

Lingua as an Asynchronous Learning Catalyst for EFL Reading Comprehension

Lingua como catalizador de aprendizaje asíncrono para la comprensión lectora en EFL

 **Susanto Susanto** | Universitas Bandar Lampung, Indonesia
 **Deri Sis Nanda** | Universitas Bandur Lampung, Indonesia

How to cite: Susanto, S., & Nanda, D. S. (2026). Lingua as an asynchronous learning catalyst for EFL reading comprehension. *Revista Electrónica de Investigación Educativa*, 28, e09, 1–15.
<https://doi.org/10.24320/redie.2026.28.e09.6958>

Abstract

The research sought to explore the impact of using the asynchronous learning platform Lingua on the reading comprehension skills of English as a Foreign Language (EFL) students. This qualitative study involved 140 tenth-grade students from five senior high schools in Lampung Province, Indonesia. Data were collected through observation and questionnaires, with a descriptive analysis applied to interpret the information. The results demonstrated that students benefited from this approach, displaying proficiency in identifying main ideas, extracting explicit information, making inferences, discerning figurative and connotative meanings, and identifying implicit information. Moreover, Lingua not only enhanced the students' reading comprehension but also contributed to their overall enjoyment, motivation, sense of proficiency, and confidence in this skill. The platform's provision of appropriate challenges and feedback further facilitated students' improvement, while exposure to diverse and knowledgeable content expanded their horizons and understanding. In response to the positive outcomes observed, educators and administrators may consider integrating Lingua into their asynchronous learning strategies for enhancing students' EFL reading comprehension. This tool may support not only academic proficiency but also students' overall motivation and confidence in mastering essential reading skills.

Keywords: digital platforms, asynchronous learning, reading comprehension, educational innovation

Resumen

Esta investigación se propuso como objetivo analizar el impacto del uso de la plataforma de aprendizaje asíncrono Lingua sobre las habilidades de comprensión lectora de estudiantes de inglés como lengua extranjera (EFL). El presente estudio cualitativo involucró a 140 estudiantes de décimo grado, pertenecientes a cinco escuelas de educación media superior de la provincia de Lampung, Indonesia. Los datos fueron recopilados mediante observación y cuestionarios, con un análisis descriptivo para interpretar la información. Los resultados mostraron que los estudiantes se beneficiaron de este enfoque al mostrarse competentes en la identificación de ideas principales, la extracción de información explícita,



la realización de inferencias, el discernimiento de significados figurativos y connotativos y la identificación de información implícita. Además de mejorar su comprensión lectora, el uso de Lingua contribuyó al disfrute, motivación, sentido de competencia y confianza general de los estudiantes en esta habilidad. La retroalimentación y los desafíos apropiados también facilitaron la mejora de los estudiantes, mientras que la exposición a contenido diverso y bien fundamentado amplió sus horizontes y su comprensión. Ante estos resultados positivos, los educadores y administradores pueden considerar integrar Lingua en sus estrategias de aprendizaje asincrónico para fortalecer la comprensión lectora en contextos de EFL. Esta herramienta puede contribuir no sólo a la competencia académica, sino también a la motivación y confianza general de los estudiantes en el dominio de habilidades de lectura esenciales.

Palabras clave: plataforma digital, aprendizaje asincrónico, comprensión lectora, innovación educativa



I. Introduction

In the rapidly evolving landscape of language education, the integration of technology has become a focal point for educators seeking innovative approaches to enhance the learning experience (Liu et al., 2023; Rahmati et al., 2021; Yu, 2022). As English as a Foreign Language (EFL) students grapple with the complexities of reading comprehension, the role of asynchronous learning platforms has garnered increasing attention. This study explores the impact of Lingua (Seeger, 2017), a free language learning website that can be used for asynchronous learning, on the EFL reading comprehension skills of 10th-grade students in Lampung Province, Indonesia.

The effectiveness of asynchronous learning tools has been the subject of extensive research, with various studies highlighting their positive impact on student engagement, interaction, and overall learning outcomes. Barbetta (2023) and Repman et al. (2005) demonstrated that asynchronous tools play a crucial role in promoting active participation and engagement among students in online learning environments. Calderon and Sood (2020), Wakjira and Bhattacharya (2022), and Vallis et al. (2022) stressed the effectiveness of asynchronous discussion boards in facilitating communication, not only between students but also between students and instructors. This form of communication was found to enhance contextual understanding, interpersonal relationships, and meta-learning outcomes. The asynchronous nature of these tools allows participants to contribute at their own pace, fostering a more inclusive and reflective learning environment.

Meanwhile, Chai and Subramaniam (2021) and Vonderwell (2003) investigated factors, strategies, and potential barriers associated with the use of asynchronous communication tools. By addressing these aspects, educators can optimize the use of such tools to create effective learning experiences. Overcoming barriers to asynchronous communication ensures that the benefits of these tools are maximized, contributing positively to the overall learning process. In addition, Stewart (2016) expanded on the advantages of asynchronous tools, specifically forums and Blackboard Collaborate, by highlighting their role in enhancing online learning. These tools provide a broader scope for e-tutor and student engagement, allowing for more dynamic and interactive online teaching. Additionally, the inclusion of Blackboard Collaborate emphasizes the significance of synchronous elements within an asynchronous environment, which provide opportunities for real-time collaboration and teacher immediacy.

Research indicates that asynchronous learning tools, including discussion boards, forums, and collaborative platforms, offer valuable benefits in promoting student engagement, communication, and effective online learning. These tools not only facilitate interaction but also provide educators with opportunities to overcome challenges and tailor their strategies for optimal learning outcomes in asynchronous environments. However, a discernible gap persists regarding the specific application of Lingua in the context of EFL reading comprehension. Previous research has often focused on synchronous platforms, neglecting the unique attributes and potential benefits offered by asynchronous media. This research bridges this gap by shedding light on how Lingua, as an asynchronous learning catalyst, can contribute to the development of EFL students' reading comprehension skills. By employing a qualitative research design, this study goes beyond quantitative measures to examine the learning process in depth and explore the impact of Lingua on various dimensions of reading comprehension.

In addition, motivational and confidence-building aspects associated with asynchronous learning tools in EFL contexts have been underexplored in the literature. While prior studies have assessed the effectiveness of these platforms in improving specific skills, there is a notable dearth of literature aimed at understanding how these tools contribute to students'



overall enjoyment, motivation, and sense of proficiency. This study addresses this deficiency by not only evaluating improvement in reading comprehension skills but also examining the broader psychological and motivational implications of using Lingua.

The theoretical, empirical, and policy contributions of this research extend beyond the immediate context of EFL education. The findings provide insights into the potential of asynchronous learning platforms like Lingua to foster a holistic development of language skills. Moreover, the implications of integrating such tools go beyond academic proficiency, encompassing motivational factors that are crucial for sustained engagement and learning success. Our study navigates uncharted territory by investigating the pedagogical potency of Lingua as an asynchronous learning catalyst for EFL reading comprehension. The research aims to fill the existing gaps in the literature and contribute valuable insights that educators and administrators can leverage to enhance the overall learning experience for EFL students.

II. Literature Review

The research trends in technology within language education provide a comprehensive overview of the impact of asynchronous learning on various aspects of language proficiency. Several studies provide insight into the positive outcomes associated with asynchronous learning. Pinto-Llorente et al. (2017) and Karaaslan et al. (2018) highlight the positive influence of asynchronous learning on language proficiency, focusing specifically on the acquisition of vocabulary and grammar skills. Moreover, Hampel (2009) also explores how asynchronous learning can boost vocabulary acquisition and grammar skills in online language learning.

Gorjian et al. (2011) extend the discussion to asynchronous computer-assisted language learning (CALL) approaches, highlighting improvements in vocabulary retention and recall for both high and low achievers. Notably, high achievers derive benefits in both retention and recall processes, suggesting an overall positive influence on language learning outcomes. In a similar vein, Buckingham and Alpaslan (2017) investigate the effects of asynchronous computer-mediated speaking practice, revealing noteworthy improvements in children's evaluated oral performance and a heightened willingness to communicate. This implies that asynchronous methods strengthen students' skills while also playing a pivotal role in overcoming communication barriers.

Lee (2009) and Wu et al. (2015) stress the importance of asynchronous discussions in fostering the production of syntactically complex language among learners. This, in turn, enhances the language acquisition process by prompting learners to engage with more sophisticated language structures. Building on this notion, Pineda (2017) explores how asynchronous learning activities cultivate language awareness. By allowing participants to identify general categories of errors, asynchronous learning encourages a reflective process that contributes to a deeper understanding of language structure and usage. Memari (2020) provides further support for the efficacy of asynchronous e-learning, particularly in improving skills and sub-skills that necessitate reflection and comprehension. This underscores the adaptability of asynchronous methods in addressing various facets of language learning beyond mere vocabulary and grammar.

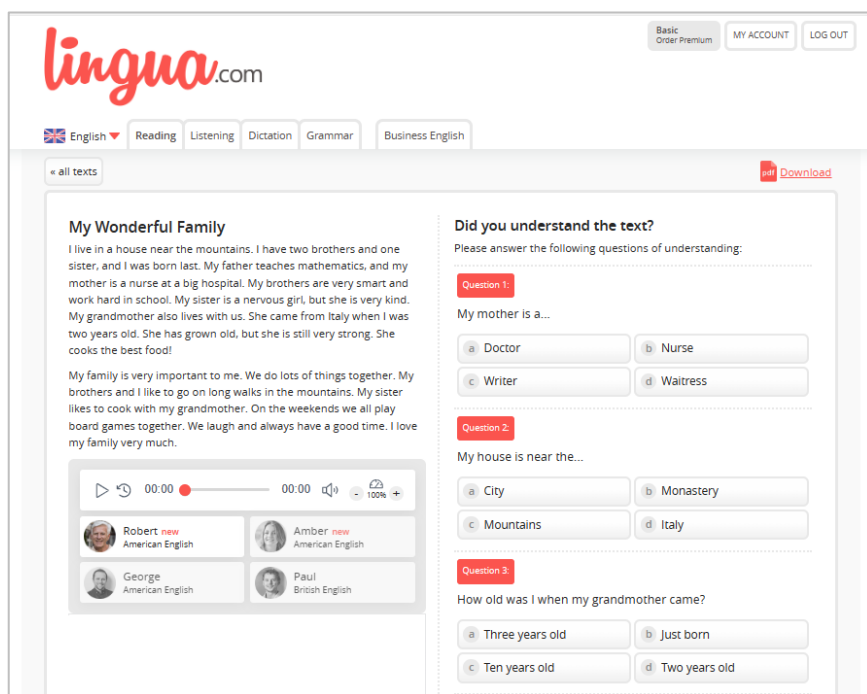
Taken together, research findings emphasize the diverse benefits of asynchronous learning in language education, including improvements in vocabulary acquisition, grammar skills, speaking performance, syntactic complexity, error identification, and reflective comprehension. These studies establish a foundation for understanding the potential benefits that asynchronous tools might offer in the specific context of EFL reading comprehension. One strength of the existing body of research is the recognition of the versatility of asynchronous platforms. These tools have demonstrated adaptability in



catering to diverse learning styles, fostering self-paced learning, and accommodating individual needs (Noguera et al., 2022; Obasa et al., 2013; Wu & Chen, 2013). Moreover, work by Zumbach and Reimann (2003), Hosseini (2012), Shang (2017), and Ma (2022) has highlighted the importance of feedback mechanisms in asynchronous learning, a factor that plays a crucial role in skill development.

The literature on the integration of technology in EFL education has grown significantly in recent years, reflecting the ongoing exploration of innovative pedagogical approaches. Several studies have investigated the effectiveness of asynchronous learning tools, providing valuable insights into their potential contributions to the development of language skills. However, weaknesses are observed in the limited attention given to motivational and affective dimensions associated with asynchronous learning tools in EFL contexts. While improvements in specific skills are evident, a comprehensive understanding of how these platforms contribute to students' overall enjoyment, motivation, and sense of proficiency remains underdeveloped. Additionally, most work focuses on general language skills, leaving a notable gap in understanding their specific impact on reading comprehension, a critical component of language proficiency.

Figure 1. Lingua platform



Source: <https://lingua.com>

While synchronous platforms have been a common focus in research, asynchronous learning media such as Lingua (<https://lingua.com>) represent a distinct avenue of inquiry in the realm of EFL reading comprehension, as shown in Figure 1. The Lingua website provides texts and corresponding exercises designed to evaluate reading comprehension and enhance proficiency in interpreting vocabulary and cultural information within context. The platform offers a diverse array of reading materials and text types at different difficulty levels, catering to learners at novice, intermediate, and advanced stages. This research aims to explore various aspects of the use of Lingua as an asynchronous learning catalyst for EFL reading comprehension. By focusing on a specific skill set, the study aims to contribute to the existing body of knowledge by providing a detailed exploration of the impact of this asynchronous learning tool on various dimensions of reading comprehension.



While existing research provides a valuable foundation, there is a need for further exploration of the specific contributions of asynchronous learning tools, such as Lingua, to EFL reading comprehension. Through its qualitative research design and focus on a specific skill set, this study aims to provide a deeper understanding of the integration of technology in language education, and contribute to current discussions on this topic. The sections below present the study's methodological approach and results. A discussion of the unique contributions of Lingua to EFL reading comprehension skills is also offered.

III. Methodology

3.1 Research Design

This study employed a qualitative research design (Creswell & Poth, 2023; Leavy, 2022; Marshall et al., 2021) to explore the impact of Lingua on the reading comprehension skills of EFL students. Qualitative research was chosen to capture the complexity and diversity of students' learning experiences and outcomes. This approach allowed for an in-depth understanding of Lingua's influence on participants' reading comprehension skills in English as a foreign language.

3.2 Participants

The study included 140 tenth-grade students (76 females, 64 males) with an average age of 15.4 years (SD = 0.46). Participants were selected from five senior high schools in Lampung Province, Indonesia, using purposive sampling. This sampling method was employed to ensure a diverse representation of EFL learners, considering factors such as gender, academic performance, and English proficiency level.

3.3 Data Collection

The data collection process (from January 2022 to October 2023) involved a combination of classroom observations and the administration of a structured questionnaire. Classroom observations were conducted during Lingua-mediated asynchronous learning sessions. The observations focused on students' engagement and interaction with the platform, and on identifying patterns in reading comprehension behaviors. Direct observation allowed for the collection of real-time data on student reactions, interactions, and behaviors, offering valuable insights into the practical implications of Lingua integration.

In addition to observations, a structured questionnaire was administered to students (Dubey & Kothari, 2022). The questionnaire aimed to gather information on students' perceptions of Lingua's impact on various aspects, including reading comprehension, enjoyment, motivation, proficiency, and confidence. The questionnaire comprised both closed-ended and open-ended questions, providing a comprehensive understanding of the participants' experiences with this asynchronous learning platform. Responses from the closed-ended questions were subjected to descriptive statistical analysis to quantify the prevalence of specific themes and patterns in students' perceptions. Meanwhile, qualitative data from open-ended questionnaire responses and observational notes underwent thematic analysis. Codes were assigned to identify recurring themes related to reading comprehension skills, motivation, and the overall learning experience. Thematic analysis enabled a deeper exploration of qualitative data, enriching the understanding of the complex interplay between Lingua and the participants' learning outcomes.



IV. Results

4.1 Reading Comprehension Proficiency

Table 1 summarizes the positive impact of Lingua on EFL students' reading comprehension skills, as observed during asynchronous learning sessions. The reported percentages demonstrate the improvements in each skill category: the students' proficiency in identifying main ideas, extracting explicit information, making inferences, discerning figurative and connotative meanings, and identifying information conveyed implicitly. These findings collectively underscore the valuable role of Lingua in fostering comprehensive reading comprehension abilities among EFL students. The observations provided compelling insights into the improvements in students' reading comprehension skills. A significant 87.9% of students exhibited an enhanced ability to identify main ideas in texts. This observation indicates a positive impact on the fundamental skill of discerning central themes or concepts when reading, suggesting that the asynchronous learning environment facilitated focused engagement with textual content, leading to a deeper understanding of key concepts.

Table 1. Impact of Lingua on Students' Reading Comprehension Skills

Reading Comprehension Skills	Students (N = 140)	Percentage (%)
Identifying main ideas	123	87.9
Extracting explicit information	106	75.7
Making inferences	115	82.1
Discerning figurative and connotative meanings	98	70.0
Identifying information conveyed implicitly	95	67.9

Moreover, the observations revealed that 75.7% of students demonstrated improved skills in extracting explicit information from texts. This demonstrates a heightened capability to extract specific details and information directly stated in the text, reflecting a tangible development in comprehension. The asynchronous nature of Lingua, allowing students to navigate and revisit textual content at their own pace, appears to have contributed to this notable improvement in extracting explicit information from the materials presented. Additionally, the findings indicate that 82.1% of students showed an enhanced capacity for making inferences based on textual cues, underscoring the platform's effectiveness in fostering critical thinking skills and enabling students to draw logical conclusions and insights from the information provided. The asynchronous learning environment appears to encourage students to engage in reflective thinking and connect disparate pieces of information, thus improving their inferential skills.

Furthermore, observations revealed that a substantial 70.0% of students exhibited better discernment of figurative and connotative meanings within texts. This translates into an improved ability to interpret nuanced language, including metaphors, symbolism, and implied meanings. The asynchronous nature of Lingua may have afforded students the time and flexibility needed to inquire into the subtleties of language, resulting in an increased sensitivity to figurative and connotative elements in the reading materials. Lastly, the observations showed that 67.9% of students successfully identified information conveyed only implicitly by the author. This outcome suggests significant progress in students' ability to grasp implicit information and comprehend the author's intended messages beyond what is explicitly stated. Lingua's asynchronous learning approach allows students to engage in thoughtful reflection and analysis, ultimately leading to a more nuanced understanding of a text's implicit meanings.



4.2 Affective and Motivational Outcomes

Table 2 shows the affective and motivational outcomes resulting from the use of Lingua, presenting the percentages of participants who reported positive changes in their attitudes, motivation, and perceived proficiency in reading comprehension skills. One key finding is that 92.1% of students reported increased enjoyment of the learning process with Lingua, suggesting that the platform had a strong positive impact on students' overall satisfaction and engagement during their learning experience.

Table 2. Affective and Motivational Outcomes of Lingua Use in EFL Students

Affective and Motivational Outcomes	Students (N = 140)	Percentage (%)
Greater enjoyment of learning process with Lingua	129	92.1
Greater motivation to engage with reading materials	120	85.7
Greater overall sense of proficiency in reading comprehension	109	77.9
Greater confidence in comprehending English texts	117	83.6

Furthermore, 85.7% of students reported increased motivation to engage with reading materials through the use of Lingua, underscoring the platform's effectiveness in fostering enjoyment while also motivating students to actively participate in reading activities. High proportions of students report increased motivation and increased enjoyment, suggesting a possible relationship between these outcomes, which aligns with the idea that students who find the learning process enjoyable are more likely to be motivated to engage with the materials.

An increased overall sense of proficiency in reading comprehension was reported by 77.9% of students, reflecting a significant positive impact on students' perceived competence in understanding and interpreting English texts. The data suggest that Lingua has played a crucial role in contributing to a sense of mastery of reading comprehension among the students surveyed. Moreover, Table 2 indicates that 83.6% of students reported increased confidence in their ability to comprehend English texts. This finding highlights the platform's positive influence on students' self-assurance in their reading abilities, emphasizing the role of Lingua in enhancing reading skills, but also bolstering students' confidence in applying those skills.

4.3 Facilitators of Improvement

Table 3 presents an overview of the facilitators of improvement identified by the students through the use of Lingua. Among the 140 students surveyed, a substantial 75.7% ($n = 106$) acknowledged the challenges presented by Lingua as instrumental in their overall improvement, underscoring the importance of facing and overcoming challenges as a key driver of enhanced learning outcomes. The difficulties encountered during the learning process appear to have played a pivotal role in shaping a positive learning experience.

Table 3. Facilitators of Improvement through Lingua Use in EFL Students

Facilitators of Improvement	Students (N = 140)	Percentage (%)
Acknowledgment of challenges as instrumental	106	75.7
Expansion of horizons and understanding	112	80.0

Moreover, Table 3 indicates that 80.0% of students ($n = 112$) noted an expansion of their horizons and understanding as a direct result of exposure to diverse and knowledgeable content, reflecting the platform's effectiveness in broadening students' perspectives and deepening their understanding of a wide range of subjects. This exposure appears to be a



critical component in facilitating a holistic learning experience by fostering a broader perspective on the topics explored.

The qualitative responses provided further insights into the positive impact of Lingua. Specifically, positive feedback received through the platform was identified as a crucial motivational factor for students, encouraging them to engage with the learning materials and strive for improvement. Positive feedback helps to develop students' skills but also serves as an intrinsic source of encouragement and motivation, reinforcing a positive learning cycle. Additionally, the qualitative data highlighted instances where students expressed a newfound interest in exploring wide-ranging topics through Lingua, suggesting that the platform sparked curiosity and enthusiasm and is effective in creating a dynamic and engaging learning environment that goes beyond the traditional boundaries of a conventional EFL curriculum.

V. Discussion

This study casts light on the various impacts of Lingua as a catalyst for asynchronous EFL learning, specifically focusing on its influence on reading comprehension. The observed positive outcomes in both reading proficiency and affective-motivational dimensions contribute to a nuanced comprehension of the platform's pedagogical effectiveness. According to Barber and Klauda (2020), improved reading motivation and engagement positively correlate with enhanced reading achievement. Therefore, educators and administrators are encouraged to familiarize themselves with motivational principles for effective application in diverse classrooms. The advances noted in students' reading comprehension skills suggest that Lingua effectively enhances various aspects of proficiency. Notably, a clear improvement is observed in the ability to identify main ideas, extract explicit information, make inferences, discern figurative and connotative meanings, and identify implicit information. Together, these improvements represent comprehensive progress in EFL students' comprehension abilities. The asynchronous learning process appears to create an environment conducive to focused engagement and the refinement of key concepts. This finding underscores the platform's potential to offer an effective and flexible approach to asynchronous learning and contribute positively to EFL reading comprehension.

Moreover, a link between use of Lingua and improved ability to extract explicit information and make inferences would align with literature emphasizing the role of asynchronous learning platforms in promoting critical thinking skills. The increased ability to discern figurative and connotative meanings and identify implicit information points to a deeper engagement with nuanced language, going beyond surface-level comprehension. These findings attest to a valuable contribution to the holistic development of EFL reading comprehension skills. The observed improvements not only align with prior research highlighting the benefits of asynchronous learning but also underscore the specific strengths of Lingua in supporting EFL reading comprehension.

Affective and motivational outcomes of Lingua use were observed, revealing a significant positive impact on students' enjoyment, motivation, overall sense of proficiency, and confidence in reading comprehension skills. The high percentages of students showing increased enjoyment and motivation point to a positive shift in students' attitudes towards learning. This aligns with literature emphasizing the importance of student engagement and motivation in asynchronous learning environments (Barbetta, 2023; Hollingshead, 2018; Northey et al., 2015; Repman et al., 2005; Stansberry, 2006; Stewart, 2016). The reported increases in overall sense of proficiency and confidence in comprehending English texts provide further evidence of the platform's positive influence on students' self-perceived



competence. The possible association between enjoyment and motivation suggests that these affective dimensions may reinforce one another.

These affective and motivational outcomes align with the broader findings of the study, underscoring the importance of autonomy, competence, and relatedness in cultivating intrinsic motivation, as noted in the works of Autin et al. (2022), Bureau et al. (2022), Howard et al. (2021), and Mossman et al. (2024). Lingua's ability to increase students' enjoyment, motivation, and self-assessed proficiency responds to the fundamental principles of encouraging autonomous and intrinsically motivated learning experiences. This underscores the instrumental role played by the platform in fostering a learning environment where students are motivated but also experience a sense of autonomy, competence, and connection, contributing to a more enriching educational journey.

Further, facilitators of improvement were identified by students. The acknowledgment of challenges as instrumental in students' progress resonates with research highlighting the importance of overcoming obstacles in the learning process (Abueita et al., 2023; Alhazbi & Hasan, 2021; Berestok, 2021; Calderon & Sood, 2020; Iyer & Chapman, 2021). The challenges presented by Lingua, when perceived positively, become catalysts for improvement, reflecting a growth-oriented mindset among students. Other key facilitators that emerge are the expansion of students' horizons and understanding, and the provision of positive feedback. Exposure to diverse and knowledgeable content not only broadens students' perspectives but also aligns with literature emphasizing the importance of varied and stimulating content in enhancing learning outcomes. The qualitative data further underscore the role of positive feedback as a motivational factor, emphasizing the importance of constructive reinforcement in fostering continuous improvement. A newfound interest in exploring wide-ranging topics through Lingua, as revealed in qualitative responses, indicates a broader impact on students' curiosity and enthusiasm. This suggests that Lingua's ability to engage students with diverse content does not simply improve their skills: it promotes a genuine interest in learning and exploration.

5.1 Implications

The findings of this research may hold significant implications for EFL students, as well as for administrators and practitioners working in this field. Integrating Lingua into asynchronous learning strategies could contribute to academic proficiency while also enhancing students' overall motivation and confidence in mastering essential reading skills (Gao, 2023; Susanto & Nanda, 2023; Vaknin-Nusbaum & Tuckwiller, 2023). The platform's effectiveness in addressing the challenges faced by EFL students, providing constructive feedback, and exposing students to diverse content underscores its potential as a valuable pedagogical tool.

Furthermore, the study underscores the importance of providing appropriate challenges and constructive feedback in asynchronous learning environments. Educators should design tasks and activities tailored to students' proficiency levels, ensuring a balance between difficulty and achievability. Regular and timely feedback should be incorporated to guide students in their learning journey, fostering a sense of accomplishment and continuous improvement. Additionally, exposure to diverse and knowledgeable content emerged as a critical factor in enhancing reading comprehension skills. This suggests that educators should curate a rich and varied set of materials within the platform, aligning with the interests and needs of EFL students. By doing so, they can create a stimulating learning environment that not only improves comprehension skills but also broadens students' perspectives and raises their cultural awareness.

At the policy level, the positive outcomes observed in this study suggest a need to revisit curriculum development and resource allocation. Policymakers may consider incorporating



asynchronous learning tools like Lingua into official EFL curricula, providing guidelines and support for educators to integrate these technologies effectively. This could involve investing in teacher training programs that familiarize instructors with best practices for using Lingua and similar tools to enhance reading comprehension skills. Furthermore, policymakers should acknowledge the potential of asynchronous learning to narrow educational disparities. Access to platforms such as Lingua can bridge gaps in resources and opportunities, particularly for students in remote or underserved areas. Policymakers may consider initiatives to ensure equitable access to such asynchronous learning tools, thereby promoting inclusivity in EFL education.

5.2 Limitations

Although this research provides insight into the pedagogical potential of Lingua to support EFL reading comprehension, several limitations need to be acknowledged. First, this study was limited to a population of 10th-grade students in Lampung Province, Indonesia, so generalization of the results to a broader population may require additional research. In addition, focusing on aspects of reading comprehension may fail to take into account the impact of Lingua on other language skills in EFL. Furthermore, limiting factors include technological aspects and accessibility. Device availability and internet connectivity may influence the extent to which students can access and use Lingua effectively. This raises questions regarding the digital divide, which may limit the application of these tools in educational settings where technological infrastructure is limited.

The implications of these limitations for future research are highly relevant. Future studies could examine a broader range of populations and contexts to identify variability in outcomes. Further examination of Lingua's influence on language skills other than reading comprehension could provide a holistic picture of its effectiveness as an asynchronous learning tool in EFL contexts. Additionally, further research on digital divide mitigation strategies may provide opportunities to increase the accessibility of these tools in various educational settings.

5.3 Future Research

While this study provides valuable insights into the impact of Lingua on EFL reading comprehension, it also opens up avenues for future research to gain deeper understanding. Longitudinal studies could investigate the longer-term effects of using Lingua, examining whether the observed improvements in reading comprehension persist and contribute to academic success over an extended period. Additionally, further research may explore how Lingua can be best integrated into a blended learning environment, combining asynchronous and synchronous components. Understanding how Lingua complements traditional classroom instruction may help in determining the most effective ways to leverage this tool for comprehensive language skill development.

VI. Conclusion

This study explores the pedagogical potency of Lingua as an asynchronous learning catalyst for enhancing the reading comprehension skills of EFL students. The research findings underscore the various impacts of Lingua, encompassing improvements in reading comprehension proficiency and affective-motivational outcomes, through identified facilitators of improvement. The improvements observed in various reading comprehension skills indicate that Lingua serves as a valuable tool for comprehensive reading development. The platform's asynchronous nature provides an environment conducive to focused engagement, critical thinking, and an understanding of language nuances. This aligns with



the broader literature on the benefits of asynchronous learning environments, highlighting Lingua's specific strengths in addressing the complexities of EFL reading comprehension. Moreover, the affective and motivational outcomes observed emphasize the platform's transformative potential for students' enjoyment, motivation, sense of proficiency, and confidence in reading comprehension. Furthermore, the identified facilitators of improvement, including the acknowledgment of challenges, exposure to diverse content, and positive feedback, provide valuable insights into the factors contributing to positive student learning experiences. This study recommends strategically integrating tools such as Lingua into asynchronous learning methods to enhance academic proficiency, boost student motivation, and bolster confidence in essential reading skills. Ongoing professional development for educators and continued research efforts can amplify Lingua's effectiveness in EFL reading comprehension instruction, contributing valuable insights to the broader conversation on leveraging asynchronous learning platforms amidst the evolving landscape of educational technology.

Writing review: Joshua Parker

Contributions of each author

Susanto Susanto: conceptualization (50%), methodology (50%), data curation (50%), formal analysis, writing –original draft (50%).

Deri Sis Nanda: conceptualization (50%), methodology (50%), data curation (50%), writing –original draft (50%), review & editing.

Declaration of no conflict of interest

The authors declare no conflict of interest.

Source of funding

The research received funding from Pusat Studi Linguistik, Universitas Bandar Lampung (2022-2023).

References

- Abueita, J. D., Jubran, S. M., & Abueita, S. D. (2023). Predicting undergraduate students' perspectives on the e-learning obstacles with artificial neural networks. *Perspectives of Science and Education*, (61), 589–602. <https://doi.org/10.32744/pse.2023.1.35>
- Alhazbi, S., & Hasan, M. A. (2021). The role of self-regulation in remote emergency learning: Comparing synchronous and asynchronous online learning. *Sustainability*, 13(19), 11070. <https://doi.org/10.3390/su131911070>
- Autin, K. L., Herdt, M. E., Garcia, R. G., & Ezema, G. N. (2022). Basic psychological need satisfaction, autonomous motivation, and meaningful work: A self-determination theory perspective. *Journal of Career Assessment*, 30(1), 78–93. <https://doi.org/10.1177/10690727211018647>
- Barber, A. T., & Klauda, S. L. (2020). How reading motivation and engagement enable reading achievement: Policy implications. *Policy Insights from the Behavioral and Brain Sciences*, 7(1), 27–34. <https://doi.org/10.1177/2372732219893385>
- Barbetta, P. M. (2023). Technologies as tools to increase active learning during online higher-education instruction. *Journal of Educational Technology Systems*, 51(3), 317–339. <https://doi.org/10.1177/00472395221143969>



- Berestok, O. (2021). Synchronous and asynchronous e-learning modes: Strategies, methods, objectives. *Engineering and Educational Technologies*, 9(1), 19–27. <https://doi.org/10.30929/2307-9770.2021.09.01.02>
- Buckingham, L., & Alpaslan, R. S. (2017). Promoting speaking proficiency and willingness to communicate in Turkish young learners of English through asynchronous computer-mediated practice. *System*, 65, 25–37. <https://doi.org/10.1016/j.system.2016.12.016>
- Bureau, J. S., Howard, J. L., Chong, J. X. Y., & Guay, F. (2022). Pathways to student motivation: A meta-analysis of antecedents of autonomous and controlled motivations. *Review of Educational Research*, 92(1), 46–72. <https://doi.org/10.3102/00346543211042426>
- Calderon, O., & Sood, C. (2020). Evaluating learning outcomes of an asynchronous online discussion assignment: a post-priori content analysis. *Interactive Learning Environments*, 28(1), 3–17. <https://doi.org/10.1080/10494820.2018.1510421>
- Chai, X. Y., & Subramaniam, G. (2021). The use of communication strategies in mobile asynchronous chat. *International Journal of Computer-Assisted Language Learning and Teaching*, 11(2), 33–50. <https://doi.org/10.4018/ijcallt.2021040103>
- Creswell, J. W., & Poth, C. N. (2023). *Qualitative inquiry and research design: Choosing among five approaches* (5th ed.). Sage.
- Dubey, U. K. B., & Kothari, D. P. (2022). *Research methodology: Techniques and trends*. Chapman and Hall/CRC.
- Gao, L. (2023). Contemporary American literature in online learning: Fostering reading motivation and student engagement. *Education and Information Technologies*, 28(4), 4725–4740. <https://doi.org/10.1007/s10639-022-11329-5>
- Gorjian, B., Moosavinia, S. R., Kavari, K. E., Asgari, P., & Hydare, A. (2011). The impact of asynchronous computer-assisted language learning approaches on English as a foreign language high and low achievers' vocabulary retention and recall. *Computer Assisted Language Learning*, 24(5), 383–391. <https://doi.org/10.1080/09588221.2011.552186>
- Hampel, R. (2009). Training teachers for the multimedia age: Developing teacher expertise to enhance online learner interaction and collaboration. *Innovation in Language Learning and Teaching*, 3(1), 35–50. <https://doi.org/10.1080/17501220802655425>
- Hollingshead, A. (2018). Designing engaging online environments: Universal design for learning principles. In K. L. Milheim (Ed.), *Cultivating diverse online classrooms through effective instructional design* (pp. 280–298). IGI Global. <https://doi.org/10.4018/978-1-5225-3120-3.ch014>
- Hosseini, S. B. (2012). Asynchronous computer-mediated corrective feedback and the correct use of prepositions: Is it really effective? *Turkish Online Journal of Distance Education*, 13(4), 95–111. <https://dergipark.org.tr/en/download/article-file/155968>
- Howard, J. L., Bureau, J. S., Guay, F., Chong, J. X. Y., & Ryan, R. M. (2021). Student motivation and associated outcomes: A meta-analysis from self-determination theory. *Perspectives on Psychological Science*, 16(6), 1300–1323. <https://doi.org/10.1177/1745691620966789>
- Iyer, D. G., & Chapman, T. A. (2021). Overcoming technological inequity in synchronous online learning. *Communications of the Association for Information Systems*, 48, 205–210. <https://doi.org/10.17705/1cais.04826>
- Karaaslan, H., Kılıç, N., Güven-Yalçın, G., & Güllü, A. (2018). Students' reflections on vocabulary learning through synchronous and asynchronous games and activities. *Turkish*



Online Journal of Distance Education, 19(3), 53–70.

<https://doi.org/10.17718/tojde.444640>

Leavy, P. (2022). *Research design: Quantitative, qualitative, mixed methods, arts-based, and community-based participatory research approaches* (2nd ed.). Guilford.

Lee, L. (2009). Scaffolding collaborative exchanges between expert and novice language teachers in threaded discussions. *Foreign Language Annals*, 42(2), 212–228.

<https://doi.org/10.1111/j.1944-9720.2009.01018.x>

Liu, T., Zhang, Z., & Gao, X. (2023). Pedagogical design in technology-enhanced language education research: A scoping review. *Sustainability*, 15(7), 6069.

<https://doi.org/10.3390/su15076069>

Ma, M. (2022). Exploring student engagement with computer-mediated peer feedback on L2 writing. *International Journal of Computer-Assisted Language Learning and Teaching*, 12(2), 1–19. <https://doi.org/10.4018/ijcallt.305828>

Marshall, C., Rossman, G. B., & Blanco, G. L. (2021). *Designing qualitative research* (7th ed.). SAGE Publications.

Memari, M. (2020). Synchronous and asynchronous electronic learning and EFL learners' learning of grammar. *Iranian Journal of Applied Language Studies*, 12(2), 89–114.

<https://doi.org/10.22111/ijals.2020.6043>

Mossman, L. H., Slem, G. R., Lewis, K. J., Colla, R. H., & O'Halloran, P. (2024). Autonomy support in sport and exercise settings: A systematic review and meta-analysis. *International Review of Sport and Exercise Psychology*, 17(1), 540–563.

<https://doi.org/10.1080/1750984X.2022.2031252>

Noguera, I., Albó, L., & Beardsley, M. (2022). University students' preference for flexible teaching models that foster constructivist learning practices. *Australasian Journal of Educational Technology*, 38(4), 22–39. <https://doi.org/10.14742/ajet.7968>

Northey, G., Bucic, T., Chylinski, M., & Govind, R. (2015). Increasing student engagement using asynchronous learning. *Journal of Marketing Education*, 37(3), 171–180.

<https://doi.org/10.1177/0273475315589814>

Obasa, A. I., Eludire, A. A., & Ajao, T. A. (2013). A comparative study of synchronous and asynchronous e-learning resources. *International Journal of Innovative Research in Science, Engineering and Technology*, 2(11), 5938–5946.

https://www.ijirset.com/upload/2013/november/3_A-COMPARATIVE.pdf

Pineda, J. E. (2017). Development of language accuracy using synchronous and asynchronous learning activities. *International Journal of Computer-Assisted Language Learning and Teaching*, 7(4), 59–74. <https://doi.org/10.4018/ijcallt.2017100105>

Pinto-Llorente, A. M., Sánchez-Gómez, M. C., García-Peñalvo, F. J., & Casillas-Martín, S. (2017). Students' perceptions and attitudes towards asynchronous technological tools in blended-learning training to improve grammatical competence in English as a second language. *Computers in Human Behavior*, 72, 632–643.

<https://doi.org/10.1016/j.chb.2016.05.071>

Rahmati, J., Izadpanah, S., & Shahnava, A. (2021). A meta-analysis on educational technology in English language teaching. *Language Testing in Asia*, 11.

<https://doi.org/10.1186/s40468-021-00121-w>

Repman, J., Zinskie, C., & Carlson, R. D. (2005). Effective use of CMC tools in interactive online learning. *Computers in the Schools*, 22(1–2), 57–69.

https://doi.org/10.1300/j025v22n01_06



- Seeger, T. (2017). *Lingua.com – Free tools for language learning*. <https://lingua.com/>
- Shang, H. (2017). An exploration of asynchronous and synchronous feedback modes in EFL writing. *Journal of Computing in Higher Education*, 29, 496–513. <https://doi.org/10.1007/s12528-017-9154-0>
- Stansberry, S. L. (2006). Effective assessment of online discourse in LIS courses. *Journal of Education for Library and Information Science*, 47(1), 27–37. <https://doi.org/10.2307/40324335>
- Stewart, P. (2016). Synchronous and asynchronous tools optimizing online learning in the English-speaking Caribbean. In S. D'Agustino (Ed.), *Creating teacher immediacy in online learning environments* (pp. 138–165). IGI Global. <https://doi.org/10.4018/978-1-4666-9995-3.ch008>
- Susanto, S., & Nanda, D. S. (2023). Analyzing the student's phonological awareness and its relation to the reading skill in EFL classroom. *Jurnal Ilmiah Peuradeun*, 11(2), 425–440. <https://doi.org/10.26811/peuradeun.v11i2.793>
- Vaknin-Nusbaum, V., & Tuckwiller, E. D. (2023). Reading motivation, well-being and reading achievement in second grade students. *Journal of Research in Reading*, 46(1), 64–85. <https://doi.org/10.1111/1467-9817.12414>
- Vallis, C., Prieto Alvarez, C., & Arthars, N. (7-9 November, 2022). How are students engaging in different types of online discussion boards? *15th annual International Conference of Education, Research and Innovation (ICERI) Proceedings*, 3651–3657. <https://doi.org/10.21125/iceri.2022.0889>
- Vonderwell, S. (2003). An examination of asynchronous communication experiences and perspectives of students in an online course: A case study. *The Internet and Higher Education*, 6(1), 77–90. [https://doi.org/10.1016/s1096-7516\(02\)00164-1](https://doi.org/10.1016/s1096-7516(02)00164-1)
- Wakjira, A., & Bhattacharya, S. (2022). Student engagement awareness in an asynchronous e-learning environment: Supporting a teacher for gaining engagement insight at a glance. *International Journal of Technology-Enabled Student Support Services*, 12(1), 1–19. <https://doi.org/10.4018/ijtesss.316211>
- Wu, I.-C., & Chen, W.-S. (2013). Evaluating the e-learning platform from the perspective of knowledge management: The AHP approach. *Journal of Library & Information Studies*, 11(1), 1–24. [https://doi.org/10.6182/JLIS.2013.11\(1\).001](https://doi.org/10.6182/JLIS.2013.11(1).001)
- Wu, S.-Y., Chen, S.-Y., & Hou, H.-T. (2015). A study of users' reactions to a mixed online discussion model: A lag sequential analysis approach. *International Journal of Human-Computer Interaction*, 31(3), 180–192. <https://doi.org/10.1080/10447318.2014.986637>
- Yu, X. (2022). The English as a foreign language learners' psychological and emotional perception on technology integration in language classrooms. *Frontiers in Psychology*, 13, 906750. <https://doi.org/10.3389/fpsyg.2022.906750>
- Zumbach, J., & Reimann, P. (2003). Influence of feedback on distributed problem-based learning. In B. Wasson, S. Ludvigsen, & U. Hoppe (Eds.), *Designing for change in networked learning environments* (pp. 219–228). Springer. https://doi.org/10.1007/978-94-017-0195-2_28