

DIGITAL LITERACY AND LEARNING INTERACTION IN INDONESIAN EFL CLASSROOMS: AN ETHNOGRAPHIC STUDY

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ABSTRACT

This ethnographic study examines the relationships between digital literacy and learning interactions in Indonesian EFL classes. The study seeks to elucidate the role of digital tools in mediating educational practices and interactional dynamics between educators and learners. Data were collected over six months at SMA Negeri Ternate, Indonesia, using participant observation, semi-structured interviews, document analysis, and field notes, involving five teachers and ten students. The findings suggest a triadic interactional framework, comprising learner-content, learner-instructor, and learner-learner interactions, all of which are shaped by digital integration. Students utilized multimedia resources such as YouTube and ChatGPT, promoting independence and multimodal understanding. The conventional assumptions of teacher authority persisted, and digital disparities frequently limited peer participation. Three cultural elements emerged: technology-enhanced instruction, enduring teacher authority, and flexible peer solidarity. The study concludes that digital literacy alters classroom dynamics, but it must be grounded in local educational and cultural norms. It necessitates culturally responsive instructional design and fair access to improve engagement and maximize the educational potential of digital literacy.

Keywords: Digital Literacy, EFL Classrooms, Ethnography, Indonesian, Learning Interaction

INTRODUCTION

The rapid adoption of digital technology has significantly altered educational environments globally, redefining the interactions between educators and learners, as well as their access to knowledge and engagement with the learning process (Djibran et al., 2024; Zou et al., 2025). In language instruction, digital technologies and platforms have created novel educational opportunities that surpass the limitations of conventional classrooms (Baldoví et al., 2023; Zhang, 2023). With the growing importance of digital literacy in the 21st century, its incorporation into English as a Foreign Language (EFL) education is both unavoidable and crucial (Chan & Lo, 2024; Lin et al., 2024). Digital literacy, defined as the

capability to access, assess, generate, and convey information through digital technology, constitutes a fundamental skill that enables individuals to navigate, engage in, and contribute to the global digital landscape. (Amin, 2023; Reddy et al., 2023). In Indonesian educational settings, especially in EFL classes, the integration of digital literacy is inconsistent and contingent upon context. Although national education strategies have begun to prioritise digital competency, their implementation often varies among schools, particularly between urban and rural regions. Numerous Indonesian EFL educators and learners continue to face challenges related to limited digital resources, inadequate training, and sociocultural barriers that hinder the implementation of digital literacy in everyday educational activities. (Fadilah et al., 2023; Sakkir et al., 2023) Moreover, classroom interaction—an essential element of language acquisition—has been markedly affected by the availability or lack of digital resources (Abella & Rosa, 2023; Zou et al., 2025). Learning interaction, which involves both verbal and non-verbal communication between educators and learners, has transcended traditional face-to-face discourse and is increasingly facilitated by digital platforms, gadgets, and communication conventions (Pozo et al., 2024; Yaseen et al., 2025). Moore (1989) delineates three key interactions within the teaching process. This idea serves as the basis for academics to investigate teacher-student interaction patterns in the EFL classroom using digital literacy-based instruction. Moore (1989) identified three distinct types of interaction: learner-content interaction, learner-instructor interaction, and learner-learner interaction.

Despite increasing research on digital literacy in education, little emphasis has been directed towards the manifestation of digital literacy practices within the sociocultural dynamics of EFL classroom interactions in Indonesia. The prevailing literature primarily employs a quantitative or technocentric methodology, focusing on students' digital competencies, technological access, or the efficacy of digital tools (Erwani et al., 2022; Valentina et al., 2022; Zahra et al., 2023). These studies frequently overlook the lived experiences, pedagogical struggles, and cultural significances that influence the incorporation of digital literacy into classroom interactions. Consequently, there exists a significant deficiency of ethnographic studies that explore the intricate ways in which digital literacy affects learning relationships between teachers and students in Indonesian EFL contexts.

Furthermore, research examining the convergence of digital literacy and learning interaction rarely addresses how these dynamics manifest within diverse educational environments, particularly in marginalised areas such as rural Indonesian schools (Hidayat et al., 2022; Nasaruddin et al., 2023). There is limited understanding of how EFL teachers and students collaboratively develop digital literacy practices in their daily routines, the problems they encounter, and how digital technology is either embraced or resisted during interactions. There is a lack of comprehension regarding the intersection of digital literacy with language pedagogy, local values, and institutional limitations, which influences classroom involvement and communication. Based on the various issues mention, this study focus on learning interaction in digital literacy instruction in EFL classrooms. It employs an ethnographic approach to investigate learning interaction in digital literacy instruction in Indonesian EFL classrooms.

METHODS

This research employs a qualitative methodology with an ethnographic approach to investigate the learning interactions within digital literacy training in Indonesian EFL classes. Ethnographic study provides comprehensive descriptions and analyses of cultural practices, highlighting the collective behaviors, language, and beliefs of a community within its natural context (Mills & Gay, 2016; Spradley, 2006). Ethnography offers a culturally informed perspective for analyzing the sociocultural aspects of teaching and learning (Denzin & Lincoln, 2018; Creswell, 2012). The research was conducted over six months (one semester) at SMA Negeri 10 Kota Ternate, North Maluku, an A-grade accredited institution recognized as a model for digital transformation. The choice of this location was based on its robust digital infrastructure, competent faculty, and alignment with principles of digital pedagogy. Research participants were selected through purposive sampling (Creswell & Creswell, 2023), comprising ten EFL students and five EFL teachers with established digital literacy skills. The criterion encompassed students' access to digital resources, previous digital learning experiences, academic performance, as well as teachers' educational degrees and teaching experience.

Data were gathered using semi-structured interviews, participant observation, document analysis, and field notes, adhering to ethnographic standards (Fetterman, 2010; Spradley, 1979; Mills & Gay, 2016). The researchers served as the primary instrument, supplemented by additional tools, including interview protocols, observation sheets, and audiovisual recorders. Interviews utilized descriptive, structural, and contrast questions (Spradley, 2006), while participant observation allowed researchers to engage deeply in the learning environment.

The data analysis employed Spradley's (2006) four-stage model, which includes domain analysis, taxonomic analysis, componential analysis, and cultural theme analysis. Domain analysis categorises various fields or specialised domains by examining both general and specific issues. An increase in the number of selected domains results in a corresponding increase in the time needed for investigation. In the taxonomy analysis, the researchers offered a more detailed description of the selected domains, emphasizing their internal structure through further investigation. It employs component analysis to discern unique characteristics of each internal structure through inter-element relationships. Analysing cultural themes involves examining the interrelationships among diverse domains and their impact on the broader cultural context. It categorises these links into cultural themes, taking into account the specific focus and sub-focus of the investigation. This approach enabled a systematic analysis of the interconnected elements of digital literacy practices and cultural trends within the EFL teaching environment. The amalgamation of multiple data sources enhanced the study's depth and contextual authenticity. The phases of data analysis are illustrated in the subsequent figure:

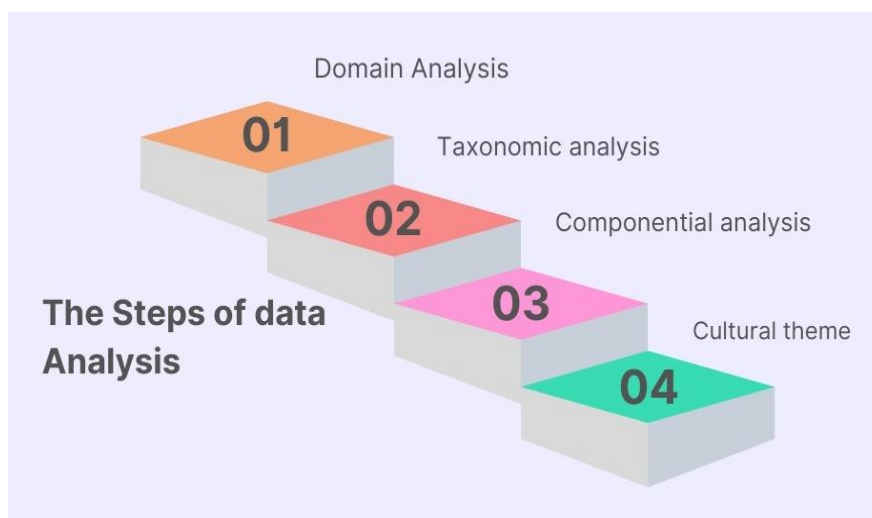


Figure 1. Spradley's (2006) four-stage model of data analysis

RESULTS

The findings revealed that learning interaction consists of three fundamental dimensions: learner-content interaction, learner-instructor interaction, and learner-learner interaction. Subsequent data illustrate the interactions between teachers and students during the implementation of digital literacy teaching in the context of English language acquisition.

Learner-Content Interaction

The interaction between learners and content in the observed digital literacy-focused EFL classroom illustrates a dynamic incorporation of digital media into teaching. Students predominantly interact with content through multimedia resources, including YouTube videos, music, and interactive digital texts, often before or during classroom sessions. This engagement promotes autonomous and cooperative learning, highlighting understanding, analysis, and content production. Educators support these encounters by providing pre-class materials and guiding classroom conversations centered on them. Activities like video-based procedural text creation demonstrate how digital tools enhance creative interaction with the content. The engagement transcends passive consumption, transforming students into active participants who derive meaning from digital content. This method corresponds with digital literacy competences by cultivating abilities in sourcing, analyzing, and utilizing information from digital platforms. It also fosters critical thinking as students engage with knowledge through debates and evaluations. Here are the pieces of evidence on learner-content interaction:

Extract 1

"Some classroom teachers provide learning materials in the form of links or videos, and students are expected to study the materials prior to attending class." (Field Note, 2025).

Extract 2

"I frequently present videos, audio clips, or images as instructional media. Afterwards, I pose questions related to the materials." "I once assigned students to create a procedural text video... by the lesson on procedural texts." (Interview with teacher SN, 2025). "I have also sent video links for students to study independently, which we later discussed in the following session." (Interview with teacher IN, 2025)

Extract 3

"I play videos that are already available through YouTube links... students are then expected to answer guiding questions as outlined in the teaching module." (Interview with teacher FS, 2025). "We assign tasks, and then discuss them in the following meeting. So, students engage in self-study at home beforehand." (Interview with teacher HR, 2025)

Extract 4

"There is usually an interaction between students and the provided materials, followed by the teacher's explanation of the content." (Interview with student ZHR, 2025). "The teacher typically presents the material through YouTube and concludes with a question-and-answer session related to the video." (Interview with student RTH, 2025).

Extract 5

"Materials are distributed prior to the start of class, the teacher often uses a laptop and projector screen to display videos." (Interview with student NM, 2025). "The teacher asks students to open specific pages, watch videos, listen to songs, and then find out their meanings." (Interview with student PTR, 2025). "We search for and study particular conversations on YouTube, then complete assignments based on what we have learned." (Interview with student SHR, 2025)

Extract 6

"Student interaction with the material is evident when the teacher divides the class into groups, and students discuss the content through both individual and group-based activities." (Classroom Observation, 2025)

Interaction between learners and content is also evident when the instructor assigns activities to be completed in the classroom during the instructional process. The data in the subsequent image demonstrates student engagement with instructional resources in the classroom.



Figure 2. Learner-content interaction in EFL classrooms

The evidence illustrated in the preceding figure indicates that, in addition to the teacher supplying material links or video content prior to classroom instruction, student involvement with the learning materials also transpires during the lesson. The instructor disseminates student worksheets (LKS) with questions to be addressed collaboratively in pairs during class. The teacher projects instructional films from YouTube, which students access on their iPhones. This suggests that material-student interaction in digital literacy education can occur flexibly and dynamically throughout the learning process. This trend indicates that learner-content interaction in digitally enhanced contexts improves engagement, facilitates differentiated instruction, and promotes learner autonomy. Its effectiveness, however, depends on regular direction and organized reflection provided by instructors, ensuring that technology serves as a means to enhance understanding rather than a distraction.

Learner-instructor interaction

The interaction between learners and instructors in the context of digital literacy demonstrates a pedagogical fusion of conventional teaching methods and technology-enhanced communication. Educators serve as pivotal agents, commencing instruction with inquiries to stimulate existing knowledge, delivering content, and then providing assessment and feedback. Despite the digital format, students exhibit a pronounced preference for direct, synchronous engagement with professors, indicating that interpersonal connection is a vital component of their educational experience. Educators intentionally utilise technology, including YouTube videos and AI tools, to enhance learning, often accompanied by direct discussion to foster comprehension. The subsequent evidence substantiates the findings:

Extract 7

"Teacher-student interaction during learning is evident in the instructional stages outlined in the lesson plans (RPP)." (Document analysis)

Extract 8

"I provide them with instructions first, and then they begin working. Even when I share materials in the group for self-study, I always follow it up with a discussion." (Interview with teacher SRF, 2025). "I ask them about the previous material to help them recall and engage with me. I then introduce the topic of the day and ask whether anyone is already familiar with it." (Interview with teacher IN, 2025). "Typically, I present the material, and then the students respond or answer questions." (Interview with teacher SN, 2025)

Extract 9

"I read out a prompting question... they responded very quickly after watching the video. My interaction with the students was quite good." (Interview with teacher FS, 2025). "Sometimes the teacher asks students to summarize the material first... but the teacher remains involved to assist them." (Interview with Teacher HR, 2025)

Extract 10

"The teacher usually explains the material again. We would prefer if the teacher used technology more frequently in the classroom." (Interview with student ZHR, 2025). "I prefer methods that involve direct interaction with the teacher rather than independent learning." (Interview with student CTR, 2025). "The teacher often begins by explaining the material... followed by an evaluation session." (Interview with student PTR, 2025). "There is still direct guidance between teachers and students in the classroom. Digital materials or self-directed learning have not yet been implemented." (Interview with students IZZ & ST, 2025)

Extract 11

"The teacher begins the lesson by presenting material in the form of a YouTube video, which the students observe. Afterward, the teacher asks questions related to the content. Additionally, the teacher often guides students to use their smartphones to access supplementary materials through Google, Google Translate, and AI tools." (Classroom Observation, 2025)

The subsequent data also demonstrates the interaction between the learner and teacher during the teaching process in the classroom.



Figure 3. Learner-instructor interaction in EFL classrooms

The picture above illustrates that interaction between students and the teacher occurs through several means, including the introduction of the lesson topic at the beginning of class, delivering directions to students, and encouraging their engagement in learning activities. Furthermore, engagement transpires through question-and-answer interactions between the instructor and students regarding the topic matter under examination. These interactions illustrate a supportive scaffolding framework in which the teacher transitions from being the exclusive source of knowledge to a facilitator and guide. Furthermore, instructor engagement maintains student motivation, guarantees accountability in digital assignments, and meets the cognitive challenges of navigating online material. In classes where digital resources are not adequately utilised, both students and teachers recognise the potential for improvement. This interaction type is essential for fostering students' confidence in utilizing digital resources and acts as a conduit between independent content engagement and collaborative interpretation. The data highlight that significant teacher-student engagement is not lost through digital tools, but rather improved when they are deliberately integrated with pedagogical intent.

Learner-learner interaction

Interaction among learners in digital literacy contexts, such as EFL classes, is primarily organized around collaborative projects, illustrating the social aspect of learning in digital environments. Group discussions, peer reviews, and collaborative presentations form the essence of these interactions, promoting academic engagement and social cohesion. Educators deliberately create tasks that necessitate interdependence, such as interpreting audiovisual material or collaboratively solving issues. These collaborative activities facilitate peer scaffolding, wherein more proficient students assist their peers, hence enhancing

comprehension for both individuals. The use of digital information as a common reference point, such as videos and narrative assignments, significantly enhances engagement by providing a recognisable context for debate and interpretation. The following constitutes the evidence:

Extract 12

"Student-to-student interaction during learning is most frequently observed during group discussion sessions in the classroom. After presenting the material through instructional videos, the teacher typically divides the class into several groups for discussion." (Classroom Observation, 2025)

Extract 13

"Student-to-student interaction is also evident in the instructional stages designed by the teacher in the lesson plan." (Document Analysis)

Extract 14

"Interactions among students usually occur during group assignments. They collaborate within their groups to solve the problems or tasks given." (Interview with Teacher SRF, 2025). "I usually facilitate student-to-student interaction through group discussions. Some students often engage in discussions outside their assigned groups... I continue to encourage them to collaborate." (Interview with Teacher IN, 2025)

Extract 16

"Students usually ask their peers when they do not understand something. This activity is already embedded in the teaching module... involving discussion or drawing conclusions together." (Interview with Teacher SN, 2025). "By working in groups, students can interact not only with me but also with their peers." (Interview with Teacher FS, 2025). "The most effective interaction is student-to-student interaction... especially among the more active students." (Interview with Teacher FS, 2025)

Extract 17

"There is usually more group discussion, followed by presentations of the results." (Interview with Student RT, 2025). "We are divided into groups for discussion. Afterwards, each group presents the outcomes of their discussion." (Interview with Student RFL, 2025). "There are presentation or storytelling assignments where students work in groups." (Interview with Student IZZ, 2025). "Most interactions occur among students. Group discussions are more frequent than discussions with the teacher." (Interview with Students CTR & RCH, 2025). "In groups, we learn to understand the material from our peers' perspectives." (Interview with Student SHR, 2025).

This is evidence illustrating student-to-student interaction during classroom activities.



Figure 4. Learner-learner interaction in EFL classrooms

The observations reveal varying levels of participation, with highly engaged students taking on leadership responsibilities, while others contribute less prominently. This underscores the necessity for pedagogical practices that guarantee equal engagement. Interaction among learners is crucial for enhancing comprehension, critical thinking, and communication skills, which are essential components of digital literacy. When correctly enabled, these interactions enhance content processing and promote learner autonomy. In summary, student collaboration, facilitated by digital technologies and organised group activities, fosters a dynamic learning environment that enhances and strengthens interactions among learners, with both learners and content, as well as between learners and instructors.

This is a taxonomy of instructional interactions based on digital literacy in EFL classes.

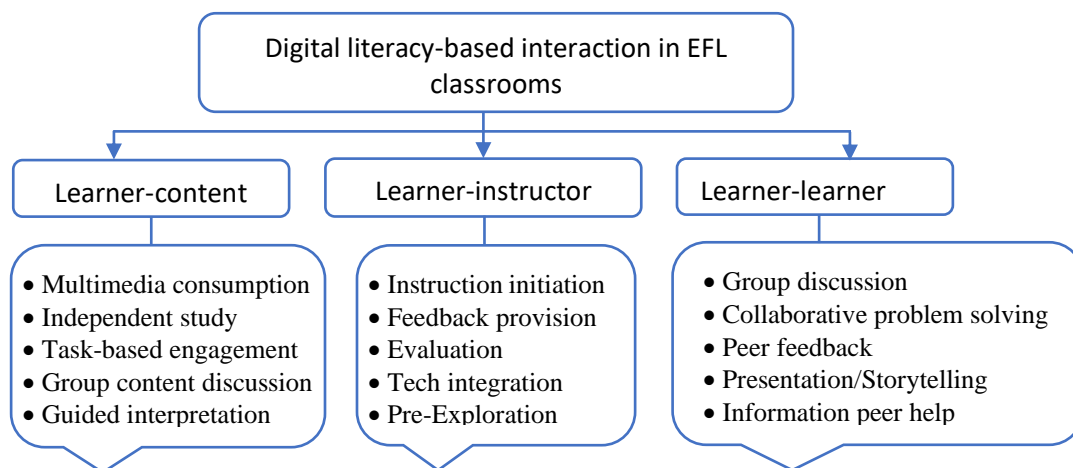


Figure 5. A taxonomy of learning interactions

The study's findings demonstrate that digital literacy-focused education in EFL classrooms cultivates a complex interactional ecosystem involving learner-content, learner-instructor, and learner-learner interactions. Every mode of engagement serves a unique yet synergistic function in influencing students' digital learning experiences and skills.

Learner-content interaction is significantly influenced by the integration of multimedia, including videos and audiovisual resources. Students are encouraged to engage in self-directed study prior to class, promoting autonomy, critical thinking, and a multimodal understanding. These connections are facilitated by activities that necessitate analysis, production, and collaborative conversations, indicating a transition from passive receiving to active involvement with content. Interaction between learners and instructors is fundamental to digital education, offering crucial advice, explanation, and feedback that solidify students' comprehension. Notwithstanding the availability of digital tools, students have a pronounced inclination towards real-time, instructor-led learning. The teacher's position evolves into that of a facilitator who connects digital technologies with educational objectives, thereby enhancing engagement and understanding of concepts. Interaction among learners flourishes in collaborative activities, including group discussions, peer evaluations, and joint presentations. These encounters enhance understanding through shared viewpoints and foster vital social and communicative abilities. They function as a medium for peer-assisted learning and critical analysis, particularly in managing digital content.

Integrating digital literacy into the EFL classroom fosters a harmonious environment where technology enhances, rather than supplants, traditional pedagogical approaches. This taxonomy emphasizes the interrelation of interaction kinds and underscores the significance of instructional design that intentionally incorporates digital resources. When digital materials are integrally incorporated in interactive teaching methods, they can significantly enhance language acquisition, foster student independence, and cultivate 21st-century competencies essential for academic and practical success.

CULTURE THEMES

Three comprehensive and thematically coherent cultural themes arise from classroom interactions in a digitally mediated learning environment. These topics illustrate both the interactional patterns and the sociocultural processes influencing digital literacy-based instruction:

Technology-Enhanced Pedagogical Mediation as a Cultural Norm

The topic involved illustrates the integration of digital technology, especially multimedia platforms (e.g., YouTube, Kahoot, ChatGPT), into the routine instructional culture of EFL classrooms. Educators do not simply employ digital technologies for instruction; they intentionally incorporate them to enhance comprehension, stimulate prior knowledge, and facilitate learning interactions. The consistent use of pre-class video materials, interactive conversations, and technology-enhanced activities indicates a transformation in pedagogical culture, wherein digital tools serve as cognitive and social mediators. This transition aligns with Vygotsky's sociocultural theory, emphasizing the crucial role of mediated technologies in meaning-making and instructional practices within a digitally literate classroom environment.

Teacher Authority and Human Connection in a Digital Landscape

Despite the growing influence of digital media, teacher-student contact remains culturally rooted in hierarchical yet dialogic structures. Educators are still regarded as authoritative sources of knowledge and emotional support, directing digital interaction. The societal expectation for teacher engagement—via feedback, scaffolding, and real-time interaction—illustrates a hybrid pedagogy that merges traditional reverence for teacher authority with digital innovation. This subject underscores the enduring nature of collectivist and teacher-centered educational norms, despite the integration of digital platforms. Culturally sensitive digital education must align with local relational norms and learner expectations around authority, direction, and interpersonal interaction.

Peer Collaboration and Digital Solidarity amid Structural Constraints

Interaction among learners in the digital classroom demonstrates a cultural inclination towards solidarity, peer support, and collaborative problem-solving, especially in group assignments and informal digital networks (e.g., WhatsApp). This solidarity frequently arises as a reaction to infrastructural and digital disparities, as students mitigate restricted access or understanding by depending on peer networks. Although peer connection promotes engagement, it is also limited by social dynamics, digital confidence, and disparities in involvement. This subject embodies a culture of adaptable collaboration influenced by collectivist principles and practical responses to technical constraints. It necessitates the deliberate organization of digital peer work to achieve a balance of inclusion, agency, and critical discourse.

DISCUSSION

The Research findings show the interaction is a core component of language acquisition and digital pedagogy. The results of the study in line with (Moore, 1989) who classified learning interaction into three interconnected domains: learner-content, learner-instructor, and learner-learner interaction. It also illustrates how digital platforms mediate and alter interactions in EFL classes, highlighting advantages and limitations shaped by infrastructure, instructor expertise, student digital literacy, and the provide the lived experiences, pedagogical struggles, and cultural significances that influence the incorporation of digital literacy into classroom interactions.

Interaction between the learner and the content

The principal interaction observed in this study was between learners and digital content. Students frequently employed multimedia resources, including YouTube videos, Google Translate, Kahoot, and ChatGPT, to enhance their understanding, pronunciation, and vocabulary learning. This notable degree of learner-content interaction aligns with Anderson's (2003) interaction equivalency theorem, which posits that substantial learning can occur when at least one form of interaction, particularly learner-content, is enhanced through high-quality resources and learner autonomy. Digital tools enabled asynchronous learning, allowing students to examine knowledge at their convenience, thereby enhancing comprehension and autonomy. However, not all students exhibited the same level of ability in critically analyzing digital content. Many participants relied on passive consumption

rather than actively engaging in knowledge construction, supporting previous concerns that digital exposure does not automatically result in successful participation (Garrison & Akyol, 2013). This underscores the imperative of cultivating digital literacy skills that enable students to access, interpret, synthesize, and utilize information.

Interaction between Learner and Instructor

Digital platforms have transformed the traditional dynamics of learner-instructor interaction. Educators employed WhatsApp groups, Google Forms, and digital presentations to provide comments, distribute resources, and assess student understanding. These systems enhanced immediacy and response but also posed challenges. The asynchronous characteristics of specific tools often led to delayed feedback, reducing the dialogic quality of instruction. Nonetheless, the findings demonstrate that educators maintained a substantial instructional presence, as outlined by Garrison et al. (2000) within the Community of Inquiry framework. Their efforts to curate and contextualise digital content, combined with the use of assessment technology like Google Forms, helped preserve a cognitive and educational presence. However, deeper educational involvement, including personalized feedback, dialogic inquiry, or customized support, was occasionally obstructed by time constraints, technological proficiency, and inconsistent internet connectivity.

Peer Interaction among Learners

The interaction among learners was the least developed of the three categories. Although numerous collaborative activities took place over WhatsApp or during in-class digital tasks (e.g., team quizzes using Kahoot), these interactions were primarily logistical rather than academically or socially significant. This is concerning, as peer interaction is essential for meaning negotiation, language production, and the development of intercultural competences (Vygotsky, 1978; Smith & MacGregor, 1992). Barriers to peer contact included unequal digital access, reduced confidence in digital communication, and a school environment that prioritized teacher-led instruction over peer collaboration.

Consequently, while digital technologies can enhance student dialogue and collaborative knowledge construction, their use requires deliberate teaching strategies and the formulation of cooperative assignments. This study demonstrates that student interactions in digital literacy-focused EFL training reveal significant changes in learning dynamics within technology-mediated contexts. The findings illustrate how digital platforms such as YouTube, Kahoot, WhatsApp, and ChatGPT have transformed traditional classroom interactions by introducing innovative methods of engagement, collaboration, and learner independence. This result supports Vygotsky's (1978) sociocultural theory, which emphasizes the importance of mediated tools in the joint construction of knowledge through social interaction. The students in the observed classrooms demonstrated increased motivation, which was attributed to the use of digital devices, enhancing their focus, engagement, and collaborative behaviours. Video content and game-based systems, such as Kahoot, cultivate a dynamic learning environment, augmenting competition and engagement. This aligns with the multidimensional engagement framework established by Fredricks, Blumenfeld, and Paris (2004), which includes behavioral, emotional, and cognitive

elements. The active participation of students in digital quizzes, their love for multimedia content, and their enthusiasm for exploring resources beyond the classroom illustrate all three dimensions of engagement. Nonetheless, while digital technologies improved students' surface interaction and task involvement, the degree of substantial academic engagement varied significantly among learners.

Several students demonstrated critical engagement by independently acquiring supplementary knowledge through platforms like YouTube and ChatGPT, thereby exemplifying learner autonomy—a key attribute of 21st-century education (Redecker, 2017). In contrast, several individuals utilize technology passively or solely for entertainment, illustrating what Ertmer and Newby (1993) define as low-level involvement that fails to foster higher-order cognitive skills. The significance of interaction in technology-enhanced EFL lessons has also evolved. Students reported frequent use of WhatsApp and Instagram for exchanging materials and discussing assignments, indicating the formation of informal, student-led learning networks. These peer-driven interactions promote the principles of connectivism (Siemens, 2005), which posits that learning occurs through decentralized, technology-mediated networks. However, these conversations often lacked moderation, and the absence of instructor engagement on these informal forums may result in uneven academic discourse and variations in participation levels.

Notwithstanding the apparent benefits, challenges persist. A multitude of students indicated challenges in focusing on academic content while using digital devices, often leading to multitasking or distractions. These findings align with Junco's (2012) research, which suggests that excessive social media usage may be associated with reduced academic engagement if not adequately regulated. Moreover, technological disparities, including limited access to devices and unreliable internet connectivity, hindered equal participation, particularly among students from lower socioeconomic backgrounds. Warschauer (2003) observed that the digital divide remains a considerable barrier to inclusive digital education. The research demonstrates that digital engagement is heterogeneous and significantly influenced by individual learning preferences, digital competencies, and classroom environment. Educators must create structured yet flexible learning settings to effectively leverage digital resources that promote focused engagement and independent exploration. This entails integrating collaborative efforts, peer evaluation systems, and explicit digital literacy instruction into the curriculum.

Instruction based on digital literacy has revolutionized learning interactions in the EFL classroom, particularly enhancing learner-content engagement. To fully realize the educational potential of digital communication, there must be an enhanced emphasis on dialogic interactions between educators and learners, as well as the encouragement of peer collaboration through structured digital tasks. Digital resources have enhanced student engagement and interaction in EFL classes; yet, consistent pedagogical approaches are crucial to deepen learning, minimize digital distractions, and ensure equitable participation. Educators must adapt their roles to foster both technical and social engagement, thereby maximising the educational benefits of digital literacy.

This study demonstrates that digital literacy practices in EFL classrooms are profoundly interconnected with sociocultural values and local pedagogical traditions, as

evidenced by the identified culture themes: Technology-Enhanced Pedagogical Mediation as a Cultural Norm, Teacher Authority and Human Connection in a Digital Landscape, and Peer Collaboration and Digital Solidarity Amid Structural Constraints. These elements align with Vygotsky's (1978) sociocultural theory, which posits that tools and symbols, such as digital media, facilitate cognitive growth via social interaction. The utilization of platforms such as YouTube, Kahoot, and ChatGPT illustrates that digital tools serve not only as supplementary instructional resources but as essential mediators in the formation of knowledge, embodying what Wertsch (1991) describes as "mediated action. Moreover, the enduring nature of teacher authority in the context of technological integration corresponds with the collectivist cultural norms prevalent in Indonesian classrooms. According to Hofstede (2001), societies with considerable power distance often maintain hierarchical relationships within educational contexts. This is apparent in students' dependence on direct instructor instruction despite the presence of self-access digital resources. Li and Walsh (2011) reported similar findings, noting that teacher-led interaction continues to prevail in Asian EFL contexts, even in technologically advanced settings.

Peer collaboration, driven by infrastructural constraints, aligns with the conclusions of Warschauer (2003) and Selwyn (2011) regarding the adaptive use of technology in resource-constrained environments. The camaraderie exhibited by students via WhatsApp talks and collaborative efforts illustrates the virtues and weaknesses of informal digital learning networks. This underscores the necessity for organized peer assignments that harmonize collaboration with critical involvement (Smith & MacGregor, 1992). In conclusion, these cultural themes suggest that digital literacy in EFL classrooms encompasses not only technical skills but also the negotiation of culture. Digital pedagogy must be locally anchored, harmonizing with local values while promoting critical, collaborative, and independent learning in digitally mediated settings.

CONCLUSION

This study highlights that digital literacy-focused instruction in Indonesian EFL classrooms promotes a complex ecology of interaction among learners, teachers, and digital content. The incorporation of digital tools—such as YouTube, Kahoot, WhatsApp, and ChatGPT—has revolutionized conventional classroom dynamics by improving student-content interaction, promoting learner independence, and enabling multimodal understanding. Notwithstanding these advantages, the study reveals ongoing issues, including disparities in digital competency, infrastructural limitations, and the inadequacy of peer-to-peer collaboration. These findings emphasize that although digital technologies provide novel opportunities for engagement and instruction, their effectiveness depends on deliberate pedagogical integration and equal access.

This study has two implications. It underscores the necessity for EFL educators to cultivate culturally attuned digital methodologies that harmonize autonomy, structure, and social engagement. Educators must evolve from mere content deliverers to learning facilitators capable of effectively scaffolding digital engagement. Curricular implications involve integrating explicit digital literacy training into language programs to enhance students' critical thinking, multimodal literacy, and collaborative abilities. Moreover, the

results underscore the significance of institutional support in mitigating digital inequities and equipping educators with the skills to utilize digital tools effectively.

Future research should expand the parameters of this study by investigating digital literacy-based interactions in a broader range of socio-educational contexts, including rural, disadvantaged, or marginalised groups. Longitudinal research could examine the evolution of digital participation over time and its enduring effects on language competency and learner identity. Moreover, participatory action research that includes instructors and students as co-researchers may provide profound insights into the mutual influence of technology utilization and classroom culture. Exploring the convergence of digital literacy with emotive dimensions—such as motivation, identity, and digital wellbeing—would enhance the comprehension of its significance in comprehensive EFL learning. Research must prioritize local perspectives and contextual realities in the development of inclusive, adaptive, and effective digital pedagogies.

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