

Social Media Microlearning and EFL Speaking: Exploring Learners' Experiences Through A Cognitive Load Theory Lens

Sekar Mayang Fitria Budianto¹, Bambang Harmanto², Ana Maghfiroh³, and Elok Putri Nimasari⁴

¹Universitas Muhammadiyah Ponorogo, East Java, Indonesia

²Universitas Muhammadiyah Ponorogo, East Java, Indonesia

³Universitas Muhammadiyah Ponorogo, East Java, Indonesia

⁴Universitas Muhammadiyah Ponorogo, East Java, Indonesia

Abstract. This study explores learners experiences' of using social media microlearning in EFL speaking instruction through the lens of Cognitive Load Theory (CLT). Although microlearning is widely used in digital education, limited attention has been given to how it influences cognitive demands during speaking tasks. Grounded in CLT, this qualitative narrative inquiry was conducted in a first-semester "Speaking for Survival" course at Universitas Muhammadiyah Ponorogo, Indonesia. Data were collected through open-ended questionnaires distributed to the class, semi structured interviews with seven purposively selected participants, and classrooms observations conducted across three meetings within one month. Data were analyzed using an interactive qualitative model involving data reduction, data display, conclusion drawing and verification. The findings indicate that segmented social media content helped reduce perceived cognitive burden, made speaking materials easier to understand, and enabled repeated rehearsal before classroom performance. Participants reported feeling less overwhelmed and more prepared during speaking activities. Interpreted through CLT, these experiences suggest that social media microlearning can function as digital cognitive scaffolding that helps regulate working memory demands in EFL speaking contexts.

Keywords: Social media microlearning; Cognitive Load Theory; First-semester students; EFL speaking skills

1 Introduction

The rapid integration of digital technologies into language education has transformed how learners engage with instructional materials, particularly in English as a Foreign Language (EFL) contexts (Wei, 2022). Among these developments, microlearning characterized by

¹ Corresponding author: smayangfb@gmail.com

short, focused, and easily accessible learning units has gained increasing attention as an effective approach to support flexible and autonomous learning (Monib et al., 2025). The growing popularity of social media platforms has further expanded opportunities for delivering microlearning content through digital environments that are familiar, interactive, and readily accessible to students (Denojean-Mairet et al., 2024). Recent studies have suggested that social media based microlearning can enhance learner engagement, promote continuous learning habits, and support knowledge retention through repeated exposure to concise learning materials also noted by (Abushanab et al., 2025). This shift is particularly relevant in speaking instruction, where learners often require repeated exposure, practice opportunities, and reduced anxiety to develop oral proficiency (Mendrofa & Wijaya, 2022). Consequently, social media microlearning has emerged as promising instructional approach in contemporary language education.

Despite technological advancements, speaking remains one of the most challenging skills for EFL learners, particularly at the beginner level (Wahidul & Saleh Ahmad, 2022). Many first-semester students often experience difficulties related to limited vocabulary, inadequate grammatical knowledge, lack of confidence, and high levels of speaking anxiety, all of which may hinder oral communication performance (Damaris Abigail Benavides Cevallos, 2025). In speaking activities, learners are required to simultaneously comprehend linguistic input, formulate responses, retrieve vocabulary, and produce spoken language in real time. These simultaneous cognitive processes often create substantial mental demands that may negative affect fluency and confidence during oral communication (Zhang, 2024). Therefore, understanding how instructional approaches support learners in managing these cognitive demands is essential for improving speaking instruction.

Cognitive Load Theory (CLT) provides a valuable theoretical framework for explaining how instructional design influences learners cognitive processing (Sweller, 2020). According to CLT, learning effectiveness is closely related to the capacity limitations of working memory and the ways instructional materials can reduce unnecessary cognitive burden, allowing learners to allocate more cognitive resources to meaningful learning activities (Surbakti et al., 2024). Recent studies have demonstrated that instructional approaches grounded in CLT can improve learning performance by minimizing extraneous cognitive load and supporting schema construction through manageable learning tasks (Zhu et al., 2024). In this regard, the concise and segmented nature of microlearning may align closely with CLT principles by presenting information in cognitively manageable units.

Although previous studies have highlighted the pedagogical benefits of microlearning in enhancing learner engagement, accessibility, and learning performance in digital environments (Balasundaram et al., 2024; Monib et al., 2025), limited attention has been given to how learners cognitively experience social media microlearning during complex language tasks such as speaking. Existing research has primarily focused on technological adoption, learner satisfaction, or learning outcomes, while the cognitive mechanisms underlying learners experiences remain underexplored (Mostrady et al., 2024). Furthermore, few studies have examined social media microlearning specifically through the lens of Cognitive Load Theory in EFL speaking contexts. This gap is significant because understanding learners cognitive experiences can provide deeper insights into how instructional design supports language production and communication performance (Zhang, 2024).

To address this gap, the present study explores learners' experiences of using social media microlearning in EFL speaking instruction through the lens of Cognitive Load Theory. Conducted in a first semester "Speaking for Survival" course at Universitas Muhammadiyah Ponorogo, Indonesia, this study adopts a qualitative narrative inquiry approach to investigate how learners perceive, experience, and manage cognitive demands during speaking activities supported by social media microlearning. By examining learners perspectives, the study

contributes to the growing body of literature on digital language learning and extends the application of Cognitive Load Theory to EFL speaking contexts.

2 Method

2.1 Research Design

This study employed a qualitative narrative inquiry design to explore learners' experiences of using social media microlearning in EFL speaking instruction (John W. Creswell, 2018). Narrative inquiry allows for an in-depth understanding of participants' meaning-making processes in educational contexts. The study was framed through the lens of Cognitive Load Theory (CLT) to interpret how learners perceived and managed cognitive demands during speaking activities.

2.2 Participant/ Population and Sample

The study was conducted in a first-semester "Speaking for Survival" course at Universitas Muhammadiyah Ponorogo, Indonesia. The course was designed to develop students basic English speaking abilities by engaging learners in introductory oral communication activities, with learning materials supported through social media microlearning platforms. A total of 28 first-semester students enrolled in the course and participated in the initial stage of data collection through an open-ended questionnaire. The context was considered appropriate for the study because beginner EFL learners often experience cognitive and linguistic challenges when performing speaking tasks, making it relevant to explore how social media microlearning supports their learning experiences.

The open-ended questionnaire was designed to explore students experiences in using social media microlearning as part of their speaking learning process. The questionnaire focused on several aspect, including students perceived learning benefits, difficulties encountered during speaking practice, confidence in oral performance, preparation strategies before speaking tasks, and students perceptions regarding how short-form social media content helped speaking activities. The questionnaire responses provided an initial overview of learners experiences and several as the preliminary basis for identifying participants for further in-depth interviews.

Following the initial questionnaire analysis, seven students were purposively selected for semi-structured interviews. Purposive sampling was employed to identify information-rich participants who were able to provide detailed reflections regarding their experiences of learning speaking through social media microlearning. The participants were selected based on several criteria. First, they were actively enrolled as first-semester students in the English Education Department. Second, they had prior experience using social media platforms such as Tiktok, Instagram, or Youtube as informal resources for learning English. Third, they had actively participated in classroom speaking activities that integrated social media microlearning during the instructional process. These criteria were applied to ensure that the selected participants possessed sufficient experience and contextual familiarity to provide rich insights into how social media microlearning influenced their speaking preparation, confidence development, and cognitive experiences during EFL speaking activities.

2.3 Data collection

Data were collected through open-ended questionnaires, semi-structured interviews, and classroom observations to ensure triangulation (Manouilidou, 2024). The use of multiple data sources enhances the credibility and validity of qualitative findings (Lincoln & Guba, 1985). First, open-ended questionnaires were distributed to capture students' general perceptions and experiences of using social media microlearning in speaking activities. Second, semi-structured interviews were conducted with seven selected participants to gain deeper insights into their cognitive and emotional experiences, including aspects such as understanding, confidence, and preparation. Third, classroom observations were carried out across three meetings within one month to examine how microlearning activities were implemented and how students engaged with speaking tasks in real classroom settings.

2.4 Data Analysis

The data were analyzed using an interactive qualitative analysis model consisting of data reduction, data display, and conclusion drawing and verification. During data reduction, relevant data were selected, coded, and organized based on emerging themes related to learners' cognitive experiences. The data were then displayed in a structured form to facilitate interpretation. Finally, conclusions were drawn and continuously verified to ensure consistency and credibility of the findings. The analysis focused on identifying patterns of how social media microlearning influenced learners' perceived cognitive load, preparation processes, and engagement in speaking activities.

2.5 Trustworthiness of the Study

To ensure the trustworthiness of the findings, this study applied several strategies, including data triangulation from multiple sources (questionnaires, interviews, and observations), prolonged engagement during data collection, and careful verification of emerging themes. These strategies were employed to enhance the credibility and reliability of the interpretations.

3 Results and Discussion

3.1 Results

The analysis of data from questionnaires, interviews, and classroom observations revealed three major themes regarding learners' experiences of using social media microlearning in EFL speaking instruction: (1) reduction of perceived cognitive burden, (2) enhanced comprehension and preparation, and (3) increased confidence in speaking performance.

First, participants consistently reported that the use of short, segmented content delivered through social media helped reduce their cognitive burden during speaking tasks. Instead of being overwhelmed by large amounts of information, learners were able to process materials in smaller, manageable units. Several participants explained that the brief and focused format enabled them to concentrate on key expressions and speaking structures more effectively. This perception is reflected in the following interview excerpt:

"I think learning English from social media is easier because the videos are short and simple, so I don't feel pressured." [P2]

"Short videos on social media make learning English more enjoyable and not too serious, so I can focus better." [P6]

"Because the videos are short and only involve me, I don't feel pressured when I practice speaking." [P3]

"There's no one judging, so it's easier for me to understand and practice English." [P4]

These responses indicate that learners perceive microlearning content as less cognitively demanding due to its brevity, simplicity, and low-pressure learning environment. The absence of overwhelming information and social pressure allows learners to allocate their attention more effectively to essential aspects of speaking, such as understanding expressions and practicing pronunciation. This suggests that segmented social media content helps learners manage their mental effort during learning activities. From a Cognitive Load Theory perspective, this reflects a reduction of extraneous cognitive load through simplified and structured input. Classroom observations also showed that students were more attentive and engaged when interacting with microlearning materials compared to conventional instruction.

Second, the findings indicate that social media microlearning supported learners' comprehension and preparation before speaking activities. Participants highlighted that the availability of digital content allowed them to revisit materials multiple times prior to classroom performance. This repeated exposure enabled them to better understand vocabulary, sentence structures, and task instructions. As a result, students came to class with clearer ideas and were more prepared to participate in speaking tasks. This is supported by the following statement:

"I learn many daily expressions from social media, so when I speak, I don't need to think too long." [P1]

"When I watch and repeat the videos many times, it becomes easier for me to speak because I already remember the words and how to say them." [P6]

"I feel my speaking is smoother because I often hear the expressions and try to imitate them." [P7]

These findings show that repeated exposure to microlearning materials plays a crucial role in supporting learners' preparation and language processing. By revisiting content multiple times, learners gradually internalize vocabulary and expressions, which reduces hesitation during speaking. This process also allows learners to become more familiar with pronunciation and sentence patterns, leading to smoother and more automatic language production during classroom performance. In terms of Cognitive Load Theory, repeated exposure supports the management of intrinsic load by facilitating schema construction and automation.

Third, participants reported increased confidence and reduced anxiety when engaging in speaking activities. Many students noted that having prior exposure to microlearning materials made them feel less pressured during classroom performance. They were more willing to speak, as they had already rehearsed and internalized the content beforehand. Observational data further confirmed that students demonstrated greater participation and willingness to communicate during speaking sessions. This is evident in the following excerpt:

"I can practice speaking from social media without feeling afraid of making mistakes because no one is judging me." [P1]

"I'm more willing to speak now because I already know some expressions and pronunciations from social media." [P4]

"After learning from social media, I can answer more confidently and smoothly in speaking class." [P5]

"After watching and practicing from social media, I feel more confident to try speaking in class because I already know what to say." [P7]

These responses suggest that social media microlearning creates a supportive learning environment that reduces anxiety and enhances learners' confidence. Familiarity with content and prior rehearsal contribute to a sense of readiness, which encourages learners to participate more actively in speaking tasks. As learners feel more prepared and less afraid of making mistakes, their willingness to communicate increases, leading to more active engagement in classroom interactions. From a Cognitive Load Theory lens, this indicates improved cognitive readiness as learners experience reduced overload and more efficient use of working memory.

3.2 Discussion

The findings of this study can be interpreted through the lens of Cognitive Load Theory (CLT), particularly in relation to how instructional design influences learners' working memory during complex tasks such as speaking (Sweller, 2020). Overall, the present findings both confirm and extend previous research on microlearning in language education. Previous studies primarily emphasized that microlearning improves learner engagement, accessibility, and learning performance in digital learning environments (Balasundaram et al., 2024; Monib et al., 2025). Consistent with these studies, participants in the research perceived social media microlearning as an accessible and supportive learning approach. However, beyond these commonly reported benefits, the current findings suggest that learners experienced social media microlearning as a mechanism that helped regulate cognitive demands during speaking activities. This extends previous research by highlighting the cognitive dimension of microlearning, particularly in relation to learners management of mental effort during language production.

The first major finding indicates that social media microlearning helped learners reduce perceived cognitive burden during speaking activities. This finding is consistent with Zhu et al.(2024), who reported that adaptive microlearning can optimize cognitive load by presenting information in manageable learning units. Similarly, Lopez (2024) found that microlearning modules contribute to more efficient cognitive processing by reducing unnecessary information overload. In the present study, learners described short and focused social media content as easier to process, allowing them to concentrate on essential speaking components without feeling overwhelmed. From a Cognitive Load Theory perspective, this finding suggests that social media microlearning effectively minimizes extraneous cognitive load by reducing unnecessary processing demands and facilitating more efficient allocation of working memory resources during speaking preparation.

The second finding indicates that repeated exposure to social media microlearning materials supported learners' comprehension and preparation before performing speaking tasks. Participants reported that the ability to repeatedly access learning materials helped them better understand vocabulary, sentence structures, and pronunciation patterns before classroom speaking activities. This finding support previous research emphasizing that repeated exposure in microlearning environments facilitates knowledge retention and gradual learning reinforcement (Monib et al., 2025). From a CLT perspective, repeated rehearsal may

help learners gradually construct language-related schemas, allowing them to manage intrinsic cognitive load more effectively before engaging in real-time communication tasks.

The third finding demonstrates that social media microlearning contributed to increased confidence and reduces anxiety during speaking performance. This finding can be associated with reduced overload, which enables learners to allocate cognitive resources more efficiently involve high cognitive complexity, especially for beginner EFL learners who must process linguistic input while simultaneously organizing ideas and producing spoken output. The opportunity to revisit materials before classroom performance appears to reduce uncertainty and improve learners readiness, ultimately encouraging more active participation during speaking activities.

An important contribution to this study lies in identifying social media microlearning as a form of digital cognitive scaffolding in EFL speaking instruction. While previous studies have largely focused on learner engagement, motivation, and learning outcomes, the present findings demonstrate how learners actively use repeated exposure, segmented content, and self-paced learning opportunities to regulate cognitive demands before performing speaking tasks. This suggests that the value of microlearning extends beyond content delivery alone. Instead, social media microlearning may function as a cognitive support mechanism that helps learners prepare for real-time language production by facilitating cognitive readiness, schema development, and confidence building.

These findings extend previous research on microlearning by emphasizing its cognitive benefits rather than merely engagement (Lopez, 2024), by providing a cognitive-based interpretation of learners' experiences in EFL speaking contexts. While earlier studies have primarily emphasized engagement and accessibility, this study highlights how microlearning contributes to cognitive load regulation, which is a critical factor in language production. Therefore, integrating social media microlearning into speaking instruction can be seen not only as a technological innovation but also as a pedagogically meaningful strategy that supports both learners cognitive development and communicative performance in EFL learning contexts.

4 Conclusion

This study explored learners' experiences of using social media microlearning in EFL speaking instruction through the lens of Cognitive Load Theory. The findings demonstrate that segmented social media content plays a significant role in reducing learners' perceived cognitive burden, enhancing their comprehension and preparation, and increasing their confidence in speaking activities. Learners benefited from short and focused materials, repeated exposure, and a low-pressure learning environment, which collectively supported their engagement in speaking tasks.

From a theoretical perspective, this study contributes to the application of Cognitive Load Theory in EFL speaking contexts by showing how social media microlearning can help regulate cognitive load. The findings suggest that microlearning reduces extraneous load through simplified content, supports intrinsic load management through repeated exposure, and enhances learners' cognitive readiness for language production. In this sense, social media microlearning functions as a form of digital cognitive scaffolding that facilitates more effective speaking performance. Pedagogically, the study highlights the potential of integrating social media microlearning into speaking instruction, particularly for beginner-level learners. By providing accessible, repeatable, and less intimidating learning materials, educators can create a more supportive learning environment that encourages active participation and reduces speaking anxiety.

However, this study is limited by its focus on a single group of first-semester students in one institutional context, which may limit the generalizability of the findings. Future research is recommended to involve larger and more diverse participant groups, as well as to explore the long-term effects of social media microlearning on speaking proficiency. Additionally, further studies could examine the integration of microlearning with other instructional strategies to better understand its impact on different aspects of language learning.

Overall, this study provides evidence that social media microlearning is not only a practical digital learning approach but also a cognitively grounded strategy that supports EFL learners in managing the demands of speaking tasks more effectively. The findings demonstrate that short, segmented, and easily accessible learning content can help process information more efficiently, revisit materials according to their individual learning pace, and develop greater readiness before participating in speaking activities. These learning experiences contribute to reduced cognitive burden, improved comprehension, and increased confidence during oral communication.

From a Cognitive Load Theory perspective, the findings suggest that social media microlearning supports learners by minimizing unnecessary cognitive processing and facilitating more efficient use of working memory resources. The ability to repeatedly access and rehearse learning materials enables learners to gradually construct and strengthen language-related schemas before engaging in real-time speaking performance. As a result, learners are better prepared to organize ideas, retrieve vocabulary, and communicate with greater confidence.

The study also contributes to the growing literature on digital language learning by proposing that social media microlearning functions as a form of digital cognitive scaffolding in EFL speaking contexts. Rather than serving merely as a tool for content delivery, microlearning can support learners cognitive preparation and self-regulated learning processes. These findings highlight the potential of integrating social media microlearning into speaking instruction as a pedagogically meaningful strategy that promotes both cognitive and communicative development among EFL learners.

References

- Abushanab, H. A., Al-ajaji, M. A., Hemida, K., Jamalallail, L., Aljedaani, M., & Sajar, M. (2025). The Impact of Micro-Learning on Social Media in Design : Enhancing Creative Skills and Design Techniques through Digital Platforms. *International Journal for Scientific Research (IJSR)*, 4(8), 56–79. <https://doi.org/https://doi.org/10.59992/IJSR.2025.v4n8p3>
- Balasundaram, S., Mathew, J., & Nair, S. (2024). Microlearning and Learning Performance in Higher Education : A Post-Test Control Group Study. *Journal of Learning for Development* 11, 11(1), 1–14.
- Damaris Abigail Benavides Cevallos, F. E. R. M. (2025). *Students' Perceptions on Factors Influencing the Development of Oral Communication in A1 English Major Learners*. Universidad Técnica De Cotopaxi Extensión.
- Denojean-Mairet, M., López-Pernas, S., Agbo, F. J., & Tedre, M. (2024). A literature review on the integration of microlearning and social media. *Smart Learning Environments*, 11(1). <https://doi.org/10.1186/s40561-024-00334-5>
- John W. Creswell, C. N. poth. (2018). *Qualitative Inquiry and Research Design Choosing Among Five Approaches, 4th Edition* (H. Salmon (ed.); 4th ed.). SAGE Publications Inc.
- Lincoln, Y. S., & Guba, E. G. (1985). Naturalistic Inquiry. In *Naturalistic Inquiry* (Issue 1). SAGE Publications Inc.

- Lopez, S. (2024). The Impact of Cognitive Load Theory on the Effectiveness of Microlearning Modules. *European Journal Of Education and Pedagogy*, 5(2), 29–35.
- Manouilidou, E. (2024). Teacher Evaluation : A Triangulation Study of Data Sources. *European Journal of Contemporary Education and E-Learning*, 2(3), 54–73. [https://doi.org/10.59324/ejceel.2024.2\(3\).06](https://doi.org/10.59324/ejceel.2024.2(3).06)
- Mendrofa, M. P., & Wijaya, M. (2022). Benefits of Drilling Repetition in Enhancing Second Language Learners ' Speaking Ability. *IJEAL (International Journal of English and Applied Linguistics)*, 2(2), 263–270. <https://doi.org/doi.org/ijea.v2i2.1583>
- Monib, W. K., Qazi, A., & Apong, R. A. (2025). Microlearning beyond boundaries: A systematic review and a novel framework for improving learning outcomes. *Heliyon*, 11(2), 1–29. <https://doi.org/10.1016/j.heliyon.2024.e41413>
- Mostrady, A., Sanchez-Lopez, E., & Gonzalez-Sanchez, A. F. (2024). Microlearning and its Effectiveness in Modern Education: A Mini Review. *Acta Pedagogica Asiana*, 4(1), 33–42. <https://doi.org/10.53623/apga.v4i1.496>
- Sam Koudsia, M. K. (2024). Reducing Cognitive Overload for Students in Higher Education : A Course Design Case Study. *Journal of Higher Education Theory and Practice*, 24(10), 97–124.
- Surbakti1, R., Umbah2, S. E., Pong3, & Sokha Dara4. (2024). Cognitive Load Theory : Implications for Instructional Design in Digital Classrooms. *International Journal of Educational Narratives*, 2(6), 483–493. <https://doi.org/https://doi.org/10.70177/ijen.v2i6.1659>
- Sweller, J. (2020). Cognitive load theory and educational technology. *Educational Technology Research and Development*, 68(1), 1–16. <https://doi.org/10.1007/s11423-019-09701-3>
- Wahidul Islam1, Saleh Ahmad1,2*, M. D. I. (2022). Investigating the Problems Faced by the University EFL Learners in Speaking English Language. *International Journal of TESOL & Education*, 2(2), 1–19. <https://doi.org/https://doi.org/10.54855/ijte.22223>
- Wei, Y. (2022). Toward Technology-Based Education and English as a Foreign Language Motivation : A Review of Literature. *Frontiers in Psychology*, 13, 1–8. <https://doi.org/10.3389/fpsyg.2022.870540>
- Zhang, X. (2024). Exploring Cognitive and Language Acquisition Processes in Second Language Learning of English. *Proceedings of the 3rd International Conference on Education, Language and Art (ICELA 2023), Advances in Social Science, Education and Humanities Research* 831, 248–254. <https://doi.org/10.2991/978-2-38476-214-9>
- Zhu, B., Chau, K. T., Azlina, N., & Mokmin, M. (2024). Optimizing cognitive load and learning adaptability with adaptive microlearning for in-service personnel. *Scientific Reports*, 14(1), 25960. <https://doi.org/https://doi.org/10.1038/s41598-024-77122-1>