Needs analysis for critical reading e-book based on problem-based learning: Perspectives from EFL students, lecturers, and stakeholders

Sinarman Jaya*)[1], Syukri Hamzah[2], Wisma Yunita[3]
[1]Universitas Muhammadiyah Bengkulu, Indonesia; sinarman@umb.ac.id
[2]Universitas Bengkulu, Indonesia; shamzah@unib.ac.id
[3]Universitas Bengkulu, Indonesia; wismayunita@unib.ac.id
*)Corresponding author: Sinarman Jaya; E-mail addresses: sinarman@umb.ac.id

Abstract. Indonesian higher education is placing more emphasis on developing 21st-century skills, which require EFL students to read critically, evaluate arguments, and synthesize information from various sources. However, many EFL students still struggle with critical reading due to low motivation, passive reading habits, and a lack of engaging and relevant materials. This study explored the features, content, and design elements needed to help students improve their critical reading skills using Problem-Based Learning (PBL). A mixed-methods approach was used, involving a survey of 120 EFL students from four universities in Bengkulu, Indonesia. Interviews were also conducted with 20 students, 8 English lecturers, 4 heads of English study programs, 4 alumni, 2 school principals (from junior and senior high schools), and representatives from government institutions and private companies. Quantitative data were analyzed using descriptive statistics, while qualitative data were examined through thematic content analysis. The research instruments were validated by experts in content, evaluation, and language, followed by a small pilot study to check for clarity and reliability. The findings showed that students prioritize content relevance, clear navigation, and interactive tasks that encourage deeper engagement with texts. Lecturers emphasized the need for the e-book to align with course objectives and incorporate higher-order thinking through task-based learning. Stakeholders stressed the importance of the e-book aligning with institutional goals and supporting critical reading, thinking, collaboration, and problem-solving skills. The study's multi-perspective approach provides a foundation for developing a relevant, engaging PBL-based e-book to enhance EFL critical reading instruction.

Introduction

In the 21st century, critical reading has become an essential skill for English as Foreign Language (EFL) students in Indonesia, particularly at the tertiary level. Critical reading goes beyond understanding the surface meaning of a text; it involves interpretation, evaluation, and reflection, enabling students to engage with information thoughtfully and analytically (Singh, 2021; Suzanne, 2016). However, research highlights the challenges EFL students face in cultivating these skills. These include difficulties in analyzing argumentative texts, limited academic vocabulary, poor inference-making abilities, and a lack of effective reading strategies (Le et al., 2024; Hussin et al.,

2024; Maab et al., 2024). Such difficulties are often exacerbated by passive learning environments and the predominance of teacher-centered instruction.

To address these challenges, Problem-Based Learning (PBL) has emerged as a promising pedagogical alternative. PBL promotes inquiry, collaboration, and real-world problem-solving, encouraging students to apply higher-order thinking skills in authentic contexts (Repanovici & Koukourakis, 2024; Das et al., 2023). In language education, PBL has been shown to improve student engagement, support independent learning, and encourage reflection—essential elements in building literacy and critical reading skills (Guo et al., 2024; Ali, 2019). Nevertheless, the integration of PBL into reading instruction, particularly through digital tools such as e-books, remains relatively underexplored in the Indonesian EFL context.

The advancement of digital technologies has created new opportunities for designing interactive, student-centered learning resources. E-books that respond to students' needs can support personalized learning, offer convenient access to materials, and encourage more meaningful engagement with texts (Burim, 2024; Sayed & Lucas, 2024). However, the effectiveness of these tools relies on a thorough needs analysis that includes input from students, lecturers, and institutional stakeholders. Without this foundation, digital materials may not align with learners' needs or curriculum objectives (Burim, 2024).

E-books provide easy access to materials, allow interactive engagement, and support multimedia elements, making them a practical option for enriching reading activities (Burim Mexhuani, 2024; Sayed & Lucas, 2024). However, they also have drawbacks, such as screen fatigue, distractions, and unequal access to devices and the internet (Le et al., 2024). PBL-based e-books tend to work best for students who are active, reflective, and comfortable working independently. These learners respond well to tasks that promote critical thinking, problem-solving, and collaboration—skills that are increasingly important in today's education and workplace settings (Guo et al., 2024; Ali, 2019).

Although critical reading has been widely examined in EFL pedagogy, much of the existing literature focuses either on instructional strategies or digital technologies in isolation. Few studies have explored the integration of PBL with e-book development as a means of creating interactive and pedagogically sound resources (Evi Yupani & Widana, 2023). This study sought to bridge that gap by investigating the perspectives of students, lecturers, and institutional stakeholders to inform the design of a contextually relevant e-book that supports critical reading development. By doing so, the research contributed a holistic and practice-oriented approach to instructional material development in the Indonesian EFL landscape.

Given the growing importance of digital tools in education and the need for critical reading skills, this research addresses a significant gap in the literature. Although Problem-Based Learning (PBL) has been explored for enhancing critical thinking, its integration with e-books for critical reading in EFL contexts remains under-studied (Guo et al., 2024; Ali, 2019). In Indonesia, where students face challenges in reading comprehension and digital literacy (Fitrawati et al., 2023), exploring PBL-based e-books is crucial to improving these skills and preparing students for real-world problem-solving (Heriyawati et al., 2024; Astuti et al., 2017). This study aimed to fill this gap and contribute to the development of effective learning materials (Suwarso & Praseno, 2022).

This study is guided by the following research questions:
1. What are the perceived needs of EFL students, lecturers, and stakeholders regarding the development of a Critical Reading e-book based on Problem-Based Learning (PBL)?

2. Which features, content, and design elements are considered most important for supporting critical reading skills within the PBL framework?
3. How do students' preferences and challenges inform the instructional strategies and digital features to be integrated into the proposed e-book?

The integration of PBL with digital tools in English Language Teaching (ELT) has gained attention, but research on how these elements support critical reading skills is limited (Heriyawati et al., 2024; Gitadewi, 2024). This study aimed to fill this gap by exploring multi-stakeholder perspectives to develop a context-responsive PBL-based e-book. By aligning pedagogical strategies with learners' cognitive needs and real-world communication demands, the study contributes to designing learner-centered materials for EFL learners (Du, 2021; Soboleva, 2019). Given the growing focus on critical reading and the lack of PBL-based digital resources, the findings are timely and relevant for instructional design and curriculum planning in Indonesian universities (Soboleva, 2019).

Method

Research Design
This study employed a descriptive exploratory design using a mixed-methods approach, combining quantitative survey data with qualitative interview findings. This design was chosen to capture a comprehensive understanding of the perspectives, experiences, and needs related to the development of a Problem-Based Learning (PBL) e-book for Critical Reading instruction in EFL contexts. The integration of both data types facilitated triangulation and enhanced the depth and validity of the research findings (Creswell & Plano Clark, 2018).

Participants
The participants consisted of 120 undergraduate EFL students enrolled in Critical Reading courses at four universities in Bengkulu Province, with 30 students selected from each. Purposive sampling ensured active participation in the courses during data collection. Additionally, semi-structured interviews were conducted with lecturers, alumni, program heads, and stakeholders to gain diverse perspectives on the expectations and challenges of developing a PBL-based Critical Reading e-book.

Data Collection Instruments
A validated questionnaire was used to assess students' expectations and learning needs for the PBL-based Critical Reading e-book. It evaluated ten core aspects, including content relevance, structure, interactivity, and visual design, with a 4-point Likert scale (1 = Not Important to 4 = Very Important) and an open-ended section for additional feedback. Semi-structured interviews were also conducted with lecturers, alumni, program heads, and stakeholders to gather qualitative insights into instructional needs, learner challenges, and preferred e-book design features.

Data Analysis Procedures
Quantitative Data
Student questionnaire data were analyzed using descriptive statistics. Frequencies and percentages summarized categorical data, while means and standard deviations identified trends and variations in students' ratings. The importance of each feature was interpreted based on the following scale.

Table 1. Interprete scale

Mean Score Range	Interpretation
3.26 – 4.00	Very Important

Mean Score Range	Interpretation
2.51 – 3.25	Important
1.76 – 2.50	Less Important
1.00 – 1.75	Not Important
3.26 – 4.00	Very Important

Similarly, responses from Critical Reading lecturers were analyzed to highlight preferences regarding instructional methods, e-book features, and alignment with pedagogical objectives.

Qualitative Data
Interview transcripts were analyzed using thematic content analysis (Braun & Clarke, 2006). Two independent reviewers coded the data to identify themes and ensure reliability through cross-validation. To enhance validity, feedback from professionals in four areas was incorporated: content experts (for relevance and accuracy), evaluation experts (for assessment strategies), and language experts (for linguistic clarity and suitability for EFL learners).

Triangulation
Triangulation was employed to enhance the credibility of the findings by cross-verifying data from multiple sources and methods (Patton, 2015; Miles, Huberman, & Saldana, 2014). The combination of quantitative (questionnaire) and qualitative (interview) data provided a comprehensive understanding of stakeholders' needs, ensuring conclusions were supported by converging evidence from different methods, thereby increasing the study's validity.

Ethical Considerations
Ethical protocols were followed throughout the research. Ethical clearance was obtained from the institutional review board, and all participants provided informed consent, which explained the study's purpose, voluntary participation, and confidentiality measures. Participants were assured of the anonymity of their responses and the secure handling of data for research purposes.

Results and Discussion

This study examined the needs of EFL students, lecturers, and stakeholders for developing a PBL-based Critical Reading e-book. It identified essential features such as alignment with objectives, instructional structure, interactivity, and design, while addressing implementation challenges in EFL contexts. Drawing on survey and interview data, the findings offer insights to guide the design of an effective, learner-centered e-book that supports critical reading instruction.

Quantitative Findings
Students' Preferences and Ratings
To identify the most valued features in the development of a Critical Reading e-book based on PBL, students were asked to rate 10 key dimensions using a 4-point Likert scale (1 = Not Important to 4 = Very Important). Table 1 presents the means and standard deviations for each e-book feature.

Table 2. Students' Ratings of E-Book Features for Critical Reading (N = 120)

No.	Feature	Mean (M)	SD	Interpretation
1	Content Relevance	3.83	0.41	Very Important
2	Logical Structure with Navigation	3.79	0.44	Very Important
3	Interactive Activities	3.75	0.47	Very Important
4	Visual Design with interesting Layout	3.72	0.51	Very Important

No.	Feature	Mean (M)	SD	Interpretation
5	Clear with Contextualized Language	3.70	0.49	Very Important
6	Feedback Mechanisms (e.g., Hints)	3.66	0.53	Important
7	Multimedia Support (Audio/Video)	3.60	0.55	Important
8	Critical Thinking Prompts	3.55	0.61	Important
9	Self-Assessment Tools	3.50	0.59	Important
10	Alignment with Learning Outcomes	3.48	0.62	Important

As shown in Table 1, all features received mean ratings above 3.4, with content relevance rated highest (M = 3.83, SD = 0.41), followed by structure and interactivity. These results highlight students' preference for clear, relevant content that supports engagement and learning. Unlike earlier studies emphasizing visual appeal and navigation (Wang et al., 2018 and Yoo & Roh, 2017), this study found Indonesian EFL students and stakeholders prioritized content alignment with instructional goals and critical reading development. Lower ratings for critical thinking prompts (M = 3.55) and self-assessment tools (M = 3.50) may reflect limited experience with reflective digital tasks (Nilforoushan et al., 2023), indicating a need for instructional scaffolding. These findings support the integration of well-structured, relevant content and gradual development of critical literacy skills through thoughtful task design.

Lecturers' Views on E-Book Features
To gain instructional insight into the pedagogical relevance and feasibility of the proposed PBL-based e-book, a separate questionnaire was administered to EFL lecturers involved in Critical Reading instruction across the four participating institutions. Lecturers were asked to evaluate ten key features in terms of their instructional value, usability, and alignment with learning objectives.

Table 3. EFL Lecturers' Ratings of Key E-Book Features (N = 8)

No.	Feature	Mean (M)	SD	Interpretation
1	Alignment with Course Learning Outcomes	3.88	0.35	Very Important
2	Relevance to Critical Reading Objectives	3.75	0.46	Very Important
3	Problem-Based Learning Integration	3.72	0.50	Very Important
4	Task-Based Inquiry-Driven Design	3.68	0.48	Very Important
5	Interactivity and Learner Engagement	3.63	0.49	Very Important
6	Support for Higher-Order Thinking	3.59	0.52	Important
7	Visual Clarity and Accessibility	3.53	0.50	Important
8	Integration of Multimedia (e.g., videos)	3.50	0.51	Important
9	Self-Assessment with Feedback Tools	3.48	0.55	Important
10	Ease of Integration into Existing LMS	3.45	0.60	Important

Lecturers prioritized alignment with course learning outcomes (M = 3.88), emphasizing curriculum coherence and instructional relevance, consistent with Le et al., (2024) and Burim, (2024). High ratings were also given to PBL integration (M = 3.72) and inquiry-driven tasks (M = 3.68), reflecting a preference for student-centered learning. Interactivity (M = 3.63) and higher-order thinking support (M = 3.59) were considered important but secondary to content alignment. LMS integration (M = 3.45) and multimedia features (M = 3.50) received lower ratings, possibly due to infrastructure or institutional constraints, as noted by Suwarso & Praseno, (2022). Overall, lecturers emphasized pedagogical soundness and practicality, aligning with student views on content relevance and structure, while highlighting the need for institutional support in implementation.

Qualitative Findings: Thematic Insights

The qualitative data came from semi-structured interviews with four key groups: students (n = 120), EFL lecturers (n = 8), alumni (n = 4), and stakeholders (n = 5), including representatives from universities, junior and senior high schools, government institutions, and companies. Thematic analysis of the interview transcripts identified several recurring themes regarding the design, content, and usability of the PBL-based e-book for Critical Reading instruction. Four major themes emerged:

Theme 1: Pedagogical Alignment and Content Relevance

Participants consistently emphasized the importance of aligning the e-book's content with course objectives and the critical reading skills necessary in EFL contexts. Students expressed that the material should be relevant and tied to real-world issues, particularly those that could impact their academic and professional futures. One student stated:

"It would be beneficial if the content related to real-world issues, particularly those we encounter in our personal and professional lives, such as current global or local challenges."

Lecturers echoed this sentiment, emphasizing that the e-book should complement existing curricula and enhance student engagement with critical reading. One lecturer observed:

"The PBL approach could provide a more meaningful method of addressing reading comprehension, as it encourages students to engage critically with the material rather than passively consume it."

Theme 2: Interactivity and Engagement

All groups of participants underscored the value of incorporating interactive elements to support learner engagement. Students particularly favored the inclusion of features such as quizzes, reflective prompts, and group-based tasks within the e-book. As one student remarked:

"It would really help if the e-book included quizzes after each section, so we could check our understanding and get feedback right away."

Lecturers and alumni similarly highlighted the value of active learning, suggesting that interactive tasks can foster critical engagement and peer collaboration. One alumnus reflected:

"Based on my experience, learning becomes more meaningful when we work on tasks with classmates—discussing a topic or solving a problem together builds confidence and helps us think more deeply."

These responses indicated a common belief in the importance of interactivity to sustain learner focus and foster critical thinking. This is consistent with Sayed & Lucas (2024); Purnadewi & Widana (2023); Heriyawati et al. (2024), who observed that digital learning tools with interactive and problem-solving components significantly improve learner motivation, engagement, and critical thinking in EFL contexts.

Theme 3: Technological Usability and Accessibility

Enthusiasm for a PBL-based e-book was evident among participants, but they also raised practical concerns regarding usability and accessibility. Students frequently emphasized the need for a user-friendly interface that works seamlessly across devices, especially mobile phones. One student shared:

"Sometimes e-books are too complicated to use on our phones. If it's not easy to navigate, we just stop using it."

Lecturers also pointed to the importance of integration with LMS, noting that many students rely on centralized platforms for accessing materials and tracking progress. As one lecturer shared:

"The e-book should work well with the LMS—students need to be able to follow their tasks, submit assignments, and get feedback all in one place."

Participants also raised concerns about internet connectivity and device limitations, particularly stakeholders from schools and government institutions. They emphasized the need for offline access or lightweight versions of the e-book to ensure broader usability across diverse learning environments. These perspectives align with findings by Sayed & Lucas (2024) and Azizah et al. (2021), who highlighted that the effectiveness of digital learning resources depends on their

usability and accessibility, especially in environments with varying levels of technological infrastructure.

Theme 4: Assessment and Feedback Mechanisms
The importance of assessment and feedback emerged as a recurring theme across participant groups. Students expressed a strong preference for features that allow them to evaluate their understanding and monitor their learning progress. Many emphasized the value of immediate feedback after completing tasks. One student noted:
"*It helps when we know right away if we got something wrong—it makes it easier to learn from our mistakes and try again.*"
Lecturers also highlighted that formative feedback plays a key role in supporting student learning within a PBL framework. They encouraged the inclusion of self-assessment checklists, automated quizzes, and reflective prompts to help students deepen their critical reading skills. One lecturer remarked:
"*Assessment shouldn't just be about scoring. It's about guiding students to reflect on their understanding and helping them grow step by step.*"
Stakeholders supported these views, emphasizing the need for feedback tools that are flexible, personalized, and aligned with learning outcomes. According to one institutional representative:
"*When learners get timely feedback, they're more motivated to keep going. It also helps instructors adjust their support based on student needs.*"
These findings align with Makhija et al. (2022) & Goldin et al. (2017), who argue that effective feedback mechanisms, particularly in problem-based and interactive learning environments, play a key role in enhancing learners' engagement, critical thinking, and self-regulation.

Discussion
The findings from this study offered important insights into the perceived priorities of EFL students, lecturers, alumni, and stakeholders in designing an effective Critical Reading e-book based on Problem-Based Learning (PBL).

Quantitative Findings
Student survey results highlighted preferences for content relevance (M= 3.83), structured navigation (M = 3.79), and interactivity (M = 3.75), indicating a focus on features that support comprehension and active reading. Unlike previous studies emphasizing multimedia appeal, Indonesian EFL students prioritized pedagogical elements that enhance critical reading within a PBL framework. Visual and multimedia aspects were seen as secondary to content-driven features. Lower ratings for self-assessment tools (M = 3.50) and critical thinking prompts (M = 3.55) suggest limited experience with metacognitive strategies, pointing to the need for scaffolding to build students' analytical skills.

Qualitative Insights
Interview data supported the survey results, with participants stressing the need for content aligned with course objectives and critical reading skills. Students highlighted the importance of relevant, real-world content connected to their academic and professional goals. As one student remarked:
"*The material needs to be related to topics that we encounter in real life. It would be helpful if the reading tasks were connected to global or local issues that matter to us as young adults.*"
EFL lecturers similarly stressed the importance of the e-book complementing existing curricula and enhancing student engagement with critical reading. One lecturer noted:
"*The PBL approach could offer a more meaningful way of addressing reading comprehension, as it challenges students to think critically, not just passively consume information.*"

This pedagogical alignment with course objectives was also rated highly by lecturers (M = 3.88) in the survey, which further corroborates the importance placed on curricular relevance. The pedagogical effectiveness of e-books increases when their content aligns with learners' academic goals, personal interests, and course objectives (Sain et al., 2024; Amane et al., 2023; and Ibrahimi & Rais, 2023).

Lecturer Perspectives
The responses from lecturers strongly validated the importance of features such as alignment with course learning outcomes (M = 3.88), relevance to critical reading objectives (M = 3.75), and PBL integration (M = 3.72). Lecturers prioritized features that connected directly to instructional goals and supported inquiry-based learning experiences. Task-based design (M = 3.68) and support for higher-order thinking (M = 3.59) were also considered important, indicating a shared focus on designing activities that reflected real-world problem-solving contexts. These findings aligned with earlier studies, such as those by (Gitadewi, 2024; Das et al., 2023) and Harjono et al., 2020), which highlighted the value of aligning instructional materials with learning outcomes and fostering problem-solving through structured digital content.

Multimedia and LMS Integration
In contrast, lower ratings for LMS integration (M = 3.45) and multimedia features (M = 3.50) indicated that these elements, although considered beneficial, were not seen as essential compared to content relevance and instructional alignment. This pattern is consistent with Angkarini et al. (2023), Van Li, & Wan (2022), who observed that the effective implementation of technological features is often contingent upon the availability of institutional infrastructure and administrative support. The current results suggest a shift in priority—placing greater emphasis on pedagogical coherence and content quality than on technological enhancement—differing from earlier studies that highlighted the appeal of multimedia and ease of system integration.

Alumni and Stakeholder Perspectives
Alumni and stakeholder feedback reinforced the value of e-book features, emphasizing the role of critical reading in professional communication, decision-making, and problem-solving. Alumni noted that structured reading and argument analysis had supported their ability to handle complex workplace texts, highlighting the long-term benefits of integrating real-world, problem-based tasks—findings that align with those of Sam (2024) and Katan & Baarts (2020), who emphasized the lasting impact of inquiry-based reading practices in preparing learners for analytical demands in professional environments.

Stakeholders, particularly those representing educational institutions and professional organizations, also underscored the need for graduates who demonstrated not only language proficiency but also the ability to engage with texts critically and contextually. One stakeholder from a local education agency remarked, "*We are not just looking for graduates who can read and write; we need them to interpret, analyze, and respond thoughtfully to real-life issues.*" Such input supported the inclusion of scenario-based tasks, structured argument evaluation, and thematically relevant reading texts in the e-book. These perspectives echoed Pujiati (2024), Nuraeni (2024), Monib (2023) and Pardede (2020) emphasis on the need to align curriculum materials with 21st-century skill demands, particularly in EFL contexts where critical thinking had often been overlooked in traditional instructional approaches. Feedback from alumni and stakeholders supported the integration of contextual relevance, inquiry-based tasks, and scaffolded critical thinking in the e-book, affirming its academic purpose while highlighting its value for real-world application and professional readiness.

The quantitative findings underscored the significance of content relevance, instructional structure, and interactivity. These priorities were further affirmed by the qualitative data, which emphasized the need for pedagogically coherent materials aligned with real-world contexts. The alignment of both data sets highlights the imperative for a well-structured, contextually relevant PBL-based e-book that promotes critical engagement and effectively supports learning objectives.

Pedagogical Implications for Course Design
The findings of this study highlighted several key pedagogical implications for designing a Critical Reading e-book within a Problem-Based Learning (PBL) framework. A consistent insight from both students and lecturers was the need to align the e-book's content with course learning outcomes and critical reading objectives, enhancing both student motivation and academic relevance (Shoukat et al., 2024; Fitrawati et al., 2023; Los & Schweinle, 2019). The design of task-based activities that promote inquiry, reflection, and higher-order thinking was also emphasized, with tasks focusing on evaluating arguments, identifying bias, and synthesizing information—skills vital for critical reading (Fiani & Fadillah, 2023; Vini Wela Septiana et al., 2022; Yuberti et al., 2022; Yunita et al., 2018; and Wilson, 2016). Additionally, students valued contextualized and authentic content, particularly materials connected to real-world issues, highlighting the importance of addressing relevant social and ethical concerns (Pujiati, 2024; Sayed & Lucas, 2024; Fitrawati et al., 2023; and Yulian, 2021). However, the data also pointed to the need for gradual scaffolding in critical thinking tasks, as students' lower ratings for reflective tools suggested limited familiarity with metacognitive strategies (Le et al., 2024; Nuraeni, 2024; Pujiati, 2024). Feedback from stakeholders emphasized that the e-book should complement, not replace, the instructor's role, with features that support teacher mediation, such as discussion prompts and group project suggestions (Ontowiryo et al., 2024; Ali, 2019; Astuti et al., 2017). These implications suggest a design philosophy that is structured for curricular alignment yet flexible enough to adapt to context, needs, and classroom dynamics.

Methodological Considerations
This study employed a mixed-methods approach that combined quantitative survey data with qualitative interview insights to gain a comprehensive understanding of the perceived needs of EFL students, lecturers, alumni, and stakeholders in developing a Critical Reading e-book based on Problem-Based Learning (PBL). The triangulation of data enhanced the validity and depth of the findings by revealing both the priorities and the underlying reasons for participant preferences. A major strength of the methodology was the inclusion of diverse participant groups, capturing both immediate classroom needs and broader institutional and post-graduate perspectives. Alumni reflected on the usefulness of critical reading skills in their academic and professional lives, while stakeholders contributed insights tied to curriculum goals and graduate attributes. Nonetheless, the study had limitations. The sample, drawn from four universities in Bengkulu, may restrict the generalizability of the findings to similar EFL contexts. Cultural influences may also have shaped how respondents interpreted and rated survey items, despite strong internal consistency. Future revisions of the instrument could incorporate cognitive interviewing to improve item clarity. Although the qualitative data was rich and coded by multiple researchers to enhance reliability, interpretive bias may still be present. Overall, the methodological design provided a strong basis for guiding the development of practical, learner-centered digital materials in EFL instruction.

Suggestions for Future Research
This study offered a foundational understanding of the key elements involved in designing a PBL-based e-book for EFL critical reading instruction. Future research should examine the implementation of such materials in classroom contexts to assess their impact on learners' critical reading development over time. Longitudinal studies and classroom-based trials could provide

insights into the efficacy, adaptability, and learner engagement facilitated by various PBL design features. Additionally, investigations into task design—particularly the types of problem scenarios and scaffolding strategies that best promote critical thinking—would help refine instructional approaches. Further research should also address learners' development of metacognitive and self-assessment skills through digital tools, explore the influence of digital literacy and infrastructure on e-book integration, and examine how sociocultural and institutional contexts shape material development. Comparative and participatory design studies involving diverse stakeholders may offer broader, more inclusive insights. Building on these findings can contribute to more context-sensitive, learner-centered innovations in English language education.

Conclusion

This study explored the perspectives of EFL students, lecturers, alumni, and stakeholders regarding the development of a Problem-Based Learning (PBL) e-book for Critical Reading. The findings highlighted key priorities, with both students and lecturers emphasizing the need for content relevance, clear navigation, and interactive features that encouraged active engagement. While multimedia elements were considered beneficial, content-driven features were rated more highly, signaling a preference for in-depth, substantive learning experiences rather than surface-level engagement. Alumni highlighted the importance of real-world connections in reading tasks, stressing that materials should reflect practical and relevant issues. Meanwhile, stakeholders emphasized the alignment of the e-book with broader educational goals, particularly in fostering critical thinking and enhancing language skills. These insights indicated that a PBL-based e-book, when thoughtfully designed to align with pedagogical objectives, held the potential to enhance critical reading instruction. Overall, the study contributed to the growing body of knowledge on how digital tools supported and improved critical reading in EFL contexts. It offered practical recommendations for the development of future curricula and e-books, underscoring the importance of aligning instructional materials with the changing needs of both learners and educational frameworks.

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