and after the treatment sessions. The observation instrument was developed based on Slameto's (2010) theory of learning interest, which includes indicators such as students' attention, enthusiasm, participation, and concentration during learning activities. The same observation sheet was administered in both the pre- and post-observation stages to ensure consistency and reliability of the measurements.

During the treatment process, students participated in six classroom meetings in which they were taught using both traditional and digital English textbooks. The implementation followed the principles of direct instruction and student-centred learning, allowing students to engage with materials through reading, discussion, and comprehension tasks. Throughout the process, the researcher observed behavioural indicators that reflected changes in learning interest. Quantitative data obtained from the pre- and post-observations were analysed statistically using the Paired Sample t-Test, Effect Size (Cohen's *d*), and N-Gain test. The paired sample t-test was used to determine whether there was a significant difference between students' pretest and posttest scores (Creswell, 2012). The Effect Size was calculated to identify the magnitude of the influence of the treatment (Cohen, 1988), while the N-Gain was used to determine the effectiveness level of the treatment (Hake, 1998). All research procedures followed ethical standards. Students were informed about the purpose of the research, their participation was voluntary, and their responses were kept confidential. The ethical considerations were guided by Creswell and Plano Clark (2018), ensuring respect, fairness, and academic integrity throughout the study.

RESULTS AND DISCUSSION

Findings from pre-observation and post-observation reveal that students in class XII.1 of SMAN 9 Tana Toraja, after using traditional and digital English books, can improve their interest in learning. This is based on indicators that have been determined by researchers in the observation instrument table. The results are as follows:

Data Analysis for Traditional Textbooks

The result of the statistical analysis using the following analysis procedure is as follows:

Pre and post Observation

Results of pre- and post-observations before and after using traditional textbooks are shown in Table 1. The findings indicate that the use of traditional textbooks contributed to an improvement in students' learning interest. Based on the statistical analysis, the pre-observation mean score was 13.93 with a standard deviation of 1.944, while the post-observation mean score increased to 16.45 with a standard deviation of



1.993. This shows an improvement of 2.52 points in students' learning interest after the treatment.

Table 1. Pre and post observation

| Statistic | Observation | | |
|-----------|-------------|-------|------------|
| | Pre | Post | Difference |
| Mean | 13.93 | 16.45 | 2.52 |
| Std. dev. | 1.944 | 1.993 | - |

Normality Test

The result of the normality test is presented in Table 1. The data of the normality test using the Shapiro–Wilk method showed that both the pre-observation ($p = 0.212$) and post-observation ($p = 0.082$) data were normally distributed ($p > 0.05$). Therefore, the data analysis proceeded using parametric statistics with the paired sample t-test.

Table 2. Test of Normality

| Observation | Shapiro-Wilk | | |
|-------------|--------------|----|------|
| | Statistic | Df | Sig. |
| Pre | .952 | 29 | .212 |
| Post | .937 | 29 | .082 |

Paired Sample T-test

The result of the Paired Sample T-Test revealed a significance value of 0.000 (< 0.05), indicating a statistically significant difference between the pre- and post-observation scores. This result suggests that the use of traditional textbooks had a significant influence on improving students' learning interest.

Table 3. Paired Sample t-test

| Observation | Mean | Standard Deviation | Df | Siq. (2-tailed) |
|--------------------------------------|--------|--------------------|----|-----------------|
| Pre-observation/Post- Observation | -2.517 | 1.682 | 28 | .000 |

Effect Size

Effect size is used to determine how much traditional books improve students' interest in learning, and the results are shown in the following classification Table 4.

Table 4. Classification of Effect Size Cohen's d

| <d> | Classification |
|-------|----------------|
| -0,20 | Small effect |
| -0,50 | Medium effect |
| -0,80 | Large effect |



The effect size analysis using Cohen's d (0.69) indicated a medium effect, which means that the use of traditional textbooks had a medium influence on students' learning interest.

N-Gain test

The N-gain test is used to measure the improvement in students' learning interest after being taught using traditional textbooks. The Classification of N-gain is provided in Table 5.

Table 5. Classification of N-Gain test

| Statistic | Observation | | |
|-----------|-------------|-------|------------|
| | Pre | Post | Difference |
| Mean | 15.76 | 23.55 | 7.79 |
| Std. dev. | 2.516 | 2.010 | - |

Furthermore, the N-Gain score was 0.05, which, according to Meltzer's (2002) classification, falls into the low category ($g < 0.30$). This means that the increase in students' learning interest after using traditional textbooks was statistically significant but not substantial. In short, traditional textbooks provided moderate influence with limited improvement in students' enthusiasm, attention, and motivation in learning English.

Data Analysis of Digital Textbooks

The result of the statistical analysis using the following analysis procedure is as follows.

Pre and Post Observation

The results of pre- and post-observations before and after using traditional textbooks are provided in Table 6.

Table 6. Pre and Post Observation using Digital Textbooks

| g | Classification |
|-------------------|----------------|
| $g > 0,70$ | High |
| $0,30 < g < 0,70$ | Medium |
| $g < 0,30$ | Low |

The use of digital English textbooks demonstrated a stronger influence on students' learning interest. The average pre-observation score was 15.76, while the post-observation average increased to 23.55, showing an improvement of 7.79 points.

Normality Test

The result of the normality test is presented in Table 7. The normality test using the Shapiro–Wilk method indicated that both pre- and post-observation data were normally distributed (pre $p = 0.348$ and post $p = 0.098$; both > 0.05).



Table 7. Normality Test

| | Observation | Shapiro-Wilk | | |
|--------|-------------|--------------|----|------|
| | | Statistic | Df | Sig. |
| Result | Pre | .961 | 29 | .348 |
| | Post | .940 | 29 | .098 |

Paired Sample T-test

Consequently, the data were analysed using the Paired Sample T-Test, which resulted in a significance value of 0.000 (< 0.05). This finding indicates that the use of digital textbooks had a significant impact on enhancing students' learning interest.

Table 8. Result of Paired Sample T-test

| | Observation | Mean | Standard Deviation | Df | Siq. (2-tailed) |
|--------|-----------------------------------|--------|--------------------|----|-----------------|
| Pair 1 | Pre-observation/ Post-Observation | -7.793 | 1.473 | 28 | .000 |

Effect Size

Effect size is used to determine how much traditional books improve students' interest in learning, and the results are shown in the classification in Table 9.

Table 9. Classification of effect size Cohen's d

| <d> | Classification |
|-------|----------------|
| -0,20 | Small effect |
| -0,50 | Medium effect |
| -0,80 | Large effect |

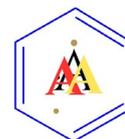
The effect size analysis using Cohen's d formula resulted in 1.84, classified as a large effect according to Cohen (1988). This demonstrates that the use of digital textbooks had a strong and substantial influence on students' motivation and engagement in learning activities.

N-Gain Test

The N-Gain test is used to measure the improvement in students' learning interest after being taught using traditional textbooks. The Classification is provided in Table 10.

Table 10. Classification N-Gain

| <g> | Classification |
|-------------------|----------------|
| $g > 0,70$ | High |
| $0,30 < g < 0,70$ | Medium |
| $g < 0,30$ | Low |



The result N-Gain score was 0.54, categorised as medium effectiveness based on Meltzer's (2002) classification. This implies that the use of digital textbooks effectively increased students' learning interest at a moderate-to-high level.

Overall, the use of digital English textbooks significantly improved students' learning interest. The results indicate that digital learning media provide interactive and engaging learning experiences that effectively stimulate students' motivation, participation, and enjoyment in learning English. These findings suggest that incorporating digital materials in the learning process can enhance students' enthusiasm and create a more dynamic and enjoyable classroom atmosphere.

Discussions

The findings of this research revealed that both traditional and digital English textbooks significantly influenced students' learning interest; however, digital textbooks produced a greater improvement. This section discusses these findings in relation to previous studies and relevant theories of learning motivation and media use.

Traditional Textbooks

The results of the pre- and post-observation using traditional textbooks showed a significant difference ($p < 0.05$), with an increase in the mean score from 13.93 to 16.45. This indicates that printed textbooks still play a positive role in maintaining students' learning interest. The moderate effect size (Cohen's $d = 0.69$) indicates that traditional textbooks moderately support students' concentration during learning. This finding is consistent with Siregar and Suryani (2019), who noted that physical books help students focus better without technological distractions. The low N-Gain score, however, indicates that the improvement in students' learning interest was relatively modest. This suggests that while traditional textbooks were effective in maintaining students' focus and discipline during the learning process, they did not substantially increase students' enthusiasm and participation. This limited improvement might be related to the nature of printed materials, which tend to present information in a structured but less dynamic format. As noted by Dewi and Santoso (2021), printed learning resources are valuable for supporting comprehension and consistent study habits, yet they may require additional instructional strategies to stimulate higher levels of motivation and engagement.

Digital Textbooks

The findings of this study indicate that the use of digital English textbooks had a significant influence on improving students' learning interest. Statistical results showed a significant difference between the pre- and post-observation scores ($p < 0.05$), with a mean increase of 7.79 points. The effect size analysis (Cohen's $d = 1.84$) demonstrated a large effect, which means that the treatment produced a substantial change in students' interest, enthusiasm, and participation during English learning. Additionally, the N-Gain score of 0.54 indicated a medium level of effectiveness, confirming that digital textbooks effectively enhanced students' learning interest. The



interactive features of digital textbooks—such as multimedia content, hyperlinks, and flexible accessibility—were likely contributing factors that encouraged students to become more engaged and motivated during learning activities. These features made the learning process more dynamic and enjoyable, allowing students to connect more deeply with the material. This finding aligns with previous studies by Prasetyo (2020) and Rahmawati (2021), who found that digital textbooks can enhance students' engagement, curiosity, and motivation through audiovisual components and user-friendly design. Therefore, it can be concluded that digital textbooks have a significant influence in fostering students' active participation and sustained interest in learning English.

Limitations

This study has several limitations. First, the research employed a pre-experimental one-group pretest–posttest design without a control group, which limits the generalizability of the findings. Second, the observation instrument measured only observable behavioural indicators of learning interest, without capturing students' psychological or affective dimensions in depth. Third, the study relied solely on quantitative data, limiting the exploration of students' perceptions and experiences in using traditional and digital textbooks. Therefore, future research is recommended to include a control group, apply a mixed-methods approach, and use complementary instruments such as questionnaires or interviews to obtain more comprehensive results.

CONCLUSIONS

This study aimed to determine the significant influence of using traditional and digital English textbooks on students' learning interest. The findings revealed that both types of textbooks had a significant influence on improving students' attention, enthusiasm, and participation during English learning activities. Statistical analysis using the paired sample t-test ($p < 0.05$) confirmed that students' learning interest increased significantly after the use of both traditional and digital textbooks.

The results also showed that the treatments effectively influenced students' motivation and engagement in learning. The effect size analysis further indicated that the influence of both textbooks was meaningful, as shown by the calculated values of Cohen's d , which demonstrated measurable changes in students' learning interest. These findings emphasise that the use of textbooks—whether printed or digital—provides a significant contribution to enhancing students' engagement and enthusiasm in learning. In conclusion, the use of traditional and digital English textbooks has a significant influence on students' learning interest by increasing their motivation, participation, and enjoyment in learning. Teachers are encouraged to utilise both types of textbooks effectively to create interactive and supportive learning environments that sustain students' enthusiasm and commitment to learning English.



AI-ASSISTED TECHNOLOGY STATEMENT

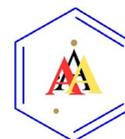
While preparing this work, the authors used ChatGPT to create a graphical abstract by providing an appropriate prompt to ensure the content's validity.

ACKNOWLEDGEMENT

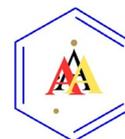
The researcher would like to express sincere gratitude to the students of class XII.1 at SMA Negeri 9 Tana Toraja, who enthusiastically participated in this research and contributed valuable insights throughout the learning process. Their cooperation and active involvement during the observation sessions made this study possible. Special appreciation is extended to the English teacher and the school principal of SMA Negeri 9 Tana Toraja for granting permission and providing continuous support during data collection.

REFERENCES

- Afni. (2013). *Faktor-faktor yang mempengaruhi minat belajar siswa*. Dalam Yustinus (Ed.), *Psikologi Pendidikan* (pp. 75–86). Yogyakarta: Penerbit Andi.
- Aini, N., & Hidayah, T. (2020). *The influence of digital learning media on students' motivation in English learning*. *Journal of English Education and Teaching*, 4(2), 112–120. <https://doi.org/10.33369/jeet.4.2.112-120>
- Amin, S., Maulina, M., & Sakkir, G. (2025). From Need to Innovation: Developing English Reading Instructional Material For Islamic Education Department. *Klasikal: Journal Of Education, Language Teaching And Science*, 7(2), 1151-1173.
- Andina, E. (2012). *Pemanfaatan buku digital dalam pembelajaran*. *Jurnal Teknologi Pendidikan*, 14(1), 55–64.
- Astri, Z., Sasabone, L., Sakkir, G., Hs, N., Tanasy, N., & Wahab, I. (2026). Navigating the Digital Shift: Exploring Lecturers' Attitudes Toward Digital Learning Implementation. *Research and Innovation in Applied Linguistics*, 4(1), 142-162.
- Campbell, D. T., & Stanley, J. C. (1963). *Experimental and quasi-experimental designs for research*. Houghton Mifflin Company.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.
- Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Pearson Education.
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.
- Dewi, F. A., & Santoso, H. (2021). *Printed vs. digital textbooks: An analysis of students' preferences and learning motivation*. *Indonesian Journal of Educational Research*, 9(1), 45–53. <https://doi.org/10.21009/ijer.091.05>
- Fraenkel, J. R., & Wallen, N. E. (2012). *How to design and evaluate research in education* (8th ed.). McGraw-Hill Education.



- Hake, R. R. (1998). *Interactive-engagement versus traditional methods: A six-thousand-student survey of mechanics test data for introductory physics courses*. *American Journal of Physics*, 66(1), 64–74. <https://doi.org/10.1119/1.18809>
- Hidayat, M. (2023). *Blended learning materials: Combining printed and digital resources for effective instruction*. *Journal of Educational Technology Studies*, 7(3), 122–131. <https://doi.org/10.26858/jets.v7i3.54821>
- Kamariah, A., Sudding, M. F. J., Sakkir, G., & Maharani, S. (2025). Teachers as Material Developers: Investigating Strategies for Writing Instruction in a Digital Age. *ARRUS Journal of Social Sciences and Humanities*, 5(3), 983-991.
- Kasman, S. N., & Sakkir, G. (2025). Exploring Reading Habits Among Generation Z Students of English Education at FBS UNM. *Journal of Language Teaching Innovation*, 2(2), 82-90.
- Kustandi, C. (2011). *Media pembelajaran manual dan digital*. Jakarta: Ghalia Indonesia.
- Lee, J., Kim, H., & Park, S. (2011). *Students' interest and engagement in learning: An empirical study*. *Educational Psychology Review*, 23(4), 475–489.
- Mayer, R. E. (2001). *Multimedia learning*. Cambridge University Press.
- Meltzer, D. E. (2002). *The relationship between mathematics preparation and conceptual learning gains in physics: A possible "hidden variable" in diagnostic pretest scores*. *American Journal of Physics*, 70(12), 1259–1268. <https://doi.org/10.1119/1.1514215>
- Prasetyo, M. A. (2020). *The use of digital textbooks to improve students' motivation and engagement in English learning*. *Journal of Language and Education Research*, 5(1), 15–23.
- Prasojo, L. D., & Riyanto, A. (2011). *Pemanfaatan media pembelajaran berbasis teknologi informasi*. Yogyakarta: UNY Press.
- Priyanto, D., & Sedyaningsih, R. (2013). *Pengaruh e-book terhadap motivasi belajar siswa SMA*. *Jurnal Teknologi Pendidikan Indonesia*, 3(2), 112–120.
- Pustaka, T. (2017). *Kecenderungan siswa terhadap penggunaan buku teks cetak dan digital*. *Jurnal Ilmu Pendidikan*, 19(1), 33–41.
- Rahmawati, D. (2021). *The impact of multimedia-based digital books on EFL learners' engagement*. *Journal of Applied Linguistics and Language Education*, 6(2), 88–97.
- Rahmawati, N. (2021). *Interactive e-textbooks and students' motivation in digital classrooms*. *Jurnal Teknologi dan Pembelajaran Modern*, 9(3), 150–160.
- Ramasesh, R., Srinivasan, R., & Joshi, P. (2014). *E-books in education: Emerging paradigms and challenges*. *International Journal of Educational Technology*, 5(2), 98–105.
- Ruddamayanti, F. (2019). *E-book sebagai media pembelajaran ramah lingkungan*. *Jurnal Pendidikan dan Teknologi Informasi*, 5(1), 22–28.
- Saefullah, A. (2017). *Pengembangan buku digital interaktif untuk pembelajaran*. *Jurnal Inovasi Pembelajaran*, 3(2), 101–110.
- Sakkir, G., Atmowardoyo, H., & Dollah, S. (2025). The Impact of Digital Learning Technologies on Students' English Learning Strategies in the New Normal Era. *Journal of Applied Science, Engineering, Technology, and Education*, 7(3), 465-476.
- Setiani, A., & Priansa, D. J. (2015). *Pengaruh faktor internal dan eksternal terhadap minat belajar siswa*. Bandung: Alfabeta.



- Siregar, A., & Suryani, R. (2019). *Printed learning materials and students' focus in reading comprehension. Journal of English Language Teaching and Linguistics*, 4(1), 67–76.
- Siregar, E., & Suryani, S. (2019). *Media pembelajaran cetak dan digital dalam konteks pendidikan abad 21. Jurnal Teknologi Pendidikan Indonesia*, 7(1), 14–25.
- Sitepu, B. (2012). *Penulisan buku teks pelajaran*. Bandung: Remaja Rosdakarya.
- Skinner, B. F. (1953). *Science and human behavior*. New York: Macmillan.
- Slameto. (2010). *Belajar dan faktor-faktor yang mempengaruhinya*. Jakarta: Rineka Cipta.
- Smaldino, S. E., Deborah, L. J., & Lowther, D. L. (2018). *Instructional technology and media for learning* (12th ed.). Boston: Pearson Education.
- Tahir, S. Z. B., Sakkir, G., & Iye, R. (2024). *Buru Language Learning Management Model in Ecotourism-Based Embedded-Multilingual: Teachers' Need Analysis. Idarah (Jurnal Pendidikan dan Kependidikan)*, 8(1), 15-30.
- Tarigan, H. G. (2009). *Pengajaran buku teks*. Bandung: Angkasa.
- Wahab, R. (2013). *Teori dan landasan pendidikan*. Bandung: Alfabeta.
- Wijaya, R. (2022). *The effectiveness of digital learning materials on students' interest and participation in English classes. Journal of Educational Innovation*, 3(2), 101–110. <https://doi.org/10.31004/jei.v3i2.412>
- Zambarbieri, D., & Carniglia, E. (2013). *Reading on paper and on screen: The influence of the medium on reading comprehension and speed. Journal of Cognitive Research*, 15(2), 96–101.