

CHAPTER IV

FINDINGS AND DISCUSSION

Data were collected through classroom observations and an in-depth interview with the English teacher. The data collected then become the foundational aspects to this chapter. The researcher provides the findings with detailed classroom sequences based on 4 observations conducted between August 2025 to September 2025. The findings were analyzed in thematic analysis based on the data collected in response to the research questions provided in this research. The objectives in this research covers the implementation of e-books features, benefits, and challenges prior to students of Al Mazaya Islamic school. The findings and discussions are presented systematically to ensure the representativeness.

A. Findings

The observations focus on observing the interactions between the students and the features of E-books. Class observations were conducted three times in order to collect the qualitative data needed. The researcher gathered data by carefully observing the instructional and educational teaching learning process on class 9A,9B, and 9C.

Interview was also conducted in order to find additional data needed to conclude this research. English Teacher who teaches in the class of 9A,9B, and 9C was interviewed as the participant. In the finding part, the narratives of the teacher are attached within the findings and further given a brief explanation of each finding.

Furthermore, themes were generated in order to systematically categorized the findings and to analyzed the data. The themes follow research questions of this research. Based on the data collected, here are the findings with themes provided in a table.

Table 4. 1 Emerging Themes in The Findings

No	Research Questions	Main Themes	Emerging themes
1	Utilization of e-book features by the students in English reading comprehension.	Digital-Based Reading Stages	Integration of e-book features through digital-based reading stages: <ul style="list-style-type: none"> • Pre-Reading • While-Reading (Stage 1) • While-Reading (Stage 2) • Post-Reading (Stage 1) • Post-Reading (Stage 2)
2	Benefits of E-book features to enhance students' reading comprehension.	Enhanced Engagement and Comprehension through Multimodal Features	<ul style="list-style-type: none"> • Cognitive benefits (vocabulary, comprehension) • Affective benefits (motivation, enjoyment)

			<ul style="list-style-type: none"> • Multimodal benefits (audio–visual integration)
3	Challenges faced by the students from using e-book features in reading activities.	Challenges in Using E-Book Features	<ul style="list-style-type: none"> • Technical issues (Wi-Fi, device problems, feature errors) \ • Learning limitations (time constraints, feature dependency) • Distraction by e-book features • Students’ digital literacy differences

1. Classroom Observation Findings

Classroom observations were conducted to examine how e-book features were implemented during English reading comprehension lessons and how students interacted with these features across different stages of reading instruction. The observations focused on real classroom practices and were guided by the observation instrument, which covered pre-reading, while-reading, and post-reading activities. The findings are presented thematically in accordance with the research questions and emerging themes.

To provide a clear overview of the observation process, the classroom observations were conducted in four different sessions across

two classes. The schedule of these observations, including dates, time, and class observed, is presented in Table 4.2.

Table 4. 2 Observation Schedule

No	Date	Time	Class
1	Tuesday, August 12 th 2025	07.30 – 09.00	9A
2	Thursday, August 21 st 2025	13.00 – 14.30	9B
3	Tuesday, August 26 th 2025	07.30 – 09.00	9A
4	Thursday, September 4 th 2025	13.00 – 14.30	9B

a. Integration of E-Book Features Across Digital-Based Reading Stages

The observation findings revealed that e-book features were consistently integrated throughout all stages of the reading lesson, namely pre-reading, while-reading (Stage 1 and Stage 2), and post-reading (Stage 1 and Stage 2).

During the pre-reading stage, the teacher instructed students to open the *English for Nusantara* e-book and observe the title, pictures, and introductory sections of the text. Visual elements embedded in the e-book were used to activate students' prior knowledge and stimulate curiosity about the topic. Students were observed predicting the content of the text based on the images displayed on their screens. This stage

showed that e-book visuals functioned as an effective tool to prepare students cognitively before reading.

In the while-reading stage (Stage 1), students engaged directly with the reading text using several e-book features. The built-in dictionary feature was frequently used when students encountered unfamiliar vocabulary. Students tapped words independently to check meanings, which allowed them to continue reading without interruption. In addition, audio narration was activated by several students to support pronunciation and understanding of sentence meaning. This stage demonstrated that e-book features supported vocabulary exploration and initial comprehension.

During while-reading (Stage 2), students were observed applying deeper reading strategies. Highlighting tools were used to mark important sentences, main ideas, and key structural elements of the text, particularly when identifying parts of recount texts and past tense verbs. Some students zoomed in on specific paragraphs to focus on detailed information. At this stage, e-book features facilitated analytical reading and problem-solving processes.

In the post-reading stage (Stage 1), students completed comprehension tasks and exercises provided in the e-book, including short questions and interactive quizzes. These activities were used to check students' understanding of the text. Students demonstrated active

participation by answering questions directly on their devices, indicating that e-book features supported comprehension assessment.

Finally, in the post-reading stage (Stage 2), students reflected on the reading activity by reviewing highlighted sections and revisiting vocabulary through the dictionary feature. Some students re-read the text independently, showing autonomous learning behavior. This stage illustrated that e-book features encouraged reflection and reinforcement of learning outcomes.

b. Observed Benefits of E-Book Features in Reading Comprehension

From the observation data, several benefits of e-book features were identified in relation to students' reading comprehension.

First, cognitive benefits were evident through students' improved ability to understand vocabulary and text meaning. The frequent use of the dictionary feature allowed students to comprehend the text more efficiently without relying heavily on teacher explanations. Students were able to identify main ideas and supporting details more accurately during comprehension activities.

Second, affective benefits were observed in students' motivation and engagement. The classroom atmosphere appeared more active and student-centered compared to traditional reading lessons. Students showed enthusiasm when interacting with audio narration, images, and

highlighting tools. Their participation increased, and they appeared more confident during reading tasks.

Third, multimodal benefits emerged through the integration of text, audio, and visual elements. Students processed information using multiple sensory channels, which supported understanding and retention. The combination of written text and audio narration helped students follow the reading more smoothly, particularly for those with lower reading proficiency.

c. Challenges Observed During the Use of E-Book Features

Despite the benefits, classroom observations also revealed several challenges related to the use of e-book features.

Technical issues were frequently observed, particularly unstable internet connections and device-related problems. In some sessions, pages loaded slowly, audio features did not play smoothly, or students' devices experienced lag or low battery. These issues occasionally interrupted the flow of the lesson and reduced students' focus.

Learning limitations were also observed, such as time constraints when students spent too long navigating features instead of focusing on the text. Some features required repeated instructions from the teacher, which slowed the lesson pace.

Another challenge involved distraction by e-book features. Some students were observed repeatedly clicking audio or interactive

elements for entertainment rather than learning purposes. This behavior required the teacher's intervention to redirect students' attention back to the reading task.

Finally, differences in students' digital literacy were evident. While many students navigated the e-book confidently, others needed assistance to operate features such as quizzes, audio, or navigation tools. These differences affected the level of independence students demonstrated during reading activities.

2. Findings from the Interviews

The researcher conducted a series of interviews to collect additional detailed information regarding the implementation of e-books in English reading activities. All interview data were transcribed verbatim carefully. However, several grammatical inconsistencies naturally appeared in their original statements due to the inconsistency of language use in the interviews. The researcher then refined the responses while keeping the original interpretation intact.

In total, the researcher conducted two interviews with the teacher and one interview with students. For the student interview, two student representatives from each Class were selected purposefully to ensure that the data reflected different levels overall results of learning engagement and

comprehension. This approach allowed the researcher to obtain complete and diverse information from both the teacher's and students' narratives. The interview schedules are presented below.

Table 4. 3 Interview Schedule with The Teacher

No	Date	Time
1	Thursday, August 21 st 2025	14.30 - 15.00
2	Thursday, September 4 th 2025	14.30 – 15.00

Table 4. 4 Interview Schedule with The Students

No	Date	Time	Location
1	Thursday, September 4 th 2025	15.00 – 15.30	Lobby Office

a. Students' Exploration and Utilization of E-Book Features

Digital tools enhance comprehension through flexible approach in information, multimodal content, and active engagement. In this research, the researcher investigated how students explored and utilized e-book features during English reading activities.

After coding the data comprehensively, several meaningful aspects from the interview transcripts and observation notes were identified and categorized based on the learning dimensions described. In accordance to the Multidimensional Reading Learning Theory by

Indrawati et al., (2020). These categories or themes include features exploration, multimodal support, autonomous use, and students' motivational responses.

1) Teacher-Guided Introduction to E-Book Features

Before students could fully utilize e-book features independently, the teacher first introduced the basic tools available in the digital platform. Teacher W described how students guided step-by-step through the tools:

"If I remember right, it's been about five years. Al Mazaya started adopting digital learning platforms, and since then, e-books have become one of my main media for teaching. Especially after COVID-19, when we relied on online learning, the use of e-books became even stronger." (Teacher W, script 1, line 4, interview data).

In daily practice, the teacher integrated the e-book throughout the entire lesson cycle in before, during, and after reading. Students were instructed to comprehend pictures, read passages, listen to audio narration, highlight important parts, and complete short quizzes. This finding aligns with teacher narratives in:

"Usually, I use e-books in almost every stage of the lesson. For example, during reading sessions, the e-book is the main medium. Students open the e-book, read the passage, and use

the built-in features like dictionary, highlighting, and audio to help them understand the text. Then we discuss it together.” (Teacher W, script 1, line 3, interview data).

The students fully utilize e-book in their lesson. The utilization of e-book serves as the main source of media in the lesson. By the help of the features, this utilization can be achieved effectively.

2) Frequently Used Features and Students’ Independence

The teacher described what features are used frequently in classroom. The teacher shared:

“The most common one is the dictionary feature. They really like it. Whenever they find a difficult word, they immediately click it to see the meaning. It helps them build vocabulary independently. Another feature they often use is the audio narration, so they can listen to the text and follow along. It also helps them improve pronunciation. Sometimes I ask them to repeat the audio so they can practice speaking too.” (Teacher W, Script 1, line 12, interview data)

The narrative show that the dictionary feature is the most used and it provides significant effect from the utilization. The students easily find the meaning of the words independently using the dictionary feature and furthermore becoming more easier to pronounce the word by using the audio narration feature. These

features help to enhance the process of their vocabulary building and further enhance their reading comprehension significantly.

3) Students Engagement Influenced by The Features

The features further provide engagement enhancement for the students. The teacher shared:

“Hmm... from what I see, the interactive pictures or images are the most effective. You know, students are very visual. When they see colorful or moving pictures related to the story, they can understand the content faster. It helps them remember vocabulary and meanings better. Plus, they get more engaged and curious about the text.” (Teacher W, Script 1, line 16, interview data)

The interactive features where students can actively engage to pictures to see colorful and moving pictures. Colorful visual of the pictures provides significant focus enhancement for the students to actively join the activity. Moreover, the interactive pictures enhance this due its fun to use as students can move, zoom in, and zoom out the pictures.

“They usually get really excited. You can see their eyes light up, haha. Sometimes they laugh when the audio has a funny voice or when the picture moves. They find reading fun. For example, when they hear the story narration, they often imitate the pronunciation. The class atmosphere becomes more alive compared to using printed books.” (Teacher W, Script 1, line 20, interview data)

Based on this narrative, the students were shown engaging to the features in the way their physical response visually tells. The reading activity becoming more fun as they can imitate the pronunciation from the audio.

4) Teacher's Role in Facilitating E-Book (a change from teacher-centered to facilitator-centered instruction)

The use of e-book then changes the overall classroom dynamic from the way the teacher experienced. The teacher shared:

“Yes, I think the teacher's role changes. Before, the teacher was the center—we explained everything. But now, with e-books, students can explore by themselves. I just need to guide them when they get confused about something. So, it's more like being a facilitator.” (W, Script 1, line 24, interview data)

The narrative above shows how the teacher experiences a shifting on teaching methods. The shift happens in accordance to direct multimodal media which allows them to directly interpret meaning, check vocabulary, replay audio, and interact with text independently. The teacher experience this benefits of shifting in the way the teacher no longer has the urge to explain every part of the reading materials.

b. The benefits provided by e-books

The interviews revealed several benefits on the utilization of e-book features. It is organized under five main themes: comprehension, multimodal growth, students' independence in learning, ease of use, and effectiveness in delivering materials.

1) Reading Comprehension Benefits

E-book features support students' understanding of text through immediate vocabulary access through the features provided. The teacher emphasized how the dictionary and interactive content helped students grasp meaning quickly:

"Hmm... there are many benefits. The most obvious one is vocabulary improvement. Students' vocabulary expands really fast because of the dictionary feature. When they see an unfamiliar word, they just click it. They instantly know the meaning, and sometimes they also hear the pronunciation." (Teacher W, script 4, line 4, interview data).

The students confirmed the benefits of the dictionary and highlighting features. The benefits based on the answer:

"I think I use the dictionary the most. When I don't know a word, I just press it, ya, and it shows the meaning quickly." (ANA, script 1, line 5, interview data).

"Highlighting helps me remember important parts, and the pictures... ah, they make the story clearer." (EAF, script 1, line 6, interview data).

2) Multimodal Growth

The multimodal growth covers the integration of visual, auditory, and interactive features, allowing students to process information in different ways simultaneously.

From the narratives of the teacher, e-books and its features cover visual, auditory, and interactive elements, which enhance students' engagement and facilitate the material delivered faster.

“Because e-books don’t just have text. They include pictures, audio, and sometimes short videos. So, students can understand the context through multiple cues.” (Teacher W, script 4, interview data).

These features further enhance the engagement, focus, and understanding of the student which showed in:

“The e-book feels easier to open, and emm... it’s more colorful than the textbook, so I don’t feel sleepy when reading.” (ANA, script 1, line 2, interview data).

“I use the audio feature sometimes. It helps me listen to pronunciation.” (MRZ, script 2, line 6, interview data).

The students' experiences above also recognize the benefit within the use of e-books. Visual elements such as pictures and animations interactively support contextual understanding and reduce cognitive load, making learning more enjoyable.

3) Students' Independence in Learning

The integration of e-book features in English reading comprehension encourages students' independence in learning by the features that allow them to navigate texts and practice skills autonomously. In addition, unlike traditional methods, where students rely heavily on teachers for explanations, e-books offer opportunities for self-directed exploration, encouraging students to take responsibility for their learning process. The teacher showed this by:

“At the beginning, I guided them step by step like, ‘Okay, click here for the dictionary,’ or ‘Try listening to the audio.’ But after a few sessions, they got used to it. Now, most of them explore the features on their own. Sometimes they even teach their friends.” (Teacher W, script 3, interview data).

The students actively use dictionaries, audio, and highlighting features to understand the materials. This self-directed use of e-book tools allows them to repeat activities as needed, and engage in problem-solving without constant teacher interference. It fosters confidence and motivation. Students' narrative confirms this development of autonomy in:

“I highlight the part first, then I check the dictionary. Sometimes I also ask my friend sitting next to me.” (EAF, script 1, line 15, interview data).

Overall, the e-book's interactive and multimodal features provide a independent learning style that enhances the comprehension. By allowing learners to explore, practice, and manage their own comprehension strategies in accordance to encourage active engagement in reading comprehension.

4) Easy to Utilize

The result of the lesson shows the convenience and accessibility of the e-book features, which allowed them to focus on the lesson. The teacher emphasized the practicality in:

“Usually, I use e-books in almost every stage of the lesson... Students open the e-book, read the passage, and use the built-in features like dictionary, highlighting, and audio to help them understand the text.” (Teacher W, script 3, line 3, interview data).

“Yes, because everything is in one device. No need to bring heavy books.” (AP, script 2, line 29, interview data).

Furthermore, with all learning materials in a single device, e-books reduce logistical barriers, support self-paced learning, and allow students to review passages or vocabulary multiple times, which cannot be achieved effectively with the use of traditional media. Other notable function of the interactivity of e-book includes the zoom feature. Along with the dictionary use, this instance

ultimately enhances comprehension, engagement, and overall learning efficiency. One of the students implied:

“I zoom the sentence and check the dictionary. Sometimes I read it twice.” (MRZ, script 2, line 15, interview data).

Furthermore, e-books with the help of the features allow students to focus on the reading materials. The designated features, such as dictionaries, highlighting, and audio narration, provide the students to navigate between texts easily and engaged to the lesson at their own pace.

5) Effectiveness in Delivering Materials

E-books created an engaging environment that enhanced motivation, participation, and active learning. The Teacher noted the transformation of classroom dynamics:

“The learning process becomes more dynamic. They’re not just sitting and reading silently, they click, listen, highlight, discuss. It becomes an active learning process.” (Teacher W, script 3, interview data).

Based on the narrative, the feature allows learners to interact with texts through various features, enabling them to explore, analyze, and learn independently. This supports the delivery of

materials more effectively by making lessons more interactive and adaptable to different learning styles.

c. Challenges Faced by Students in Utilizing E-Book Features

The findings revealed several challenges the students experienced during the utilization of e-book features. These challenges generally covered the issues related to technical problems, usability limitations, and conditions that affected their focus while reading.

Furthermore, the challenges of utilizing the features mainly found within the narratives of the student and followed by the narrative of the teacher. The teacher narrative then further provided the solutions needed for every challenge found.

1) Technical Problems

One of the most frequent challenges found within the utilization of e-books by students was the unstable internet connection. This issue caused delays in loading pages or features in the e-book. The students explained:

“The main problem is signal. Sometimes the page won’t load.” (ANA, script 1, line 23, interview data)

“Slow internet, Sir. It makes the page stuck.” (AP, script 2, line 23, interview data)

Not only due to the slow internet connections, the e-book itself carries technical issues. The issues circle around the battery and some e-books internal engine is not powerful enough to run task simultaneously. The students shared:

“Sometimes the tablet battery runs out quickly.” (EAF, script 1, line 24, interview data)

“Sometimes the tablet lags.” (MRZ, script 2, line 24, interview data)

Furthermore, even though the problems occur occasionally, it still affected the engagement to the students and the effectiveness of e-book provide in the classroom. It further affected the continuity of the students in the learning process.

In order to overcome this situation, a narrative of the teacher implied that this problem can be easily handled in:

“Oh yes, that happens too. Sometimes the Wi-Fi signal in class isn’t stable, so the e-book keeps loading. Some students’ phones are old or full of data, so it becomes slow. Then they say, “My e-book doesn’t open.” (laughs) It’s quite common. (Teacher W, script 4, line 32)”

These obstacles commonly occurred as the teacher routinely troubleshoot the technical issue. Even though the teacher did not explicitly state the solution, the experience of the teacher gives a

proper insight. It is due to the problem commonly occurred; the teacher tends to get used to the issue and solve it instantly.

2) Limitations of The Features

Apart from technical problems, students also experience challenges in running certain features. Some features were difficult to operate, for instance it is slow to load or unclear during its operation. One student explained difficulty with the audio feature. The students stated:

“I rarely use the audio feature, Sir. Sometimes the sound is not clear or it loads slowly.” (ANA, script 1, line 8, interview data)

In a similar experience, other students highlighted sound clarity issues:

“I want better audio. Sometimes it’s too soft.” (MRZ, script 2, line 27, interview data)

The students explain the audio feature produce a soft sound. Soft sound, in this context, showed a situation where the sound of the audio feature becoming hard to be listened. This problem surely affects the benefit to the pronunciation, where the students cannot mimic the words that come from the audio.

Some students also experienced problems with interactive features such as the quizzes. The students shared:

“I almost never use the quiz feature... sometimes it doesn’t load or I’m not sure how to open it.” (EAF, script 1, line 9, interview data)

“Maybe quizzes that load faster.” (AP, script 2, line 26, interview data)

The quiz feature normally instructed by the teacher in a lesson. But the students were encouraged to use the feature outside the teaching process for their language proficiency. Due to these problems, some students cannot fully experience of fun from the quizzes to enhance their English skills.

In addition, these findings indicate that although e-book features were beneficial, the limitations of the features still caused difficulties for students in their language acquisition especially reading comprehension.

Furthermore, this challenge also occurred commonly in the teaching process. In accordance to the technical problems solution, the limitation of the features shared the same solution, in which the teacher routinely troubleshoots the features problems experienced by the students. The teacher shared:

“I have to repeat the instructions often.” (Teacher W, script 4, line 30)

When students experienced difficulty in operating or opening certain features, the teacher gives direct assistance by giving them instruction routinely.

“At first, I had to help one by one.” (Teacher W, script 4, line 28)

In addition, this assistance ensures that no students were experiencing the difficulties due to features errors.

3) Distraction by The Features.

Distraction was another challenge mentioned by students in utilizing e-books feature as the media in learning. Some students found themselves getting distracted when the device experienced delays or interruptions. The student expressed:

“Sometimes focused, sometimes distracted. If the Wi-Fi is slow, I get distracted.” (ANA, script 1, line 17, interview data)

Notifications are found as another utility in e-book. The notification contains several informative announcements related to e-books conditions, the progress of the running application, and other type of notification. In addition, notifications that appeared on

the device also contributed to distraction for the students. One of the students experienced it in his narrative:

“Sometimes distracted because notifications pop up.”
(MRZ, script 2, line 18, interview data)

These distractions affected students' concentration during reading activities and sometimes reduced the effectiveness of their engagement with the e-book. The teacher has to make sure the distractions didn't last long. In order to overcome this challenge, the teacher shared:

“Hmm... the first one is distraction. Sometimes students get too focused on the fun parts, not the text itself. For example, they keep clicking animations or playing the audio repeatedly, just for fun. I have to remind them, “Focus on reading first, you can explore later.” But well, they're kids, curious by nature.” (Teacher W, script 4, line 26)

The teacher overcomes the distraction to the feature of e-books by constantly reminding them. The teacher reminded the students directly with guided instructions. The instructions showed in a form of making the students keep in track with the lesson or by distracting them from the distractions.

4) Students' Digital literacy Proficiency

The findings also revealed that students have different digital literacy expertise when using the e-book. While many students confidently explored different, others showed struggling in accessing, navigating, and operating the tools. For instance, some learners tapped words instantly to check meanings, highlighted important sentences, zoomed text for clarity, and used audio for pronunciation. Students shared their digital literacy by their strategies in:

“I think I use the dictionary the most. When I don't know a word, I just press it... it shows the meaning quickly.” (ANA, script 1, line 5, interview data)

“I highlight the part first, then I check the dictionary.” (EAF, script 1, line 15, interview data)

“I can zoom the text. My eyes don't hurt.” (MRZ, script 2, line 3, interview data)

However, not all students were equally expertise in running the e-book. Some rarely used available tools because they did not know how to operate them or forgot the function existed. One student stated:

“I rarely use the highlight. I forget it exists.” (AP, script 2, line 8, interview data)

Others struggled with loading, navigation, or understanding how to open certain features such as quizzes:

“I’m not sure how to open it.” (EAF, script 1, line 9, interview data)

The teacher further confirmed this gap in student digital literacy with the narratives:

“Not all students are equally good with technology. Some are fast learners, but others struggle just to log in. At first, I had to help one by one. It took time until everyone got used to it.” (Teacher W, script 4, line 28)

The teacher further explained that the differences in students’ gadget experience influenced their learning pace:

“Those who use gadgets a lot are faster, but those who don’t need more time.” (Teacher W, script 4, line 30, interview data)

This varied digital proficiency provides surplus of time in teaching process, as some students needed repeated instructions to operate the e-book properly. The teacher stated:

“I have to repeat the instructions often.” (Teacher W, script 4, line 30, interview data)

Furthermore, some students expressed the need for improvement in existing features. Although they benefited from the e-book, they felt that certain aspects could be enhanced to support

their reading experience more effectively. These findings show that while the e-book provided useful tools, students hoped for better optimization to improve the smoothness of their reading activities.

B. Discussion

The discussion is based on the findings in which are gathered by the researcher. The discussion provides a comprehensive result on how e-book features contribute to students' English reading comprehension, motivation, and digital literacy within an Islamic school field.

The discussion is based on the findings and provides theoretical frameworks that aligns with it along with the said research question. These separation of discussion further used to classify significant themes and categories and act as the core topics for the discussion.

1. The Integration of E-Books in Reading Comprehension

The use of e-book features played a central role in students' improvement to reading comprehension, mainly to construct the meaning of the reading content. The construction process is based on the principles of Constructivism Theory by Hu (2024). This principle shows that learning can be successfully delivered when a learner actively build knowledge based on experiences within existing cognitive background. In a digital

context, the students build up knowledge by their independence in exploring their own understanding within the use of e-books. This independence is found within their nature of digital curiosity and helped them interacted better in the classroom.

The students who's actively learning, based on the findings in this research, were actively engaged with the content through e-book tools that allows them to define, visualize, and digest information. This is due to their independent use of the familiar context found within the features of E-books. This situation helped them learn in an enjoyable way and provide better engagement to the lesson.

a. Roles of Digital Literacy in Students Engagement

Recent studies were found in its relevance to the understanding of digital literacy and its relevance to students' reading comprehension. Jun Zhao (2024) introduced the Information Literacy Theory, which claims that learners' engagement with digital content depends on their ability to locate, evaluate, and apply digital information effectively. In this research, students who managed the allocation between the use of dictionary and visual tools demonstrates not just technical ability but also strategic comprehension. Their ability to use the dictionary feature to find meanings of unfamiliar words shows that digital literacy and

cognitive strategies worked synergistically to promote deeper reading comprehension.

Additionally, Damayanti et al., (2024) proposed the Task–Technology Fit (TTF) Theory, which shows the importance of alignment between digital tools and learning tasks. E-book features, in this context, effectively supported the reading comprehension. The features were not only a helping media but also integrated within the objectives, making sure the instructional context and promoting efficient learning performance met the most effective result. This additional theory further strengthens the argument that technological design must complement cognitive and pedagogical demands to optimize comprehension.

Although most students were able to run the features within e-books smoothly, the difference in their digital literacy proficiency affect their level of engagement during reading activities. Some students navigated features constantly, while others required repeated teacher guidance to use basic functions such as switching pages, accessing the dictionary, or opening interactive tasks. This pattern reflects the framework of Martínez-Bravo et al., (2022), who explain that effective digital learning depends on students' technical and cognitive digital competencies. Aligned to this research, the students' differing levels of

digital readiness influenced how efficiently they interacted with the features, suggesting that comprehension performance was partly mediated by their digital literacy foundation. Thus, the role of teacher to guide the students is essential in order to achieve effective learning in the classroom.

b. Motivation and Engagement Through Digital Learning

Furthermore, the findings also confirm that digital features play a motivational role. Students became more engaged when using e-books. This behavioral pattern aligns with Self-Determination Theory (SDT) by Deci and Ryan (2000). SDT claims that learners' motivation grows when autonomy and competence are supported by the environment (Elliot et al., 2024). It further explored by He et al., (2025) in BMC Psychology, whom expanded SDT within the field of digital environments, showing that the teacher who actively support digital learning significantly enhances psychological needs satisfaction and learning engagement. In this research, the teacher's utilization of flexible and student-centered activities, E-books in this case, supported students' independence in learning while guiding them through structured digital reading tasks, creating improved intrinsic motivation and engagement.

However, students' motivations were closely tied to the reliability of the digital tools. When features loaded quickly and functioned as expected, learners experienced a sense of autonomy and competence (Elliot et al., 2024). Yet when disruptions occurred, such as lag, unclear audio, or slow page loading, they temporarily weakened students overall motivational. This pattern showed that motivation in digital reading is dynamic and depends not only tied to the usability of features but also on the technological usage that supports the use.

c. Cognitive–Affective Synergy in Comprehension Building

Finally, the integration of different inputs not only supported cognitive processing but also emotional engagement, contributing to a cognitive–affective synergy in reading. Students reported greater enjoyment, and their laughter and comments during activities indicate that emotion played a crucial role in memory retention and comprehension.

Mayer & Moreno (2020) affirm that positive affect in multimedia learning environments enhances motivation and retention, particularly when learners experience curiosity and enjoyment during engagement with the material. According to this principle, technology that designed to stimulate both cognition and emotion can transform

reading from a passive decoding process into an active, meaningful experience.

d. Socially Constructed Learning Through Interaction

The findings of this research also align with Social Constructivism Theory proposed by Vygotsky (1978) and further resurfaced by Indrawan et al., (2023) emphasizes that learning is a socially mediated process where knowledge is constructed through interaction and collaboration. In this research, e-books served as a digital environment and provides these interactions. Students did not only read individually but often engaged in discussions, participated with the activity, and shared their understanding collectively. This supports Vygotsky's Zone of Proximal Development (ZPD), where learners proceed through the guidance of a teacher who guide their comprehension process.

This excitement often turned into a group participation, where students helped each other with vocabulary or discussed the materials. Through these, comprehension was not built not only alone but collaboratively, showing that technology can strengthen both academic and social dimensions of learning.

Furthermore, in their research, Indrawan et al., (2023) highlighted that e-books made classrooms into interactive and collaborative learning environments. This aligns with the observation in this research where students actively engaged with features such as the pop-up dictionary or interactive pictures. Their social influence encouraged construction of understanding, which shows the social constructivist principle that learning develops through communication within a community.

The interactions between the students illustrate the sociocultural dimension of reading with the digital aid, where comprehension is co-constructed through shared problem-solving. Students often overcome their digital literacy limitations by seeking help from their classmates. This behavior showed that social collaboration mediated their proficiency to the use of e-book functions. This interaction aligns with Vygotsky's statement on dialogue as a medium to reach higher mental processes, and it demonstrates that even in an environment influenced by technology, learning remains deeply social.

In summary, e-book features in this research not only facilitated cognitive processing but also stimulated emotional engagement which effectively bridging theory and practice. Learners actively constructed meaning, regulated their comprehension, and experienced heightened

motivation through the synergy of constructivist, cognitive, and motivational frameworks.

2. The Benefits of E-Book Features in Improving Reading

Comprehension

The findings highlight that e-book features improved students' comprehension abilities, particularly in identifying main ideas, expanding vocabulary, and enhancing motivation. This finding can also be interpreted that the benefits of e-books varied into different fields. The benefits can be separated into cognitive benefits, multidimensional learning benefits, and motivational benefits.

a. Cognitive Benefits: Reducing Mental Burden and Enhancing

Comprehension

E-books effectively minimized cognitive restrictions during reading activities. The teacher observed:

This finding supports Cognitive Load Theory, which explains that optimized learning materials reduce unnecessary cognitive effort, allowing learners to focus on essential understanding (Sweller et al., 2019). In this case, features like built-in dictionaries and audio narration lowered extraneous load by instantly providing definitions and

pronunciations. As a result, students could allocate more mental resources to indicate meaning and connecting new information to the lesson learned.

b. Multidimensional Learning Benefits: Support of E-Book Features

Features such as audio, images, and interactive tools engaged multiple literacy dimensions which helped students connect text meaning with context and emotional engagement. The improvement in comprehension also reflects the Multidimensional Reading Learning Theory by Indrawati et al., (2020). It emphasizes that reading is a process influenced by linguistic, cognitive, motivational, and sociocultural dimensions.

1) Linguistic Benefit

Firstly, in the linguistic dimension, e-books enhance students' vocabulary and pronunciation through features. The features provide immediate feedback, allowing learners to understand meanings independently while associating sound with text, reinforcing decoding and word recognition skills.

2) Cognitive Benefit

Secondly, in the cognitive dimension, e-books foster effective information processing by combining multiple modes, namely text, sound, and images, into their learning experience. This multimodal integration reduces cognitive overload, as supported by Cognitive Load Theory, allowing students to focus more deeply on understanding ideas rather than struggling with word-level difficulties (Sweller et al., 2019). Consequently, students can process information directly and recall it more efficiently during comprehension tasks with the help of these interactive features.

3) Sociocultural Benefit

Furthermore, the sociocultural dimension shows the interaction of students while reading and discussing the content of the reading comprehension. The shared exploration of digital texts aligns with Social Constructivism Theory (Indrawan et al., 2023), emphasizing that learning can be fully achieved through social interaction. Through classroom discussions, students feedback, and teacher-guided exploration of e-book materials, students can process meaning and develop higher-order thinking skills in a socially enriched context.

4) Developmental benefit

Lastly, in the developmental dimension, e-books support students' gradual transition toward independent learning. Over time, learners demonstrate greater control over their learning process, from identifying key points to evaluating textual meaning. This finding supports Zimmerman's (2010) Self-Regulated Learning (SRL) Theory which further reviewed by Sinkkonen and Tapani (2024). It states that self-monitoring and strategic use of resources are essential for continuous learning growth.

c. Motivational Benefits: Motivation and Engagement in Reading through Technology

Motivation served as an important aspect in shaping students' improved comprehension. The enjoyable nature of e-books, in its interactive features, created a positive emotional atmosphere that enhanced their engagement and willingness to read. This observation aligns with Mayer (2024), who stated that positive affect in multimedia learning environments enhances both retention and motivation.

E-books transformed reading from a static into an interactive experience, allowing students to enjoy independence in reading speed and choice on how they read. These factors align with Self-

Determination Theory (Elliot et al., 2024). As the teacher noted, students became: “*more enthusiastic and confident to read*”. It shows that their intrinsic motivation increased through independence of how they read and competence supported by digital tools. These intrinsic motivations surely become a beneficial aspect in order to create an efficient teaching method of reading comprehension.

Moreover, the features supported motivational benefit by reducing reading fatigue. For instance, the ability to zoom text made students adjust reading conditions to their own way of learning, reinforcing their independence of digital literacy over the reading experience. Alas, at the same time, motivation fluctuated when external factors such as poor connection distracted the reading flow. This further indicates that motivational benefits are maximized only when digital tools operate with minimal friction (Elliot et al., 2024).

3. Challenges of Using E-Book Features in Reading Activities

Although the integration of e-books significantly increased students’ motivation and comprehension, the findings also revealed several challenges that limit students’ optimal learning outcomes. These challenges mainly relate to distraction, digital literacy limitations, and feature usability.

The finding shows that even though e-books offer engagement to the class, their features can also distract students' attention from the learning objectives. To overcome these challenges, the teacher has to utilize different approach in order to maintain students' focus by adjusting the activities.

These challenges can be analyzed through several theoretical perspectives that explain the cognitive, technological, and literacy dimensions of e-book use.

a. Technical Limitation

Technical limitations are one of the major obstacles affecting students' ability to use the e-book effectively. Several issues covered bad connection, battery life, slow loading, and delayed responsiveness of features. These interruptions reduced the smoothness of digital engagement and caused students to lose focus during comprehension tasks. When features did not function optimally, students were unable to use the feature as wanted. It further limiting the benefits e-books were supposed to provide.

These technological constraints can be understood through Cognitive Load Theory, which states that ineffective instructional environments increase surplus cognitive load and reduce students'

ability to process information meaningfully. In this research, technical interruptions forced additional the learning process covering students to identify main ideas, and constructing meaning. Consequently, the technology limitations not only affected device performance but also directly influenced comprehension outcomes by fragmenting students' cognitive attention.

b. Overstimulation due to the interactive features

Students' distraction toward the interactive features of e-books (such as repeated clicking of images or replaying audio) represents extraneous load which leads to an overstimulation of information. According to Cognitive Load Theory addressed to Sweller et al., (2019), learning performance decreases when the instructional design imposes extraneous cognitive load given to the students.

The teacher's statement shows that learners' cognitive attention was divided between understanding the reading text and exploring unnecessary features. As a result, their working memory became overloaded, reducing their capacity to process textual meaning.

Furthermore, the findings indicated that when activities were not guided correctly, students tended to focus more on the entertaining parts of the e-book rather than reading the content. This reveals the

importance of instructional scaffolding, where teachers ought to provide structure and direction to help students manage their cognitive resources efficiently. It illustrates the deliberate attempt to minimize cognitive overload by introducing controlled and purposeful engagement.

Thus, from the lens of Cognitive Load Theory, the distraction challenge emerges not from the technology itself but from its overabundance of stimuli. The teacher's adaptive approach demonstrates an important educational approach to reduce overstimulated input and strengthen the mental effort directly related to understanding the text.

c. Digital Literacy Limitations in Managing Learning Tools

Another recurring challenge identified in this research relates to students' uneven levels of digital literacy. As explained by Isrokatun et al., (2022) and Martínez-Bravo et al., (2022), digital literacy encompasses the ability to locate, evaluate, and use digital information effectively. In this research, while most students were familiar with e-books, not all were proficient in using the tools correctly to support the objective to reading comprehension.

Findings confirmed this imbalance. Some students used the dictionary feature effectively, while others distracted by playing with

images or layout elements rather than understanding the reading content. This finding also indicates that digital literacy in an educational context requires more than just a digital literacy towards e-books but it requires strategic approach.

Students who lacked this competence tend to be quite hard to align e-book utilization with reading objectives, showing that insufficient digital literacy can slow the comprehension. In such cases, the teacher's scaffolding role becomes crucial to mediate between students' curiosity-driven exploration and comprehension-driven reading.

Furthermore, the issue also highlights the ethical and cognitive dimensions on digital literacy. Without awareness of how to regulate attention in digital environments, students are prone to what Isrokatur et al. (2022) described as distraction overload. Therefore, improving students' digital literacy through guided practice is crucial to ensure that technology can further improve reading comprehension.

d. Technology Acceptance and Usability Barriers

In addition to cognitive and literacy challenges, this research found that some students struggled with the usability and adaptability of e-book features. This situation can be understood through the

Technology Acceptance Model 3 (TAM 3) proposed by Venkatesh and Bala (2008) which further reviewed by Abd. Rahman et al., (2022). The model stated that the degree to which users accept and effectively use technology depends on two main perceptions: perceived ease of use and perceived usefulness.

In this research, some students appeared less confident or slower when navigating between e-book functions. Their uncertainty suggests that their perceived ease of use was low, which in turn reduced engagement and focus. On the other hand, when features like the dictionary or audio narration were simple and intuitive, students reported higher motivation and understanding, aligning with the perceived usefulness component of TAM 3.

Furthermore, this alignment highlights a critical pedagogical implication: successful integration of e-books requires both user training and design consistency. When technology is well-aligned with the lesson, the technology becomes an enabler rather than a barrier to comprehension.

e. Pedagogical Implications

These findings show that challenges in using e-books are not only caused by technology but by the interaction between cognitive,

digital, and usability factors. Overstimulation from a lot features, limited digital literacy, and unequal acceptance of technology together shape the challenges faced by students.

To address these challenges, teachers must apply structured digital instruction, focusing on cognitive scaffolding, digital literacy improvement, and user guidance. Furthermore, developers should design e-book features that balance engagement and simplicity to minimize cognitive overload and optimize usability.

Ultimately, this research reaffirms that technology in education is only as effective as the learners' capacity to use it purposefully. When guided effectively, e-books can be powerful tools for comprehension; however, without digital regulation and pedagogical structure, they risk turning into sources of distraction rather than instruments of learning.