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“Accidental” Language Acquisition: A Study of Indonesian Youth Learning English Informally through Online Gaming and Streaming Culture

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ABSTRACT

Background. Informal digital environments have become influential spaces for incidental language learning among young people, especially where formal classroom instruction alone may not adequately foster communicative fluency.

Purpose. This study aimed to investigate how Indonesian youth acquire English incidentally through engagement in online gaming and streaming cultures. It focused on identifying the types of linguistic features acquired, the social-interactive mechanisms that facilitate learning, and the extent to which these informal experiences complement or exceed outcomes from formal English instruction.

Method. A qualitative descriptive research design was employed using digital ethnography. Data were collected from 32 participants aged 13–22 through in-depth interviews, observation of online interactions, and discourse analysis of chat logs and voice communications over a three-month period.

Results. The findings indicated that participants acquired functional vocabulary, pragmatic expressions, and increased communicative confidence primarily through authentic peer interaction, task-based collaboration, and the need to negotiate meaning during gameplay. Participants reported notable improvements in listening comprehension and speaking fluency, often perceiving faster progress in informal digital environments than in formal classroom settings.

Conclusion. The study concludes that online gaming and streaming cultures function as dynamic and self-sustaining ecosystems for incidental English language learning. These environments provide rich exposure, strong motivation, and meaningful interactional demands that are frequently limited in school-based instruction.

KEYWORDS

Indonesian Youth, Online Gaming, Streaming Culture

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INTRODUCTION

Global digital cultures have transformed how young people encounter and use foreign languages in their daily lives. Indonesian youth, like their peers worldwide, increasingly inhabit online spaces where English functions as a lingua franca for entertainment, communication, and Collaboration (Jiang, 2023). Online gaming platforms, streaming channels, and fan-based interactive communities create immersive linguistic environments that differ substantially from formal school settings (Beckett, 2024). Research in second language acquisition Research in second language acquisition has established that incidental exposure

to meaningful input can significantly influence linguistic development. Immersive digital interactions provide abundant multimodal input spoken, written, and visual which supports comprehension, vocabulary growth, and pragmatic awareness (Harklau, 2022). These informal contexts often demand rapid meaning negotiation, encouraging learners to adapt communicatively despite limited proficiency. Studies on online gaming demonstrate that task-based collaboration fosters authentic communication, problem-solving, and real-time language use (Wusylko dkk., 2022). The social nature of gaming communities encourages repeated engagement, creating extensive opportunities for English exposure that formal classrooms rarely match. Streaming platforms further extend these opportunities through participatory cultures where viewers interact with streamers and global audiences using English as the shared medium (Choo, 2021).

Indonesian youth are highly active in these digital ecosystems, with English proficiency emerging as a practical necessity rather than an academic requirement. Many learners report gaining vocabulary, expressions, and communicative confidence incidentally, without explicit intention to study English (Engchuan, 2023). These self-reported experiences resonate with research emphasizing learner agency, motivation, and identity formation in digital informal environments. Growing evidence also highlights that informal digital learning can complement, reinforce, or even surpass formal instruction in developing communicative competence (Corbett, 2022). Youth often demonstrate improved listening, spontaneity in speaking, and pragmatic fluency through participation in online gaming and streaming cultures, suggesting that accidental exposure plays a critical role in shaping contemporary language learning trajectories (Hajmalek & Rabiee, 2023).

Existing studies rarely focus specifically on Indonesian youth, whose sociolinguistic background, digital consumption habits, and educational experiences differ from Western or East Asian contexts typically represented in the literature (Hoggard, 2020). Limited research explores how cultural, infrastructural, and motivational factors influence the nature and outcomes of accidental English acquisition in Indonesia. Scholars have not sufficiently documented which linguistic features are most frequently internalized through gaming and streaming interactions (Mangit, 2025). The distinction between vocabulary, pragmatic expressions, discourse strategies, or sociocultural norms remains unclear in the Indonesian context. The mechanisms through which these informal practices translate into measurable communicative gains also remain understudied (Rauch, 2023).

Empirical evidence describing how young Indonesians navigate linguistic challenges such as unfamiliar vocabulary, rapid speech, or culturally embedded expressions during online gameplay or live-stream interactions is still lacking (Goggin, 2021). The relationship between these interactional demands and the development of fluency, confidence, and communicative autonomy has not been clearly mapped (LAN dkk., t.t.). Formal educators continue to have limited insight into how informal digital environments can complement classroom pedagogy. The absence of robust, systematic research prevents the integration of digital informal learning practices into formal curriculum design, despite students' increasing reliance on online entertainment as a primary source of English exposure (McCulloch, 2020).

A systematic examination of accidental English acquisition among Indonesian youth is essential for understanding the realities of language learning in a digital society. Identifying the linguistic, social, and motivational dynamics at play will provide a more accurate representation of how English proficiency develops outside school environments (Jeon, 2025). The study addresses this gap by analyzing real experiences of Indonesian adolescents and young adults who engage in gaming and streaming cultures. A qualitative approach enables the exploration of interactional processes, communicative strategies, and learner perceptions that large-scale quantitative studies

cannot capture. This perspective allows for a more nuanced understanding of informal language acquisition pathways (Jee, 2024).

The findings have the potential to inform language educators, curriculum designers, and policymakers about how to leverage digital ecosystems to enrich formal language instruction. Insights from accidental learning contexts may guide the development of pedagogical strategies that better reflect students’ lived linguistic experiences, ultimately bridging the divide between classroom learning and real-world English usage.

RESEARCH METHODOLOGY

A qualitative descriptive research design was employed to explore the processes, contexts, and outcomes of accidental English acquisition among Indonesian youth engaged in online gaming and streaming cultures (Torres, 2025). The design enabled a detailed examination of naturally occurring linguistic interactions, participant perspectives, and the sociocultural dynamics embedded within informal digital environments. The study adopted elements of digital ethnography to capture authentic communicative behavior across multiple platforms, complemented by discourse analysis to identify recurring linguistic features and learning patterns emerging from spontaneous online exchanges (Brakstad, 2023).

The population consisted of Indonesian adolescents and young adults aged 13 to 22 who actively participated in online multiplayer games, streaming platforms, and related digital communities where English served as a primary communication medium. A purposive sampling strategy was used to select participants who had at least one year of consistent engagement in these environments. The final sample included 32 participants from diverse regions in Indonesia, ensuring variations in socioeconomic backgrounds, digital access levels, and gaming or streaming preferences. The sample size allowed for depth-oriented analysis while maintaining representativeness of the broader population of digitally active Indonesian youth.

Three primary instruments were utilized to collect data: semi-structured interview protocols, interactional corpora extracted from chat logs and voice communications, and ethnographic field notes documenting platform-specific behaviors. The interview guide elicited information on learning experiences, perceived linguistic gains, interactional challenges, and motivational factors. The chat and voice corpora were obtained with participant consent and anonymized to ensure confidentiality, serving as linguistic data for examining vocabulary acquisition, pragmatic usage, and communication strategies. Field notes captured contextual details such as game mechanics, community norms, and communicative demands characteristic of each digital environment.

Data collection occurred over a three-month period and involved three stages: preliminary participant observation, individual interviews, and systematic extraction of interactional data. Participant observation allowed for familiarization with platform dynamics and identification of interaction hotspots where English use was most salient (Brakstad, 2023). Interviews were conducted via online video conferencing tools and audio-recorded for transcription. Interactional data were gathered through screen-capture tools and exported chat histories, followed by coding and categorization using thematic and linguistic analysis techniques. Data triangulation was implemented by comparing interview narratives with actual interaction samples to enhance credibility. Ethical considerations, including informed consent, privacy protection, and digital data security, were strictly upheld throughout the research process (Liu, 2021).

RESULT AND DISCUSSION

The dataset consisted of 1,482 chat log excerpts and 76 recorded voice interaction segments collected across three major platforms: online multiplayer games (62%), live-stream chatrooms (28%), and gaming-related Discord communities (10%). Descriptive statistics revealed that participants produced an average of 238 English lexical items per hour during active gameplay and 157 lexical items per hour during streaming interactions. Repeated vocabulary items primarily fell under gaming-specific terminology, functional communication phrases, and pragmatic markers such as directives and expressions of agreement.

Table 1. Descriptive summary of interactional data

Platform Type	Chat Messages (N)	Voice Segments (N)	Avg. English Items per Hour
Online Gaming	921	51	238
Streaming	415	18	157
Discord	146	7	183

The distribution of linguistic features indicated that 41% of acquired vocabulary consisted of functional phrases (e.g., “behind you,” “wait,” “help”), 33% reflected gaming terminology (e.g., “loot,” “rank,” “cooldown”), and 26% comprised pragmatic expressions such as humor, sarcasm, or emotional reactions. Data further showed that vocabulary emergence correlated with the intensity of multiplayer interaction, especially during cooperative missions, where participants resorted to English for speed and efficiency.

Participants exhibited significant lexical expansion within contexts requiring task coordination or rapid response. The frequency of functional phrases increased in high-pressure scenarios, suggesting that necessity-driven communication accelerated incidental acquisition. Linguistic patterns revealed that learners unconsciously adopted formulaic expressions modeled by more proficient interlocutors, demonstrating alignment with interactional competence theories. The prominence of pragmatic expressions reflected the social nature of gaming and streaming communities. Expression of emotions, humor, and solidarity appeared frequently during collective gameplay or chat interactions, providing participants with authentic exposure to informal English registers rarely encountered in formal instruction. Repetition and reinforcement through social bonding contributed to long-term retention.

The interactional corpus illustrated frequent code-switching between Indonesian and English, with an average of 31 switches per interaction episode. Code-switching served as a transitional mechanism enabling learners to engage with English while maintaining communicative comfort. Participants frequently initiated interactions in Indonesian before shifting to English when task demands increased. The data also revealed a consistent pattern of chunk-based acquisition. Instead of learning isolated vocabulary items, participants adopted multiword expressions such as “watch the flank,” “push together,” or “not yet ready.” These chunks functioned as communicative shortcuts, supporting fluency and reducing cognitive load during real-time interactions.

Inferential analysis showed a moderate positive correlation between interaction frequency and vocabulary acquisition, with Pearson’s $r = 0.54$ ($p < 0.01$). Learners who reported more than ten hours of weekly gameplay demonstrated significantly higher expression diversity and pragmatic fluency than those with fewer hours of engagement. The relationship suggests that sustained digital immersion plays a measurable role in accelerating incidental language learning outcomes.

Table 2. Correlation between engagement frequency and linguistic gains

Variable Pair	Pearson’s r	Significance (p)
Weekly Interaction Hours × Vocabulary Diversity	0.54	< 0.01
Weekly Interaction Hours × Pragmatic Expression Use	0.47	< 0.05

The analysis further indicated that environments with synchronous communication produce greater linguistic gains than asynchronous chat-based interactions. Voice communication yielded a 27% higher acquisition rate for functional phrases, suggesting that auditory processing, urgency, and interactional immediacy enhance incidental acquisition.

The relationship between social interaction intensity and vocabulary retention was particularly striking. Participants who frequently collaborated with international teammates showed higher lexical stability across multiple sessions. Exposure to diverse accents and speech patterns encouraged adaptation and supported the development of listening comprehension skills. A second relational pattern emerged between emotional investment and fluency development. Participants who expressed strong identification with gaming communities demonstrated more spontaneous and confident English usage. Social motivation appeared to drive willingness to take linguistic risks, supporting socio-affective models of language acquisition.

One notable case involved a 16-year-old participant who played competitive multiplayer games daily. Chat logs showed substantial vocabulary growth over eight weeks, including mastery of tactical terms and situational directives. Voice recordings revealed improved pronunciation and reduced hesitation, especially during team-based missions requiring cooperative problem-solving. A second case centered on an 18-year-old streamer who interacted regularly with international audiences. Analysis indicated rapid development of pragmatic fluency, including idiomatic expressions, humor strategies, and conversational fillers. The participant displayed growing proficiency in maintaining audience engagement through English, demonstrating acquisition through performative interaction.

The first case demonstrated how high-frequency exposure to English during time-sensitive gameplay accelerated both receptive and productive skills. Interactional necessity prompted the learner to adopt efficient communication routines, reinforcing formulaic expressions through repetition. Gains in fluency reflected the cognitive benefits of repeated, meaningful engagement. The second case highlighted the sociocultural dimensions of incidental acquisition. Streaming required the learner to negotiate identity, manage conversations, and adapt dynamically to live audience responses. Linguistic progress emerged not from instructional feedback but from authentic social participation, aligning with constructivist perspectives on language learning.

The findings indicate that Indonesian youth acquire English incidentally through processes embedded in digital participation rather than deliberate study. Linguistic gains emerge from necessity, repetition, emotional engagement, and authentic communication demands inherent in gaming and streaming cultures. The overall pattern suggests that informal digital ecosystems function as powerful, naturally occurring language learning environments. Accidental acquisition is not random; it follows predictable interactional and social patterns that can inform more contextualized and culturally responsive language pedagogy.

The results of this study demonstrated that Indonesian youth acquire English incidentally through participation in online gaming and streaming cultures. The data showed substantial growth in functional vocabulary, pragmatic expressions, and communicative fluency, even though participants did not intentionally engage with these platforms for academic language learning. The interactional demands of gaming and the social dynamics of streaming emerged as primary catalysts

for this incidental acquisition. Patterns of lexical development were strongly linked to the intensity and immediacy of communication required in gameplay (Idrus, 2021). Participants frequently adopted multiword expressions and directives that were necessary for task coordination. Streaming environments contributed differently, encouraging learners to adopt conversational fillers, humor strategies, and casual discourse markers aligned with global digital communication norms.

Engagement frequency emerged as a significant predictor of linguistic gains. Learners who immersed themselves in gaming or streaming communities for extended periods displayed more stable vocabulary retention and greater pragmatic fluency (Gyllstad dkk., 2025). These outcomes aligned with theories of experiential and input-driven language acquisition, where exposure and necessity drive learning. The case studies reinforced the broader findings by illustrating how individual learners developed fluency and communicative confidence through authentic, unstructured interaction. The evolution of their language use highlighted the interplay between cognitive, social, and affective dimensions of informal digital learning environments (Fidan, 2021).

Empirical studies have increasingly acknowledged the role of digital environments in facilitating incidental language learning, and the current findings corroborate this trend. Research on massively multiplayer online games (MMOs) has shown similar patterns of functional vocabulary acquisition and pragmatic development, emphasizing the instructional potential of task-based digital interaction (Barham & Clarke, 2022). The present study extends these insights to the Indonesian context, where local linguistic and cultural factors influence learning behavior. Differences emerged when comparing this study to research conducted in contexts with higher English exposure outside digital environments. Learners in Western or East Asian studies often demonstrate broader lexical diversity, while Indonesian learners relied more on formulaic expressions due to more limited exposure. This contrast indicates that sociolinguistic context shapes the contours of incidental learning pathways (Gamboa, 2024).

Streaming-based language learning remains relatively understudied, making the current findings a meaningful contribution. Prior research has highlighted the role of parasocial interaction in shaping communicative motivation, yet few studies have connected streaming practices directly to pragmatic language gains. The present study offers empirical evidence linking performative digital environments to spontaneous language development. The findings also diverge from traditional SLA studies that emphasize structured input and corrective feedback. The Indonesian youth in this research achieved measurable linguistic progress without explicit instruction or error correction, suggesting that informal environments can foster different yet effective routes to acquisition.

The findings signal a significant shift in how language learning unfolds for digitally immersed youth. English is no longer acquired solely through formal classroom structures but increasingly through social participation in globalized digital ecosystems. The ability of Indonesian youth to improve fluency through entertainment-driven engagement demonstrates the fluid boundaries between learning, play, and identity formation. This shift suggests that contemporary learners navigate multilingual digital spaces where linguistic adaptation becomes a survival skill rather than an academic exercise. Gaming and streaming cultures provide authentic opportunities to negotiate meaning, collaborate under pressure, and build relationships with global peers, all of which contribute to language development.

The prominence of pragmatic acquisition reveals the importance of social-emotional and interactional competencies. Learners demonstrated intuitive understanding of tone, humor, and conversational timing, indicating that informal environments support not only vocabulary growth but also sophisticated communicative instincts. These gains mirror real-world English usage more

closely than many classroom activities. The findings highlight the emergence of digital affinity spaces as alternative learning ecosystems. These spaces operate outside institutional control yet create powerful learning affordances. The study thus challenges educators to rethink where and how meaningful language development truly occurs for 21st-century learners.

The implications of this research are substantial for language educators, curriculum developers, and policymakers. Understanding that youth naturally acquire English through digital participation suggests the need for more flexible, culturally relevant, and technology-integrated pedagogies. Classroom practices may benefit from aligning with the interactional patterns and linguistic realities students encounter online. Digital informal learning environments may serve as complementary spaces that reinforce classroom instruction. Teachers can incorporate gaming-based tasks, streaming content analysis, or virtual interaction simulations into formal curricula to bridge the gap between structured and naturalistic language use. Such integration would promote authenticity in communicative tasks.

The findings also highlight the importance of leveraging students’ existing digital identities. Recognizing the linguistic value of gaming and streaming may enhance learner motivation, autonomy, and engagement. Students who feel their informal competencies are validated in formal learning contexts are likely to participate more actively and confidently. Policymakers should consider investing in digital literacy and language education infrastructure that acknowledges informal learning pathways. Supporting access to technology and safe online communities will help broaden learners’ opportunities to engage meaningfully with English beyond the classroom.

The results can be explained by the experiential and socially embedded nature of online gaming and streaming cultures. These environments place learners in communicatively demanding situations that require immediate and meaningful language use. Necessity-driven interaction accelerates learning because it reduces cognitive hesitation and increases responsiveness. The repetitive, goal-oriented structure of online games reinforces the acquisition of functional language. Learners repeat expressions dozens of times in rapid succession, creating conditions conducive to retention. Pragmatic features emerge because players and streamers operate in socially rich environments where humor, emotion, and identity performance shape interaction.

The motivational dynamics of digital communities also contribute. Youth are highly invested in gaming achievements, team success, and social belonging, which amplifies their willingness to use English despite linguistic challenges. Intrinsic motivation replaces extrinsic academic pressures, creating a more organic learning process. The findings additionally reflect Indonesia’s sociolinguistic landscape. Limited exposure to English in daily life increases reliance on digital platforms as primary sources of authentic input. Youth turn to global digital spaces to fill linguistic gaps, resulting in rapid, informal, yet meaningful acquisition.

The next step is to explore how formal educational systems can integrate insights from informal digital learning. Researchers should investigate ways to design curriculum modules that simulate or incorporate gaming-based interaction, streaming communication, and digital collaboration. Such approaches could help scaffold learners’ transitions between informal and formal environments. Future research should examine the longitudinal development of learners who rely heavily on incidental acquisition. Tracking changes over time will clarify how sustained digital engagement shapes fluency, accuracy, and confidence. Long-term studies may also reveal how digital learning affects academic outcomes and career trajectories.

Curriculum designers should consider embedding digital ethnography into language instruction, encouraging students to analyze their online interactions as learning resources. This reflective practice may deepen learners’ metalinguistic awareness and help formalize the benefits of

informal exposure. The findings call for greater attention to developing safe, supportive digital spaces for youth. Policymakers and educators must collaborate to ensure that learners can participate in global digital cultures without risking online harm. Creating such spaces will support sustainable, ethical, and empowering language learning pathways for Indonesian youth.

CONCLUSION

The most significant finding of this study lies in the demonstration that Indonesian youth acquire English incidentally through immersive participation in online gaming and streaming cultures, without explicit instructional intent. The analysis revealed that learners internalize functional vocabulary, pragmatic expressions, and conversational routines primarily through necessity-driven communication and socially situated digital interaction. This finding differs from conventional SLA research by showing that authentic, entertainment-oriented environments can produce linguistic gains comparable to or even exceeding those from formal classroom instruction. The study highlights that fluency, confidence, and interactional competence emerge as natural by-products of digital participation, illustrating a contemporary shift in how foreign languages are acquired in technology-rich societies.

The study offers conceptual value by reframing incidental language learning within the sociotechnical ecosystems that shape youth culture in Indonesia, emphasizing the role of digital affinity spaces as legitimate learning environments. The methodological contribution lies in the integration of digital ethnography, discourse analysis, and user interaction logs to capture real-time language emergence, providing a richer, more ecologically valid dataset than traditional survey-based approaches. This combination advances research on informal learning by illustrating how spontaneous, multimodal interactions can be systematically analyzed to uncover linguistic development mechanisms. The study thereby contributes a hybrid methodological model that future researchers can adopt for examining naturalistic language acquisition in digital contexts.

The research is limited by its reliance on a relatively small sample size and its focus on a particular subset of digital platforms, which may not fully reflect the diversity of Indonesian youths’ online experiences. The absence of longitudinal data restricts the ability to determine long-term retention and developmental trajectories, and the study does not examine the potential negative impacts of digital culture, such as toxic communication or burnout. Future research should incorporate larger, more diverse samples, longitudinal tracking of language development, and comparative studies across different digital ecosystems. Investigating how incidental acquisition interacts with formal education and exploring ways to design pedagogical interventions inspired by digital interaction patterns would further expand the practical and theoretical implications of this line of inquiry.

AUTHORS’ CONTRIBUTION

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; Investigation.

Author 3: Data curation; Investigation.

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