

ANALYZING EFL UNIVERSITY STUDENTS' READING NEEDS FOR DIGITAL FLIPBOOKS IN ENGLISH LEARNING

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ABSTRACT

This study investigated EFL university students' reading needs toward the use of digital flipbooks as learning materials. It aimed to identify students' needs, wants, and preferences regarding digital reading resources, as well as their expectations. A descriptive quantitative design supported by qualitative responses was employed involving 41 students from the second, fourth, sixth, and eighth semesters. Data were collected through a questionnaire using a five-point Likert scale and open-ended questions and were analysed using percentages, mean scores, and descriptive analysis. The findings indicated that students demonstrated strong needs for accessible and flexible digital reading materials, with necessities obtaining the highest mean score ($M = 4.06$). Smartphone-based access was the most preferred mode of learning ($M = 4.50$), while multimedia-supported features were positively valued ($M = 3.75$). Vocabulary limitations and reading comprehension difficulties remained the main challenges ($M = 3.19$), indicating the need for materials that provide structured support and interactive practice. Students also preferred guided reading activities, including comprehension and vocabulary-based exercises ($M = 3.67$). The study highlights the importance of designing digital flipbooks that align with learners' actual reading needs to enhance engagement and comprehension. These findings provide practical implications for developing interactive and pedagogically appropriate digital reading materials for EFL learning in higher education.

Keywords: EFL students; reading needs; digital flipbooks; interactive learning media, mobile learning

INTRODUCTION

The rapid advancement of digital technology has substantially transformed higher education, particularly in the

context of English as a Foreign Language (EFL) learning. University students increasingly access learning materials

through digital devices rather than printed resources, changing the way they interact with academic texts. This shift requires learning materials that are not only technologically accessible but also pedagogically effective in supporting comprehension and engagement (Kessler, 2021; Lai & Zheng, 2023).

Reading remains one of the most essential language skills for university students in EFL contexts because it serves as a primary source of language input and academic knowledge. Through reading, learners develop vocabulary knowledge, grammatical awareness, and academic literacy, all of which contribute to overall academic success (Nation, 2022). However, many EFL learners continue to face difficulties in comprehending academic texts, particularly when dealing with unfamiliar vocabulary, complex structures, and discipline-specific concepts (Grabe & Zhang, 2021). Limited strategic reading skills, such as skimming, scanning, and summarizing, often make reading tasks slow and ineffective, reducing students' confidence and engagement (Meniado, 2021).

These challenges are evident among students of the English Study Program at Universitas Batanghari. Preliminary classroom observations and informal academic discussions indicate that many

students tend to avoid lengthy English texts, rely heavily on machine translation, and experience difficulty maintaining concentration when reading for extended periods. Such difficulties suggest that students need reading materials designed to support both comprehension and motivation.

The integration of digital learning platforms offers opportunities to address these issues. Interactive digital reading materials can improve learner engagement and facilitate vocabulary development when designed appropriately (Chen & Hsu, 2022; Huang & Hwang, 2022). One promising medium is the digital flipbook, which combines conventional text presentation with multimedia and interactive features. Digital flipbooks are particularly relevant for university students because they are accessible through smartphones, allow flexible independent learning, and can present visually engaging content. However, poorly designed digital materials may also create distractions and superficial reading behaviors (Delgado & Salmerón, 2021; Delgado et al., 2023).

Although previous studies have examined the effectiveness of digital reading platforms, limited research has specifically investigated EFL university students' reading needs toward the use of digital flipbooks, particularly in the context

of Indonesian higher education and Universitas Batanghari. Most existing studies focus on learning outcomes rather than identifying learners' actual necessities, lacks, and preferences as the basis for instructional material development.

Therefore, this study aims to analyze the reading needs of students in the English

Study Program at Universitas Batanghari toward the use of digital flipbooks in EFL learning. Specifically, it explores students' necessities, lacks, wants, preferred reading activities, and perceptions of digital reading materials to identify features that effectively support reading comprehension and engagement.

REVIEW OF RELATED LITERATURES

2.1. Reading Needs in EFL Higher Education

Reading is one of the most essential academic skills for university students learning English as a Foreign Language (EFL). In higher education contexts, reading is not merely a receptive skill but a critical process involving interpretation, analysis, inference, and evaluation of information from academic texts. EFL university students are expected to comprehend complex disciplinary texts while simultaneously dealing with linguistic challenges such as limited vocabulary knowledge, syntactic complexity, and insufficient background knowledge.

Recent studies indicate that EFL learners frequently encounter difficulties in comprehending academic reading materials due to lexical density, lack of reading strategies, and low motivation. A

recent study by Oktavianti et al. (2026) found that university EFL learners need digital reading support that facilitates vocabulary scaffolding, contextual explanation, and interactive engagement to overcome comprehension barriers. Similarly, research on digital reading comprehension has emphasized that students' reading needs are evolving with technological advancements, necessitating learning environments that support flexibility, multimodality, and autonomous learning.

According to Grabe and Stoller (2020), effective EFL reading instruction should address cognitive processing, strategic reading, and learner engagement. University learners particularly require reading tools that support metacognitive monitoring and sustained motivation, both of which are often underdeveloped in conventional print-based environments.

This suggests that understanding students' reading needs is fundamental for designing digital learning materials that align with contemporary academic literacy demands.

2.2. Digital Reading in EFL Contexts

Digital reading has transformed the way learners interact with texts. Unlike traditional print reading, digital reading often involves multimedia integration, hyperlinks, annotations, and interactive navigation that influence comprehension processes.

Research comparing print and digital reading shows mixed results. Ebrahimi (2016) reported that although print reading often supports deeper concentration, digital reading offers advantages in accessibility and learner autonomy when properly designed. Likewise, Pardede (2019) argued that digital reading environments can enhance EFL comprehension when instructional design minimizes cognitive overload and supports strategic engagement.

More recent systematic reviews highlight that digital reading comprehension depends heavily on interface usability, learner familiarity with digital tools, and the availability of interactive scaffolding features such as

glossaries, highlighting, and embedded feedback. Dang and Habók (2026) emphasize that digital reading environments improve learning outcomes when they support both cognitive and metacognitive reading processes.

For university-level EFL learners, digital reading platforms can promote independent learning and personalized reading experiences, making them particularly relevant for modern academic instruction.

2.3. Digital Flipbooks as Interactive Learning Media

Digital flipbooks are multimedia-based digital books that simulate page-turning experiences while integrating interactive elements such as animation, hyperlinks, embedded audio, and visual supports. They are increasingly used in educational settings because they combine traditional reading familiarity with digital interactivity.

Studies have shown that digital flipbooks significantly improve reading comprehension and learner engagement. Nurhapsari and Handayani (2025) demonstrated that the implementation of digital flipbooks improved students' reading comprehension scores and classroom participation in Indonesian EFL contexts. Similarly, Sakinah and Nuroh

(2025) found that digital flipbooks increased reading performance and active engagement among learners due to their visually stimulating and interactive nature.

Digital flipbooks support multimodal learning by combining textual, visual, and navigational elements. This aligns with Mayer's Cognitive Theory of Multimedia Learning, which posits that learners process information more effectively when verbal and visual information are meaningfully integrated.

In EFL reading classrooms, digital flipbooks can reduce monotony, increase reading motivation, and provide contextual support that assists comprehension. Their page-flipping simulation also preserves aspects of traditional reading that help learners maintain text structure awareness.

2.4. Learner Needs and Technology Acceptance in Digital Reading

The successful integration of digital reading tools largely depends on learners' acceptance of the technology itself. The Technology Acceptance Model (TAM) explains that students are more likely to adopt educational technologies when they perceive them as useful and easy to operate.

Recent studies by Oktavianti et al. (2026) and Xu and Yang (2026) indicate that EFL university students tend to prefer

digital reading platforms that are user-friendly, visually engaging, accessible across multiple devices, and supportive of autonomous learning. Their findings also reveal that students expect digital reading tools to provide features such as annotation options, vocabulary assistance, and multimodal explanations embedded within the reading materials to facilitate comprehension and engagement.

Furthermore, Hidayanto, Sumardjoko, and Sutopo (2026) found that digital books integrating higher-order thinking tasks significantly enhanced EFL learners' critical reading performance and reflective engagement. Their study demonstrated that the integration of structured analytical activities within digital reading materials encourages students to move beyond literal understanding toward deeper interpretation and evaluation of texts.

These findings suggest that university students' reading needs extend beyond basic comprehension and involve the development of analytical literacy skills. Therefore, identifying these needs is crucial for designing digital flipbooks that effectively support university-level EFL reading instruction.

METHODS

This study employed a descriptive quantitative research design supported by limited qualitative responses through open-ended questionnaire items. The descriptive quantitative design was considered appropriate because the main purpose of the study was to identify, describe, and interpret EFL university students' necessities, lacks (difficulties), wants (preferences), learning needs in reading, and learning media/setting, and expectations in using digital flipbooks through numerical data obtained from a survey instrument. Descriptive quantitative research has been widely used to examine educational phenomena systematically by presenting factual conditions, attitudes, and tendencies of a particular population without manipulating variables (Nwabuko et al., 2024; Sa'idah et al., 2024).

The study was conducted at the English Study Program of Batanghari University during the 2025/2026 academic year. The population of this study consisted of all students enrolled in the English Study Program of Batanghari University. These students were selected as the population because they regularly studied English language skills courses, including reading subjects, and were the most relevant group

for investigating reading needs in digital environments. Since the study focused on EFL university students, the English Study Program provided an appropriate academic setting where students frequently interacted with English texts such as textbooks, journal articles, essays, and online learning materials.

The sample of this study consisted of all active students from semesters 2, 4, 6, and 8 of the English Study Program of Batanghari University. This study employed a total sampling technique, in which all members of the accessible population were included as participants because the population size was manageable and each student's response was considered important for obtaining comprehensive data (Sugiyono, 2019; Creswell, 2018). These semester levels were intentionally selected because they represented different stages of academic development.

Data were collected through a structured questionnaire distributed to all active students from semesters 2, 4, 6, and 8 of the English Study Program of Batanghari University using a total sampling technique. The questionnaire used a five-point Likert scale ranging from

Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), to Strongly Agree (5) and included open-ended questions for additional responses. It consisted of 34 close-ended items grouped into five indicators: students' necessities, lacks, wants, learning needs in reading activities, and learning media preferences. In addition, 5 open-ended questions were used to explore students' opinions, expectations, difficulties, and suggestions regarding digital flipbooks. The instrument was reviewed before distribution to ensure clarity and relevance to the study objectives.

Data analysis in this study was conducted using both quantitative and qualitative procedures. The quantitative data obtained from the closed-ended questionnaire were analyzed using descriptive statistics, including frequencies, percentages, and mean scores for each item and indicator. The responses on the five-point Likert scale were scored from Strongly Disagree (1), Disagree (2),

Neutral (3), Agree (4), and Strongly Agree (5). Mean scores were then calculated to identify the level of students' necessities, lacks, wants, and learning needs in reading activities, and learning media preferences toward digital flipbooks. The mean scores were interpreted using predetermined categories: 1.00–1.80 (Very Low), 1.81–2.60 (Low), 2.61–3.40 (Moderate), 3.41–4.20 (High), and 4.21–5.00 (Very High). In addition, dominant responses for each questionnaire item were identified based on the highest frequency of answers. The qualitative data obtained from the open-ended questions were analyzed descriptively by grouping similar responses into common themes such as expected features, reading difficulties, preferred topics, and suggestions for improving digital reading materials. The combination of quantitative and qualitative analyses was intended to provide a more comprehensive understanding of students' reading needs in using digital flipbooks.

RESULTS AND DISCUSSION

Results

This section presented the results of the research based on the data collected through questionnaires distributed to

university students from the 2nd, 4th, 6th, and 8th semesters. A total of 41 students participated in this study, and all respondents completed the questionnaire

that was administered to identify their reading needs and perceptions regarding the use of digital flipbooks in English learning.

The Current Needs of EFL University Students' Reading in Using Digital Flipbooks

1. Students' Necessities toward Digital Reading Materials

The students' main needs in relation to digital reading materials for learning English. It focuses on the aspects that students considered important to support their reading development, such as accessible materials, interesting topics, vocabulary support, suitable difficulty level, and interactive learning features. This section consisted of 8 questionnaire indicators that explored students' essential needs in reading materials. Based on the findings, the dominant answer given by students was Agree, which indicates that most respondents positively supported the statements in this category.

Table 1. Frequency Distribution of Students' Necessities

No	Questionnaire Item	Dominant Answer	N	%
1	I need digital reading materials to improve my English reading skills	Agree	21	51.2%
2	I need interesting topics in reading materials.	Agree	23	56.1%

3	I need vocabulary support in reading texts.	Agree	30	73.2%
4	I need reading comprehension exercises.	Agree	24	58.5%
5	I need reading materials suitable for my English level.	Agree	22	53.7%
6	I need interactive reading media for learning.	Agree	24	58.5%
7	I need flexible reading materials that can be accessed anytime.	Strongly Agree/Agree	16	39%
8	I need digital flipbooks to help me understand texts better.	Agree	19	46.3%

Table 1 shows that students had a high level of need for digital reading materials for learning English. Most indicators obtained a high mean score (4.00), indicating that students strongly needed materials that could support their reading development. They expected interesting reading topics, vocabulary assistance, reading comprehension exercises, materials suitable for their English proficiency level, and interactive media. The highest mean score was found in the need for flexible reading materials that can be accessed anytime (4.50), which indicates that accessibility and

convenience were the most important aspects for students.

2. Students' Lacks in Reading English Texts

This section explains the difficulties and limitations experienced by students when reading English texts. It covers common problems such as limited vocabulary, grammar challenges, difficulty understanding long passages, identifying main ideas, and maintaining concentration while reading. Identifying these lacks helps reveal the areas that need improvement and should be addressed through appropriate learning materials. It consisted of 8 questionnaire items related to students' reading difficulties and limitations. Based on the results, the dominant response was Neutral, indicating that many students experienced these difficulties at a moderate level.

Table 2. Frequency Distribution of Students' Lacks (Difficulties)

No	Questionnaire Item	Dominant Answer	N	%
1	I have difficulty understanding long English texts	Neutral	19	46.3%
2	I have a limited English vocabulary	Neutral/Agree	17	41.5%
3	I find it difficult to identify the main idea	Neutral	22	53.7%

4	I have trouble finding specific information in a text	Neutral	19	46.3%
5	I often lose concentration while reading English texts	Neutral	19	46.3%
6	Printed reading materials make me feel bored	Neutral	28	68.3%
7	I have difficulty understanding grammar in texts	Neutral	21	51.2%
8	I need more practice in reading comprehension	Agree	19	46.3%

The results in Table 2 reveal that students still experienced several difficulties in reading English texts. Most indicators were categorized as moderate (3.00), such as difficulty understanding long texts, identifying the main idea, finding specific information, maintaining concentration, understanding grammar, and feeling bored with printed materials. However, vocabulary limitation received a higher mean score (3.50), showing that a lack of vocabulary was one of the main barriers in reading comprehension. In addition, the highest score was found in the need for more reading comprehension practice (4.00), indicating that students

realized they needed additional exercises to improve their reading ability.

3. Students' Wants and Preferences toward Digital Flipbooks

This indicator presents students' personal preferences and expectations regarding the use of digital flipbooks as reading materials. It includes their interest in attractive designs, pictures, audio, videos, quizzes, and mobile accessibility. These findings are useful for understanding what students enjoy and what can increase their motivation to read English texts. It consisted of 8 questionnaire items that explored students' wants and preferences toward digital flipbooks. Based on the findings, the dominant responses were Agree and Neutral. Most students agreed with statements related to attractive designs, pictures, audio support, videos, real-life topics, and smartphone accessibility, showing positive interest in multimedia-supported learning materials.

Table 3. Frequency Distribution of Students' Learning Preferences (Wants)

No	Questionnaire Item	Dominant Answer	N	%
1	I prefer reading materials in digital flipbook format.	Neutral	29	70.7%
2	I want colorful and attractive designs.	Agree	22	53.7%

3	I want pictures in the reading materials	Agree	18	43.9%
4	I want audio support in digital flipbooks	Agree	19	46.3%
5	I want videos related to reading topics	Agree	17	41.5%
6	I want quizzes after each unit	Neutral	23	56.1%
7	I want real-life topics in reading materials	Agree	19	46.3%
8	I want digital flipbooks accessible on smartphones	Agree	18	43.9%

Table 3 shows students' preferences regarding reading materials and learning media. Students highly wanted colorful and attractive designs, pictures, audio support, videos, real-life topics, and smartphone accessibility, all of which received high mean scores (4.00). These results indicate that students preferred visually appealing and multimedia-based materials that can make learning more interesting and engaging. Meanwhile, the preference for digital

flipbook format itself and quizzes after each unit were only moderate (3.00). Overall, students wanted modern and interactive materials that fit their daily digital habits.

4. Students' Learning Needs in Reading Activities

This section focuses on the types of reading activities and exercises preferred by students during the learning process. It discusses students' choices regarding comprehension questions, vocabulary matching, multiple-choice tasks, group discussions, and independent reading. Exploring these preferences helps identify learning activities that are more suitable and effective for students. It consisted of 6 questionnaire items that examined students' preferred reading activities and exercises. Based on the results, the dominant responses were Agree and Neutral. Students mostly agreed with activities such as answering comprehension questions after reading, vocabulary matching exercises, independent reading, and multiple-choice tasks, indicating positive preferences toward structured and practical exercises.

Table 4. Frequency Distribution of Students' Learning Needs in Reading (Input)

No	Questionnaire Item	Dominant Answer	N	%
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1	I prefer answering questions after reading	Agree	17	41.5%
2	I prefer matching vocabulary exercises	Agree	18	43.9%
3	I prefer true/false exercises	Neutral	21	51.2%
4	I prefer discussing texts in groups	Neutral	24	58.5%
5	I prefer reading independently	Agree	20	48.8%
6	I prefer multiple-choice questions	Agree	19	46.3%

In Table 4, it is indicated that students preferred structured reading activities and exercises. High mean scores (4.00) were found in answering comprehension questions after reading, matching vocabulary exercises, reading independently, and multiple-choice questions. These results show that students preferred clear and practical tasks that could help them check their understanding individually. On the other hand, true/false exercises and group discussions received moderate mean scores (3.00), suggesting that students were less interested in collaborative learning and simpler task

types. Therefore, reading materials should focus more on individual practice and varied comprehension exercises.

5. Students' Learning Media Preferences and Settings

This section discusses students' preferred learning devices and their perceptions of digital learning media. It examines whether students tend to use smartphones, laptops, or other devices, as well as their opinions about the usefulness and enjoyment of digital flipbooks. Understanding students' learning settings is important to ensure that the materials are compatible with their daily learning habits. It consisted of 4 questionnaire items that explored students' learning media preferences and learning settings. Based on the findings, the dominant responses were Agree, Neutral, and Strongly Agree/Agree. Students mostly agreed that digital flipbooks make reading easier and more enjoyable.

Table 5. Frequency Distribution of Learning Media / Setting

No	Questionnaire Item	Dominant Answer	N	%
1	I often use smartphones for learning	Strong Agree/Agree	18	43.9%
2	I often use laptops for learning	Neutral	19	46.3%

3	Digital flipbooks increase my motivation to read	Neutral	24	58.5%
4	Digital flipbooks make reading easier and more enjoyable	Agree	19	46.3%

The results in Table 5 demonstrate students' preferences toward learning devices and perceptions of digital flipbooks. The highest mean score was found in the use of smartphones for learning (4.50), showing that smartphones were the most commonly used devices among students. The use of laptops was only moderate (3.00), indicating that mobile learning was more dominant than laptop-based learning. Students also agreed that digital flipbooks made reading easier and more enjoyable (4.00). However, the belief that digital flipbooks increased motivation was only moderate (3.00).

6. Students' Open-Ended Responses

This section presents the findings from the open-ended questionnaire responses. Students were given opportunities to express their opinions, expectations, difficulties, favourite reading topics, and suggestions for improving reading materials. It consisted of 5 open-ended questions that allowed students to

answer freely based on their personal experiences and preferences. The questions focused on the features expected in digital flipbooks, difficulties faced when reading English texts, preferred reading topics, reasons for choosing digital or printed materials, and suggestions for improving reading materials. Since the questions were descriptive in nature, there was no fixed dominant answer; however, several common response patterns were identified.

Based on the students' responses, many participants expected digital flipbooks to include attractive designs, pictures, audio support, clear texts, easy navigation, and translation or dictionary features. These answers indicate that students want reading materials that are not only informative but also interactive and visually engaging. Regarding reading difficulties, the most common problems mentioned were limited vocabulary, difficulty understanding long texts, grammar challenges, and losing concentration while reading. This suggests that students still need language support and more manageable reading materials.

Table 6. The Interpretation of Students' Open-Ended Responses

No	Open-Ended Question	Main Findings	Explanation / Interpretation
1	What features do you expect in digital flipbooks?	Students expected clear and readable texts, easy navigation, attractive visuals, pictures, audio, interactive features, translation tools, and built-in dictionaries.	Students want digital flipbooks that are not only readable but also interactive and supportive. Multimedia and language assistance features can help students understand texts more easily and increase motivation.
2	What difficulties do you face when reading English texts?	Students mentioned a lack of vocabulary, difficulty understanding long texts, grammar problems, pronunciation issues, losing concentration, and boredom.	Vocabulary limitation was the main challenge. Students need reading materials with vocabulary support, simpler grammar explanations, shorter texts, and more engaging content.
3	What reading	Students preferred topics	Students are more interested

No	Open-Ended Question	Main Findings	Explanation / Interpretation
	topics do you like most?	about daily life, storytelling, movies, history, culture, and current issues.	in familiar, meaningful, and entertaining topics. Real-life and interesting topics can improve motivation and reading engagement.
4	Why do you prefer digital or printed reading materials?	Most students preferred digital materials because they are practical, flexible, easy to access, efficient, and can be used anytime on smartphones.	Students' preference for digital materials reflects their mobile learning habits. Digital resources are considered more convenient than printed materials.
5	Suggestions for improving English reading materials	Students suggested simple language, interesting stories, better graphics, organized layout, level-appropriate materials, and	Students expect reading materials that are easy to understand, visually attractive, and suitable for their English proficiency level.

No	Open-Ended Question	Main Findings	Explanation / Interpretation
		enjoyable content.	Interesting content can also reduce boredom.

The table above illustrates that students had a strong preference for digital and interactive reading materials that were easy to access and enjoyable to use. Most students expected digital flipbooks to contain clear texts, attractive visuals, pictures, audio, translation tools, and interactive features that can support their learning process. However, they still faced several difficulties when reading English texts, particularly limited vocabulary, grammar problems, difficulty understanding long passages, and losing concentration. In terms of reading topics, students were more interested in materials related to daily life, storytelling, movies, culture, and history because these topics are familiar and engaging. Most respondents also preferred digital materials over printed ones since digital resources are considered more practical, flexible, and accessible through smartphones anytime and anywhere. To improve English reading materials, students suggested using simpler language, interesting stories, better

graphics, organized layouts, and content that matches their English proficiency level. Overall, the findings indicate that students need smartphone-friendly digital flipbooks with multimedia support, vocabulary assistance, and attractive real-life topics to enhance their reading motivation and comprehension.

Thematic Mean Score Summary

To provide a broader overview of students' responses, this study was conducted across students' necessities, lacks (difficulties), wants (preferences), learning needs in reading, and learning media/setting were calculated and categorized based on the five-point Likert scale. This analysis allows for a clearer comparison of the relative intensity of students' perceived difficulties, learning preferences, and expectations toward writing materials. By examining the average scores across themes, the study identifies general response tendencies and highlights the overall pattern underlying students' needs in essay writing.

Table 7 presents the summary of mean scores across the three dimensions, including the number of items, average score, response category, and interpretative description.

Table 7. Students' Mean Scores on Each Indicator

Theme	Number of Items	Mean Score	Category	Interpretation
Students' Necessities	8	4.06	High need	Students highly need digital reading materials. The highest need was flexible materials that can be accessed anytime, showing that accessibility is very important.
Students' Lacks (Difficulties)	8	3.19	Moderate Lack	Students experienced moderate difficulties in reading. Vocabulary limitation and the need for more reading practice were the most significant problems.
Students' Wants	8	3.75	High Preference	Students strongly preferred attractive and multimedia-supported materials.

				However, preference for the flipbook format and quizzes was moderate.
Students' Learning Needs in Reading	6	3.67	High Need	Students preferred individual tasks and structured exercises such as multiple-choice, vocabulary matching, and comprehension questions.
Learning Media / Setting	4	3.63	High	Smartphones were the most preferred learning device. Students also perceived digital flipbooks as useful and enjoyable, although motivation improvement was moderate.

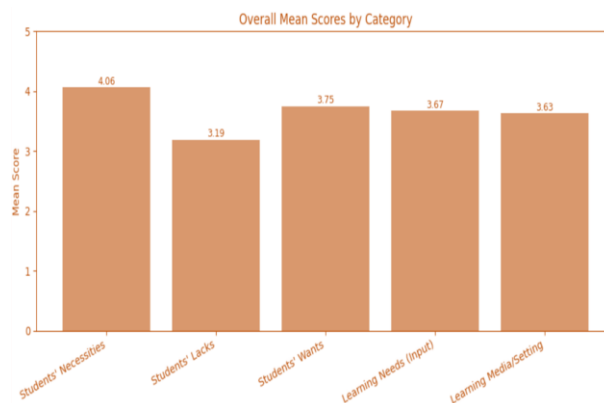


Figure 1. Mean Score from Each Indicator

Figure 1 illustrates the average scores for each theme related to students' reading needs. The highest mean score was found in Students' Necessities with a score of 4.06, which falls into the high need category. This means that students strongly need digital reading materials to support their reading activities. In particular, the strongest need was for flexible materials that can be accessed anytime and anywhere. This suggests that easy access has become an important factor for students in today's digital learning environment. The second-highest score was found in Students' Wants, with a mean score of 3.75, categorized as high preference. This result indicates that students preferred reading materials that are visually attractive and supported by multimedia features such as pictures, audio, and videos. However, their preference for the flipbook format itself and quizzes after each unit was only moderate. This shows that students are

more interested in engaging content and interactive features rather than the format alone.

In addition, Students' Learning Needs in Reading obtained a mean score of 3.67, which was categorized as high need. This indicates that students preferred learning activities that are clear, practical, and structured. They tended to favour tasks such as multiple-choice questions, vocabulary matching exercises, and comprehension questions because these activities help them understand reading texts more effectively. Similarly, Learning Media / Setting reached a mean score of 3.63, categorized as high. The findings reveal that smartphones were the most preferred device for learning. Students also viewed digital flipbooks as useful and enjoyable media for reading activities, although their role in increasing motivation was considered moderate. This means that digital materials should be designed in a way that is compatible with smartphone use.

Meanwhile, the lowest mean score was found in Students' Lacks (Difficulties) with a score of 3.19, categorized as moderate lack. This suggests that students still faced some challenges in reading English texts, especially limited vocabulary and the need for more reading

comprehension practice. Overall, the results indicate that students need accessible, interesting, and interactive digital reading materials to better support their reading development.

Discussion

The primary purpose of this study was to investigate EFL university students' reading needs in using digital flipbooks as learning materials. Specifically, the study explored students' necessities, lacks, wants, preferred reading activities, learning media preferences, and expectations toward digital reading resources. This study contributes to the field of technology-enhanced language learning by providing evidence-based insights into what university students actually need from digital reading materials. Understanding these needs is essential because instructional materials are more effective when they are designed based on learners' real conditions and preferences. Overall, the findings showed that students had positive perceptions toward digital flipbooks and demonstrated strong needs for accessible, engaging, and mobile-friendly reading materials. Among all themes, Students' Necessities obtained the highest mean score ($M = 4.06$), followed by Students' Wants ($M = 3.75$), Students' Learning Needs in Reading ($M =$

3.67), Learning Media / Setting (M = 3.63), and Students' Lacks (M = 3.19).

The first important finding concerns students' needs for digital reading materials. The highest score was found in the need for flexible materials that can be accessed anytime (M = 4.50), followed by vocabulary support, reading comprehension exercises, interesting topics, and interactive media (M = 4.00). This result supports Long (2022), who emphasizes that needs analysis plays a central role in developing appropriate language learning materials. In this case, students clearly need reading resources that fit their academic routines and digital lifestyles. The finding is also consistent with Park and Kim (2024), who state that accessibility and usability are essential elements in successful digital reading platforms. *The second* finding relates to students' lacks or reading difficulties. Although the overall mean score of this theme was moderate (M = 3.19), vocabulary limitation (M = 3.50) and the need for more reading comprehension practice (M = 4.00) were identified as the most significant challenges. This finding is consistent with Nation (2022), who explains that vocabulary knowledge is fundamental for successful reading comprehension in EFL settings. Similarly,

Webb and Nation (2022) found that vocabulary size strongly predicts students' ability to understand academic texts. Students with limited vocabulary often struggle to recognize key ideas, infer meaning, and comprehend details. In addition, Grabe and Zhang (2021) note that reading comprehension in second language contexts requires continuous practice, strategic reading skills, and repeated exposure to texts. *The third* major finding concerns students' wants and preferences toward digital flipbooks. Students strongly preferred colourful designs, pictures, audio support, videos, real-life topics, and smartphone accessibility, with most indicators scoring high (M = 4.00). This finding is consistent with Huang and Hwang (2022), who found that interactive e-books can significantly improve reading engagement in higher education. Likewise, Lin (2021) reported that multimodal digital texts increase student engagement because they combine written text with visuals and other media. However, this study also found that preference for the flipbook format itself and quizzes after each unit was only moderate (M = 3.00), indicating that students may value the features and content more than the platform label itself.

Another important finding concerns students' preferred learning activities.

Students favoured structured tasks such as comprehension questions, vocabulary matching, multiple-choice exercises, and independent reading ($M = 4.00$), while true/false tasks and group discussions were only moderate ($M = 3.00$). This result is in line with Meniado (2021), who found that EFL university students prefer reading strategies and activities that directly support comprehension and vocabulary learning.

The findings regarding learning media preferences also deserve attention. Smartphones were identified as the most preferred learning device ($M = 4.50$), while laptop use was moderate ($M = 3.00$). Students also agreed that digital flipbooks make reading easier and more enjoyable ($M = 4.00$). These findings support Rahimi and Fathi (2021), who reported positive student perceptions toward e-book platforms in higher education due to convenience and accessibility. Similarly, Wang and Tsai (2023) found that interactive reading tools can increase learner motivation in EFL classrooms when designed effectively. A possible explanation is that smartphones are always available, portable, and already integrated into students' daily routines. However, the finding that motivation improvement through flipbooks was only moderate ($M =$

3.00) suggests that technology alone does not automatically create motivation. Motivation may depend more on content quality, relevance, and ease of use than on the medium itself. This interpretation is also supported by Lee (2023), who emphasizes that engagement in academic reading is influenced by both material design and learner interest.

The open-ended responses further strengthen the quantitative findings. Students expected digital flipbooks to include dictionaries, translation tools, attractive layouts, easy navigation, and interesting topics such as daily life, stories, movies, and culture. These preferences are consistent with Sun and Chen (2024), who argue that learner-centred digital reading materials should combine usability, relevance, and supportive features for EFL learners. A possible explanation is that familiar and meaningful topics reduce cognitive burden and help students connect new language input with prior knowledge. Students also reported a preference for practical and easy-to-access digital materials, which aligns with Nguyen and Habók (2024), who found that digital literacy and access significantly influence academic reading performance.

This study demonstrates that digital flipbooks have strong potential to support

EFL students' reading development when designed according to learners' actual needs. Effective digital reading materials should prioritize accessibility, smartphone compatibility, vocabulary support, multimedia features, level-appropriate texts, and practical exercises. Educators and material developers should focus not

CONCLUSIONS

This study examined EFL university students' reading needs in using digital flipbooks as learning materials. The findings indicate that students need reading resources that are flexible, easy to access, visually engaging, and relevant to their learning context. Accessibility emerged as a central issue, particularly the need for materials that can be used anytime through smartphones. Students also expressed the need for vocabulary support, reading comprehension practice, and structured learning activities. In addition, they showed positive preferences toward multimedia elements such as pictures, audio, videos, and attractive layouts.

The results suggest that digital flipbooks can be considered a relevant medium for supporting reading instruction when they are designed according to learners' actual needs. Rather than functioning only as digital versions of

only on converting printed materials into digital form but also on designing learner-centred digital flipbooks that genuinely address students' reading challenges and preferences.

printed texts, digital flipbooks may be more useful when they integrate interactive exercises, vocabulary assistance, clear navigation, and level-appropriate content. These findings also highlight the importance of combining technological accessibility with pedagogical value in the development of digital reading materials.

Several limitations should be acknowledged. First, the study involved a relatively small number of participants from one university context, which may limit wider generalization. Second, the data were mainly based on self-reported questionnaire responses, so the findings reflect students' perceptions rather than direct measurement of reading achievement. Third, the study focused on needs analysis and did not test the actual effectiveness of digital flipbooks in improving reading performance over time.

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