

OPEN ACCESS: Research Article 

Critical Reading Skill Development through Mobile-Assisted Language Learning (MALL) Collaboration: A Needs Analysis

Dedi Rahman Nur^{1*}, Dzul Rachman², Arbain³

¹Pendidikan Bahasa Inggris, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Widya Gama Mahakam Samarinda, Indonesia

²Pendidikan Bahasa Inggris, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Muhammadiyah Kalimantan Timur, Indonesia

³Pendidikan Bahasa Inggris, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Widya Gama Mahakam Samarinda, Indonesia

*Correspondence e-mail: d.blues84@gmail.com

Received : 2025-10-27

Revision : 2026-03-18

Accepted : 2025-10-27

Published : 2026-03-31

Abstract

This study investigates the necessity of cultivating critical reading abilities via collaborative Mobile Assisted Language Learning (MALL) among English Language Education students in East Kalimantan, Indonesia. The objective is to ascertain the needs, wants, and challenges of students and lecturers in critical reading education, as well as to investigate how collaborative mobile learning might facilitate this domain. The research utilised a mixed methods approach with 55 students and 5 instructors. Data were gathered using a 50 item Likert-scale questionnaire and semi-structured interviews. The numeric data were examined by descriptive statistics, and the qualitative data were analysed thematically with ATLAS.ti. The results demonstrate that both students and lecturers consistently endorse the incorporation of technology, cooperation, and genuine reading resources in critical reading pedagogy. The majority of respondents perceived mobile supported collaborative learning as beneficial for enhancing engagement, autonomy, interaction, and comprehension. Simultaneously, other problems arose, encompassing students' diverse competence levels, restricted digital resources, diminished enthusiasm, passive reading behaviours, and lecturers' inadequate expertise in developing critical reading activities. The study concludes that collaborative MALL has strong potential to support critical reading development when it is designed in a context sensitive way. These findings provide a foundational basis for the creation of instructional models and digital learning aids for critical reading in higher education.

Keywords: *Mobile-Assisted Language Learning; collaborative learning; critical reading; needs analysis; English education*



1. Introduction

Mobile-Assisted Language Learning (MALL) has proven to be an effective approach for developing critical reading skills among language learners, particularly those studying English as a foreign language. Research shows that MALL programs, which utilize mobile applications such as Google Classroom, WhatsApp, Wattpad, Duolingo, and U-Dictionary, provide learners with the flexibility to access reading materials and engage in learning activities anytime and anywhere (Alisoy & Sadiqzade, 2024; Mortazavi et al., 2021; Mutiaraningrum & Nugroho, 2021; Sabani et al., 2025). This flexibility increases exposure to diverse content and allows for both synchronous and asynchronous learning experiences, which are crucial for building critical reading abilities. MALL also supports the development of metacognitive strategies, enabling learners to monitor and regulate their reading processes more effectively. Overall, integrating MALL into language curricula not only improves critical reading skills but also fosters a more learner-centered and dynamic educational environment, supporting broader language acquisition and critical thinking development (Muhammad, 2020a).

Several studies confirm that Mobile-Assisted Language Learning (MALL) enhances language skills by providing flexibility and accessibility, especially in reading and listening. For example, research demonstrates that MALL interventions significantly improve reading comprehension among EFL learners, with students using mobile platforms showing greater gains than those in traditional classrooms (Sudiatama et al., 2023). MALL also increases learner motivation and engagement, making language learning more dynamic and accessible (Auliya et al., 2021; Keezhatta & Omar, 2019). Additionally, innovative approaches like Mobile Extensive Listening and Podcasting (MELAP) have been shown to foster not only listening and speaking skills but also critical thinking, suggesting that MALL can support higher-order cognitive skills when designed intentionally (Xiaoli, 2024).

However, while the general benefits of MALL for language acquisition and reading comprehension are well documented, the specific role of MALL in developing critical reading skills especially within collaborative learning frameworks remains underexplored. Most research focuses on individual skill gains or collaborative speaking and listening activities, rather than on collaborative critical reading tasks (Koşar, 2023a; Şendağ et al., 2024; Shabbir & Nadeemullah, 2020; Xiaoli, 2024). There is a clear need for studies that examine how mobile technologies can facilitate group-based critical analysis of texts, peer discussion, and co-construction of meaning in reading contexts.

Studies confirm that while MALL can significantly enhance critical reading skills in EFL learners, the collaborative dimension is often underdeveloped. For example, a quasi-experimental study demonstrated that MALL programs using apps like Google Classroom and WhatsApp improved students' critical reading abilities, but the intervention was primarily individual rather than collaborative in nature (Muhammad,

2020b) that most MALL research and applications emphasize autonomous learning, with limited integration of peer interaction or group-based critical analysis (Chandran & Ismail, 2023)

However, some research points to the benefits of collaborative MALL approaches. For instance, dynamic peer-assisted learning systems and collaborative storytelling apps have shown promise in fostering both language and collaboration skills, though these are less common and often not specifically focused on critical reading (Kirsch, 2016; Mochizuki et al., 2009) The development of tools like eJournalPlus, which enables learners to share ideas and discuss texts collaboratively, suggests a pathway for integrating critical and collaborative reading in MALL environments (Mochizuki et al., 2009)

Developing a needs analysis framework for collaborative MALL is a significant scientific contribution. Studies show that collaborative MALL environments, especially those incorporating intelligent tutoring systems and tools like eJournalPlus, enable learners to share ideas, discuss interpretations, and construct critical opinions together, which are essential for critical reading development (Alisoy & Sadiqzade, 2024; Krouska et al., 2022; Mutiaraningrum & Nugroho, 2021; Sabani et al., 2025) (TROUSSAS et al., 2014) These systems facilitate real-time interaction, misconception diagnosis, and adaptive feedback, all of which support the co-construction of meaning and critical analysis. Overall, collaborative MALL systems with intelligent tutoring features create rich spaces for idea sharing, interpretive discussion, and joint opinion-building, all of which are essential for the systematic development of learners' critical reading abilities.

The needs and wants of English Department students in East Kalimantan, particularly regarding critical reading, center on the desire for more opportunities to engage with authentic texts and develop critical literacy skills. English Department students in East Kalimantan need more opportunities to engage with authentic, relevant texts and develop critical reading skills through collaborative activities like discussions and peer feedback. They also want materials that integrate grammar, vocabulary, and real-life communication, but face challenges such as low motivation and varying proficiency levels. English lecturers, meanwhile, need more resources, training, and digital materials to effectively teach critical reading. They want learning management systems and activities such as debates and text analysis that foster critical thinking, but struggle with students' diverse abilities and a lack of professional development opportunities (Imran & Hidayatullah, 2018; Palupi, 2024; Rizqiani & Elida, 2025)

This study aims to address this gap by examining the integration of collaborative learning within MALL environments to enhance critical reading skills. By focusing on collaborative learning within MALL, this research advances the field and provides a foundation for designing applications that better support the development of critical reading skills through interactive, peer-based activities.

2. Methods

To effectively identify and interpret learners' needs, the research team followed a comprehensive needs analysis approach, as recommended by (Serafini et al., 2015). This process involves gathering information from both internal sources (such as students and teachers) and external sources (like curriculum standards and employers), using a combination of quantitative and qualitative methods. Common techniques include surveys, interviews, and observations, which together provide a holistic understanding of learners' needs. Mixed-methods approaches are especially valued for their ability to triangulate data, ensuring accuracy and depth in the analysis, and ultimately informing the design of effective educational programs and materials (Akyel & Ozek, 2010; Jeong Park, 2021; Sönmez, 2019)

During the academic year 2024-2025, The present study was conducted within the English Language Education department of a private educational institution in Indonesia. The present study encompasses data obtained from two distinct categories of participants: namely, insider learners (n = 55) and insider expert instructors (n = 5).

The role of English is increasingly seen as a form of linguistic capital essential for global competitiveness, especially in higher education, where proficiency can enhance students' social and cultural capital (Fudiyartanto, 2024). However, concerns persist about balancing English learning with preserving indigenous languages and cultural identity, prompting calls for multilingual education approaches (Ulfini, 2025).

The Likert questionnaire was analysed using descriptive statistics, incorporating percentage ratings for each topic. Questionnaire used on this need analysis research had 50 statements, including 4 variables: goal, necessity, want, and lack. It was categorized into four scale: Strongly disagree, Disagree, Agree, and Strongly agree, with 50 students and 5 lecturers participating by completing the questionnaire. The questionnaire and interview questions were formed by adapting several research and theories from (A. Al Roomy, 2022; Barghamadi, 2020; Dwi Asyura, 2021; Pang et al., 2025; Vansteenkiste et al., 2020)

Interviews using semi-structured open-ended questions reveal that both students and instructors recognize the importance of critical reading but face challenges such as low motivation, passive reading habits, and difficulty with complex texts and strategies. Students often have positive attitudes toward critical reading but report uncertainty about effective reading strategies and struggle with higher-order skills like analysis and evaluation (Khathayut & Walker-Gleaves, 2025; Muhammad Arif Sanjaya et al., 2025a). Instructors emphasize the need for teaching methods that foster active engagement, critical thinking, and alignment with course objectives, recommending task-based learning and interactive materials to enhance motivation and comprehension (Angraini et al., 2024; Fitrawati et al., 2023). Both groups highlight the value of scaffolding critical reading skills from basic to advanced levels through structured tasks and reflective practices (He & AlSaqqaf, 2025). Challenges include limited time, resources, and varying student readiness, which affect the consistent implementation of critical

reading instruction (Muhammad Arif Sanjaya et al., 2025).

3. Results and Discussions

The results were answer “What are the needs and wants of English Department students in East Kalimantan, especially in critical reading?” and “What are the needs and wants of English Lecturers in East Kalimantan, especially in critical reading?”. It contained the initial product development.

Questionnaire used on this need analysis research had 50 statements, including 4 variables: goal, necessity, want, and lack. It was categorized into four 2637 scale: Strongly disagree, Disagree, Agree, and Strongly agree, with 50 students and 5 lecturers participating by completing the questionnaire.

Table 1 Need Analysis Questionnaire

Variable	Strongly Agree	Agree	Disagree	Strongly Agree
Goal	41.22%	50.28%	1.90%	0
Necessity	46.61%	51.40%	1.98%	0
Want	61.30%	37.14%	1.04%	0.52%
Lack	55.15%	42.24%	2.42%	0
Learning needs	54.81%	41.04%	4.16%	0

The respondents expressed the view that it was vital to provide insight into the various aspects of critical reading. The obstacles and preferences identified among students yielded significant insights, which were instrumental in the development of effective learning models. It was further observed that respondents concurred with the assertion that the utilisation of technology, collaborative learning experiences, and a focus on enhancing the enjoyment and satisfaction of learning were consistent with the collaborative virtual learning model presented in the title. Overall, respondents agreed with the developmental goals of critical reading teaching, which laid the basis for the design and implementation of the collaborative virtual learning model. Although it shows that 0.52% strongly disagree with statements connected to critical reading learning develops, the percentage is not substantial enough to argue that all respondents offer a positive impression.

Respondents widely recognized the importance of addressing multiple aspects of critical reading and highlighted that understanding students’ obstacles and preferences is essential for developing effective learning models. Studies consistently show that students perceive collaborative virtual learning environments as beneficial for enhancing critical reading skills, especially when these environments incorporate technology, foster collaboration, and make learning enjoyable and engaging (Fola-Adebayo, 2019; Koşar, 2023b; Murillo et al., 2024a; Zou et al., 2021a). Most respondents agreed with the developmental goals of critical reading instruction and supported the collaborative virtual learning model, aligning with findings

that positive perceptions are linked to increased satisfaction, engagement, and perceived learning in such settings (Chamorro-Atalaya et al., 2022; Zou et al., 2021a).

While a very small minority expressed disagreement, this percentage was not significant enough to challenge the overall positive impression. These insights confirm that collaborative, technology-supported approaches are well-received and effective for critical reading development, though ongoing attention to individual challenges and preferences remains important (Koşar, 2023c; Murillo et al., 2024b; So & Brush, 2008; Zou et al., 2021b).

The researcher also used interview to gain more information, interviews were used to obtain more in-depth information to explore the problems of lecturers and students in reading learning to support the need assessment in this research. The interviews for lecturers and students had 6 questions representing each of the research questions, and details of the questions can be seen later in appendix. In the need analysis interview session, a total of eight students from the 6th semester of the English Language Education study program, along with two lecturers, were willing to participate in the interview. ATLAS.ti version 9 coding supported the results of this interview transcript.

4. Conclusion

The study confirms that integrating collaborative learning within Mobile-Assisted Language Learning (MALL) environments can substantially enhance students' critical reading skills by promoting interaction, autonomy, and reflective thinking. The needs analysis revealed that both lecturers and learners expect more technology-based collaboration and authentic materials to foster critical literacy. These findings indicate a shift from individual to collective digital reading practices, emphasizing the importance of adaptive, context-sensitive instructional design. Future research should develop and test collaborative MALL prototypes that integrate peer feedback, gamified reading tasks, and AI-assisted text analysis to measure their impact on students' critical reasoning. Practically, institutions should strengthen digital literacy training for lecturers and ensure equitable technological access to maximize the pedagogical potential of collaborative MALL frameworks.

Acknowledgement

The authors would like to express their sincere gratitude to the English Language Education Departments of Universitas Widya Gama Mahakam Samarinda and Universitas Muhammadiyah Kalimantan Timur for their support during this research. Special thanks are extended to the lecturers and students who participated in the study for their valuable insights and cooperation. The authors also appreciate the administrative and technical assistance provided by the Faculty of Teacher Training and Education. This study received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Author Contributions

“DRN” led the conceptualization and design of the study, supervised data collection, conducted the overall analysis, and wrote the initial and final drafts of the manuscript. “DR” contributed to instrument design, administered the survey, and performed quantitative data analysis. “A” conducted the qualitative analysis, reviewed related literature, and assisted in revising and editing the manuscript.

All authors discussed the findings collaboratively and approved the final version of the paper for submission.

Conflicts of Interest

The authors declare no conflict of interest. The research was conducted independently, and no financial or personal relationships could have influenced the results or interpretation of the study. The funders had no role in the study design, data collection, analysis, interpretation, manuscript preparation, or decision to publish the findings.

References

- A. Al Roomy, M. (2022). Investigating the Effects of Critical Reading Skills on Students' Reading Comprehension. *Arab World English Journal*, 13(1), 366–381. <https://doi.org/10.24093/awej/vol13no1.24>
- Akyel, A. S. & Ozek, Y. (2010). A language needs analysis research at an English medium university in Turkey. *Procedia - Social and Behavioral Sciences*, 2(2), 969–975. <https://doi.org/10.1016/j.sbspro.2010.03.136>
- Alisoy, H. & Sadiqzade, Z. (2024). Mobile-Assisted Language Learning (MALL): Revolutionizing Language Education. *Luminis Applied Science and Engineering*, 1(1), 60–72. <https://doi.org/10.69760/lumin.202400002>
- Angraini, D., Putra, W., Masurai, P., Wahyudi, L. & Firman. (2024). A Reading Teacher's Perspective in Constructing the Students' Critical Thinking. *SALEE: Study of Applied Linguistics and English Education*, 5(1), 290–305. <https://doi.org/10.35961/salee.v5i1.1118>
- Auliya, P. K., Ardiyansah, T. Y. & Muhammad, R. N. (2021). Mobile Assisted Language Learning: Platforms To Support Students Teacher Improving Reading Skill. *Journal of English Teaching, Literature, and Applied Linguistics*, 5(1), 70. <https://doi.org/10.30587/jetlal.v5i1.2527>
- Barghamadi, M. (2020). A Critical Study of the Principles and Approaches to Needs Analysis. *Studies in Educational Management*, 7, 1–16. <https://doi.org/10.32038/sem.2020.07.01>
- Chamorro-Atalaya, O., Marcelo-Veliz, B., Morales-Romero, G., Trinidad-Loli, N., Villar-Valenzuela, D., Caycho-Salas, B. & León-Velarde, C. (2022). Collaborative learning through virtual tools: Analysis of the perception of student satisfaction of teaching performance. *Indonesian Journal of Electrical Engineering and Computer Science*, 26(2), 1082. <https://doi.org/10.11591/ijeecs.v26.i2.pp1082-1090>
- Chandran, T. N. & Ismail, H. H. (2023). Exploring Mobile Assisted Language Learning in Enhancing Reading Skill among ESL Learners: A Concept Paper. *International*

- Journal of Academic Research in Business and Social Sciences*, 13(12). <https://doi.org/10.6007/IJARBSS/v13-i12/20193>
- Dwi Asyura, C. (2021). *Journal of English Language Teaching UNP JOURNAL Students' Need Analysis on Critical Reading Learning Material at English Department of Universitas Negeri Padang Article History Abstract*. 10(3), 462–474. <https://doi.org/10.24036/jelt.v10i3.114339>
- Fitrawati, F., Syarif, H., Zaim, M. & Perrodin, D. D. (2023). The perceptions of tertiary students and lecturers regarding CLIL-based critical reading material employing interactive multimedia. *Indonesian Journal of Applied Linguistics*, 12(3), 612–625. <https://doi.org/10.17509/ijal.v12i3.36838>
- Fola-Adebayo, T. J. (2019). Perceptions of undergraduates on the relationship between exposure to blended learning and online critical literacy skills. *Reading & Writing*, 10(1). <https://doi.org/10.4102/rw.v10i1.200>
- Fudiyartanto, F. A. (2024). English language teaching in a globalised world: A sociological investigation of Indonesian higher education. *International Journal of Educational Research*, 127, 102395. <https://doi.org/10.1016/j.ijer.2024.102395>
- He, D. & AlSaqqaf, A. (2025). Needs Analysis for Developing Critical Reading: Perspectives from EFL Undergraduates and Teachers. *International Journal of Instruction*, 18(4), 421–440. <https://doi.org/10.29333/iji.2025.18423a>
- Imran, F. & Hidayatullah, H. (2018). Developing EFL Critical Reading Syllabus and Materials for Students of the English Department - IKIP Mataram. *Researchers World: Journal of Arts, Science and Commerce*, IX(4), 45. <https://doi.org/10.18843/rwjasc/v9i4/06>
- Jeong Park, E. (2021). Affordances and Challenges of Mixed- Methods Needs Analysis for the Development of ESP Courses. *Language Teaching Research Quarterly*, 23, 12–22. <https://doi.org/10.32038/ltrq.2021.23.03>
- Keezhatta, M. S. & Omar, A. (2019). Enhancing Reading Skills for Saudi Secondary School Students through Mobile Assisted Language Learning (MALL): An Experimental Study. *International Journal of English Linguistics*, 9(1), 437. <https://doi.org/10.5539/ijel.v9n1p437>
- Khathayut, P. & Walker-Gleaves, C. (2025). An Exploration of EFL Students' Perceptions of English Critical Reading: A Case of Thai Undergraduate Students in Songkhla Province. *LEARN Journal: Language Education and Acquisition Research Network*, 18(2), 183–211. <https://doi.org/10.70730/MRTQ9889>
- Kirsch, C. (2016). Developing language skills through collaborative storytelling on iTEO. *Literacy Information and Computer Education Journal*, 7(2). <https://doi.org/10.20533/licej.2040.2589.2016.0298>
- Koşar, G. (2023a). Online collaborative learning: does it improve college students' critical reading skills? *Interactive Learning Environments*, 31(8), 5114–5126. <https://doi.org/10.1080/10494820.2021.1998137>
- Koşar, G. (2023b). Online collaborative learning: does it improve college students' critical reading skills? *Interactive Learning Environments*, 31(8), 5114–5126. <https://doi.org/10.1080/10494820.2021.1998137>
- Koşar, G. (2023c). Online collaborative learning: does it improve college students' critical reading skills? *Interactive Learning Environments*, 31(8), 5114–5126. <https://doi.org/10.1080/10494820.2021.1998137>
- Krouska, A., Troussas, C. & Sgouropoulou, C. (2022). Mobile game-based learning as a solution in COVID-19 era: Modeling the pedagogical affordance and student

- interactions. *Education and Information Technologies*, 27(1), 229–241. <https://doi.org/10.1007/s10639-021-10672-3>
- Mochizuki, T., Watanabe, S., Miyatani, T., Oura, H., Sato, T., Nishimori, T., Tsubakimoto, M., Nakahara, J., Yamauchi, Y., Henrik, J. K. & Matsumoto, K. (2009). eJournalPlus. *Proceedings of the 9th International Conference on Computer Supported Collaborative Learning - CSCL'09*, 100–102. <https://doi.org/10.3115/1599503.1599537>
- Mortazavi, M., Nasution, M. K. M., Abdolazadeh, F., Behroozi, M. & Davarpanah, A. (2021). Sustainable Learning Environment by Mobile-Assisted Language Learning Methods on the Improvement of Productive and Receptive Foreign Language Skills: A Comparative Study for Asian Universities. *Sustainability*, 13(11), 6328. <https://doi.org/10.3390/su13116328>
- Muhammad Arif Sanjaya, Dewi Isda, I. & Mulyani, M. (2025a). FROM REVIEW TO REFLECTION: EXPLORING STUDENTS' PERSPECTIVES ON CRITIQUING ACADEMIC ARTICLES. *Journal of English Education and Linguistics*, 6(1), 11–24. <https://doi.org/10.56874/jeel.v6i1.2242>
- Muhammad Arif Sanjaya, Dewi Isda, I. & Mulyani, M. (2025b). From Review To Reflection: Exploring Students' Perspectives on Critiquing Academic Articles. *Journal of English Education and Linguistics*, 6(1), 11–24. <https://doi.org/10.56874/jeel.v6i1.2242>
- Muhammad, Z. H. M. (2020a). MOBILE ASSISTED LANGUAGE LEARNING FOR DEVELOPING CRITICAL READING SKILLS OF EFL UNIVERSITY STUDENTS. *CDELT Occasional Papers in the Development of English Education*, 69(1), 225–250. <https://doi.org/10.21608/opde.2020.145639>
- Muhammad, Z. H. M. (2020b). MOBILE ASSISTED LANGUAGE LEARNING FOR DEVELOPING CRITICAL READING SKILLS OF EFL UNIVERSITY STUDENTS. *CDELT Occasional Papers in the Development of English Education*, 69(1), 225–250. <https://doi.org/10.21608/opde.2020.145639>
- Murillo, H. J. G., Ortega, J. M. T. & Buelvas, L. J. A. (2024a). Virtual Learning Environment as a Strategy to Strengthen Reading Comprehension in Basic Secondary Education Students. *Journal of Ecohumanism*, 3(5). <https://doi.org/10.62754/joe.v3i5.6288>
- Murillo, H. J. G., Ortega, J. M. T. & Buelvas, L. J. A. (2024b). Virtual Learning Environment as a Strategy to Strengthen Reading Comprehension in Basic Secondary Education Students. *Journal of Ecohumanism*, 3(5). <https://doi.org/10.62754/joe.v3i5.6288>
- Mutiaraningrum, I. & Nugroho, A. (2021). Smartphone-based mobile assisted language learning application in higher vocational education in Indonesia. *JEES (Journal of English Educators Society)*, 6(1). <https://doi.org/10.21070/jees.v6i1.793>
- Palupi, T. M. (2024). Developing a learning management system for critical literacy course: A need analysis. *Bahasa Dan Seni: Jurnal Bahasa, Sastra, Seni, Dan Pengajarannya*, 51(1). <https://doi.org/10.17977/um015v51i12023p91>
- Pang, B., Majid, F. B. A. & Narayanan, G. A. (2025). Systematic Literature Review on Needs Analysis in ESP within Higher Education: Implications for Future Research. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*, 10(1), e003162. <https://doi.org/10.47405/mjssh.v10i1.3162>

- Rizqiani, D. A. & Elida, Y. (2025). An Analysis of EFL Student's Needs of a Critical Literacy Model. *Scope: Journal of English Language Teaching*, 9(2), 828. <https://doi.org/10.30998/scope.v9i2.25093>
- Sabani, E., Sabilah, F. & Setyaningrum, R. W. (2025). Integrating mobile-assisted language learning (MALL) in teaching EFL: A study on senior high school teachers in Indonesia. *English Learning Innovation*, 6(2), 533–554. <https://doi.org/10.22219/englie.v6i2.41682>
- Şendağ, S., Caner, M., Gedik, N. & Toker, S. (2024). Enhancing language proficiency through mobile extensive listening and podcasting: A multifaceted approach to metacognition and critical thinking. *Thinking Skills and Creativity*, 54, 101656. <https://doi.org/10.1016/j.tsc.2024.101656>
- Serafini, E. J., Lake, J. B. & Long, M. H. (2015). Needs analysis for specialized learner populations: Essential methodological improvements. *English for Specific Purposes*, 40, 11–26. <https://doi.org/10.1016/j.esp.2015.05.002>
- Shabbir, T. & Nadeemullah, M. (2020). EDUCATIONAL EMPLOYEE HIGH PERFORMANCE WORK PRACTICES: A FOURTH INDUSTRIAL CONTEXT. In *PJER* (Vol. 3, Issue 1).
- So, H.-J. & Brush, T. A. (2008). Student perceptions of collaborative learning, social presence and satisfaction in a blended learning environment: Relationships and critical factors. *Computers & Education*, 51(1), 318–336. <https://doi.org/10.1016/j.compedu.2007.05.009>
- Sönmez, H. (2019). An Examination of Needs Analysis Research in the Language Education Process. *International Journal of Education and Literacy Studies*, 7(1), 8. <https://doi.org/10.7575/aiac.ijels.v.7n.1p.8>
- Sudiatama, Dehghani, S. & Zamorano, A. (2023). The Efficacy of Mobile-Assisted Language Learning in Improving Learners' Reading Skills in Relation to Metacognitive Strategy. *Journal of Language and Literature Studies*, 3(1), 53–66. <https://doi.org/10.36312/jolls.v3i1.992>
- TROUSSAS, C., VIRVOU, M. & ALEPIS, E. (2014). Collaborative Learning: Group Interaction in an Intelligent Mobile-Assisted Multiple Language Learning System. *Informatics in Education*, 13(2), 279–292. <https://doi.org/10.15388/infedu.2014.17>
- Ulfini, N. (2025). English in Early Education: Assessing Policy Developments and Future Directions in Indonesia. *Intensive Journal*, 8(1), 54. <https://doi.org/10.31602/intensive.v8i1.17400>
- Vansteenkiste, M., Ryan, R. M. & Soenens, B. (2020). Basic psychological need theory: Advancements, critical themes, and future directions. *Motivation and Emotion*, 44(1), 1–31. <https://doi.org/10.1007/s11031-019-09818-1>
- Xiaoli, Y. (2024). Enhancing Early Language Learning: The Impact of Mobile-Assisted Language Learning (MALL) on Young Learners' Language Proficiency. *Occupation and Professional Education*, 1(5), 71–76. <https://doi.org/10.62381/O242512>
- Zou, D., Xie, H. & Wang, F. L. (2021a). *Peer-Assessment Enhanced Collaborative Learning in a Virtual Learning Environment* (pp. 132–141). https://doi.org/10.1007/978-3-030-80504-3_11
- Zou, D., Xie, H. & Wang, F. L. (2021b). *Peer-Assessment Enhanced Collaborative Learning in a Virtual Learning Environment* (pp. 132–141). https://doi.org/10.1007/978-3-030-80504-3_11