EXPLORING EMERGING BILINGUAL COMPETENCE AMONG INDONESIAN EFL UNIVERSITY STUDENTS: AN INTEGRATED PERSPECTIVE ON LINGUISTIC DEVELOPMENT AND COGNITIVE REGULATION

Mila Adela[1], Moh. Iqbal Firdaus[2], Nargis[3]
[1]mila.adela@umt.ac.id, [2]mfirdaus@umt.ac.id, [3]nargis@umt.ac.id
[1,2,3]Universitas Muhammadiyah Tangerang, Indonesia

Received: 30th April 2026 Revised: 22nd May 2026 Accepted: 29th June 2026

ABSTRACT Emerging bilingual development among EFL learners involves both linguistic development and cognitive regulation during communication. However, previous studies have often examined these dimensions separately, particularly in Indonesian higher education contexts. Understanding the interaction between linguistic and cognitive development is important because bilingual learning involves not only language proficiency but also attentional regulation and communication management. This study investigates how linguistic competencies and cognitive regulation interact in the development of emerging bilingual competence among Indonesian EFL university students, addressing the limited integration of linguistic and cognitive perspectives in bilingual development research. This study employed a qualitative multiple case study approach involving 15 EFL students representing different proficiency levels. Data were collected through interviews, classroom observations, and documentation and analyzed thematically. The findings revealed differences in both linguistic and cognitive development across participant groups. Beginner learners demonstrated stronger first-language influence, pronunciation difficulties, limited vocabulary, and simplified grammatical structures. Intermediate learners showed improved grammatical awareness and communicative flexibility, although inconsistencies remained during spontaneous communication. More advanced learners demonstrated greater syntactic complexity, semantic flexibility, and confidence in communication, although traces of first-language influence persisted. Across participant groups, attentional regulation, working memory, and language control played important roles in supporting vocabulary retrieval, communication management, and language production. The findings imply that EFL instruction should incorporate proficiency-sensitive strategies and cognitive support to facilitate emerging bilingual development among university learners. However, the findings should be interpreted within the context of the study's small sample size, qualitative design, and the absence of standardized proficiency measures.

Keywords: bilingualism, cognitive control, cross-linguistic influence, EFL learners, second language acquisition

INTRODUCTION

English proficiency has become increasingly important in Indonesian higher education, particularly as university students are required to engage with global academic communication and professional opportunities. Indonesia's linguistic landscape is uniquely complex, characterized by the coexistence of more than 700 living languages (Sukyadi & Hamied, 2020). Within this superglossic context, learners typically acquire Indonesian as the national language before engaging with English as a foreign language, resulting in continuous interaction among multiple linguistic systems (Lauder, 2008). As Sukyadi and Hamied (2020) note, English has increasingly assumed the role of a new high variety and center of normativity, intensifying linguistic negotiation and identity positioning among Indonesian learners. Within contemporary bilingualism research, bilingual competence is increasingly viewed as a developmental continuum rather than a fixed state of balanced proficiency. Learners who regularly engage with more than one language may demonstrate varying degrees of bilingual competence depending on their exposure, language use, and communicative experiences. In the Indonesian EFL context, university students frequently draw upon both Indonesian and English during academic and communicative activities. Although they may not possess native-like proficiency in both languages, they are known as developing emerging bilingual competence. This perspective allows bilingual development to be examined as a gradual linguistic process and cognitive growth rather than as complete bilingual mastery.

Within this multilingual context, English acquisition requires learners to negotiate multiple linguistic systems simultaneously, involving continuous interaction between first-language knowledge and second-language development (Basalaeva, 2025; Ortiz & Cehelyk, 2024). Previous research indicates that second language acquisition is strongly influenced by

learners' prior linguistic knowledge and proficiency, suggesting that the development of emerging bilingual competence is shaped by both linguistic transfer and cognitive regulation. Consequently, the development of bilingual abilities among EFL learners involves sustained linguistic, cognitive, and sociocultural adjustment rather than linear progression.

Li (2024) explains that second language development is influenced by the interaction between linguistic competence and cognitive control mechanisms, including attentional regulation and language management during communication. Similarly, Olkkonen et al. (2024) emphasize that bilingual learners develop language proficiency alongside cognitive processing abilities during communication. In addition, cross-linguistic interaction between the first language and the target language plays a significant role in shaping learners' language development across different linguistic domains. These perspectives indicate that bilingual second language acquisition toward emerging bilingual competence is a dynamic and multidimensional process involving the interaction between linguistic and cognitive factors.

From a developmental perspective, emerging bilingual development involves the interaction between cross-linguistic influence, cognitive regulation, and proficiency development (Basalaeva, 2025). Recent perspectives on bilingualism suggest that bilingual competence should not be limited to balanced or native-like proficiency in two languages. Rather, language learners who actively use more than one language for communication may also be viewed within a bilingual framework. English language learners often negotiate their identities and language abilities through the use of both their first language and English, indicating that bilingual competence can develop gradually through continued language learning and use (Wang, 2024). Therefore, in the present study, bilingualism is understood as the developing ability of learners to use both Indonesian and English for communication across academic and social contexts.

McManus (2022) argues that cross-linguistic influence affects learners' phonological, syntactic, morphological, and semantic performance, while Tang (2024) explains that cognitive control supports attentional management and language selection during communication. Recent research has expanded the understanding of bilingualism beyond balanced or native-like proficiency. In multilingual educational contexts, learners who use their first language while developing competence in an additional language may be viewed as emerging bilinguals. For example, Walla (2024) described Norwegian students learning English as a second language as emerging bilinguals because they actively engaged with both Norwegian and English during language learning and communication (Walla & Walla, 2025). Similarly, Indonesian EFL learners regularly draw upon both Indonesian and English in academic and communicative contexts. Therefore, this study adopts the concept of emerging bilingual competence to examine how learners develop linguistic and cognitive abilities while using and learning both languages.

Although the participants in this study are EFL learners rather than balanced bilinguals, the study adopts a developmental perspective that views bilingual competence as gradually emerging through continued exposure to and use of multiple languages. Therefore, the focus of this study is not on claiming fully developed bilingualism but on examining how linguistic and cognitive abilities develop as learners increasingly engage with English alongside Indonesian.

Accordingly, this study is guided by the following research questions: (1) How do linguistic competencies develop across different proficiency levels among EFL students at Muhammadiyah University Tangerang? (2) How do cognitive factors, particularly attentional regulation and language control, support the development of emerging bilingual competence across proficiency levels? By examining bilingual acquisition, the development of emerging bilingual competence across multiple proficiency stages, this study contributes to bilingualism research by connecting cognitive regulation with observable linguistic development in Indonesian higher education contexts. The findings are expected to inform pedagogical practices and curriculum design, offering empirically grounded insights into how English

instruction can be optimized to support learners at different stages of bilingual development in Indonesian higher education.

LITERATURE REVIEW

Emerging Bilingualism and Bilingual Competence

Emerging bilingualism refers to the gradual development of the ability to use more than one language for communication. Contemporary perspectives on bilingualism no longer view bilingualism as a fixed category that requires native-like proficiency in two languages. Instead, bilingual competence is increasingly understood as a continuum that develops through language exposure, language use, and communicative experience (Kremin & Byers-heinlein, 2021). Furthermore, multilingual and bilingual abilities are viewed as dynamic resources that evolve as learners engage with multiple languages across different educational and social contexts (Cross et al., 2022). From this perspective, EFL learners may be understood as developing emerging bilingual competence because they actively use and manage both their first language and English during communication and learning processes. Therefore, bilingual development in the present study is conceptualized as a gradual process of linguistic and cognitive growth rather than the attainment of complete or balanced bilingual proficiency (Kremin & Byers-heinlein, 2021).

Bilingual Cognitive Control and Language Regulation

Bialystok's (2017) Bilingual Cognitive Control Theory explains that bilingual language use involves executive control mechanisms responsible for attentional regulation, inhibitory control, working memory, and language switching during communication. According to Bialystok's (2017) Bilingual Cognitive Control Theory, bilingual individuals continuously manage two competing language systems through executive control processes such as inhibitory control, attentional shifting, and working memory regulation. These mechanisms allow bilingual speakers to select the target language while suppressing interference from the non-target language. From this perspective, bilingual learners must constantly activate and inhibit competing language systems depending on communicative demands, a process that directly influences language development and learning efficiency.

Based on the theories discussed above, the present study focuses on several linguistic and cognitive factors related to the development of emerging bilingual competence among EFL university students. The linguistic factors examined in this study include phonological, morphological, syntactic, and semantic development, particularly in relation to learners' language production and communication performance. Meanwhile, the cognitive factors explored in this study involve attentional regulation, working memory, inhibitory control, and language management during bilingual communication. These factors were selected because they are closely connected to the research objectives and reflect the development of emerging bilingual competence in EFL learning contexts. Olkkonen et al. (2024) and Grose-Hodge et al. (2024) suggest that bilingual learners with stronger attentional control and working memory tend to demonstrate greater fluency, faster lexical retrieval, and more efficient language management during second language communication

These cognitive components help learners manage different languages, especially when they need to focus, remember, and switch between languages during communication. Attentional regulation allows learners to maintain sustained focus on English use while inhibiting interference from the first language. Working memory supports the temporary storage and manipulation of lexical items and grammatical structures during language production, while language control enables learners to appropriately switch between languages according to communicative demands. Together, these cognitive mechanisms shape how bilingual learners process, produce, and regulate language throughout the developmental process of becoming bilingual (Bialystok, 2017).

Cross-Linguistic Influence in Second Language Development

Alongside cognitive regulation, bilingual development is also influenced by cross-linguistic interaction, where learners' first language affects second-language processing and production across multiple linguistic domains. Contemporary second language acquisition research conceptualizes this interaction as cross-linguistic influence (CLI), which affects phonological production, morphological formation, syntactic organization, lexical selection, and semantic interpretation during second language use (Lababa, 2024). In EFL contexts, CLI is commonly reflected through pronunciation difficulties, direct translation patterns, grammatical interference, and semantic transfer, which frequently appear during different stages of bilingual development.

Recent studies further that CLI extends beyond phonological, morphological, and syntactic dimensions to include semantic transfer, which plays a crucial role in lexical choice, meaning construction, and pragmatic interpretation in bilingual learners (Ballera & Beup, 2025; Basalaeva, 2025; Mcmanus, 2022). From this perspective, learners' first language influences not only how forms are structured but also how meanings are conceptualized and expressed in the target language.

Linguistic Development among Emerging Bilingual Learners

Linguistic development among emerging bilingual learners occurs across several interconnected domains, including phonological, morphological, syntactic, and semantic development. These domains represent essential components of language competence that develop gradually as learners gain greater exposure to and experience with the target language. Recent studies suggest that second language development progresses across these linguistic domains at different rates depending on learners' proficiency, language exposure, and communicative experience (Basalaeva, 2025). Furthermore, McManus (2022) explains that cross-linguistic influence affects phonological, morphological, syntactic, and semantic performance throughout the language learning process.

Phonological development refers to learners' ability to perceive, produce, and distinguish sounds in the target language, which is often influenced by the first language sound system in EFL contexts. Cross-linguistic influence frequently affects learners' pronunciation because phonological patterns from the first language are often transferred to the second language (McManus, 2022). Meanwhile, morphological development is closely related to learners' increasing awareness of grammatical rules and their ability to apply these rules during communication (Basalaeva, 2025). In addition, syntactic competence develops progressively as learners move from simple sentence patterns toward more complex grammatical constructions in the target language (Liu, 2023). Semantic development concerns learners' ability to understand, select, and use vocabulary appropriately beyond vocabulary size and includes the ability to interpret meaning, distinguish lexical nuances, and select contextually appropriate expressions. McManus (2022) argues that cross-linguistic influence can affect semantic development when learners transfer meanings directly from their first language into the target language. As proficiency develops, learners generally demonstrate greater lexical flexibility and more accurate meaning construction across different communicative situations. Therefore, understanding each linguistic domain is important for examining how emerging bilingual competence develops among EFL learners.

Developmental Nature of Emerging Bilingual Competence

Other bilingualism perspectives no longer view cross-linguistic influence solely as negative interference, but as part of a developmental restructuring process that changes as learners' proficiency increases. Empirical studies have demonstrated that structural differences between languages can initially hinder target language accuracy but may also facilitate learning as proficiency increases (Alfaifi & Saleem, 2024; Rafli & Murtadho, 2025).

Liu (2023) and Ballera and Beup (2025) explain that Bilingual development is characterized by uneven and non-linear progression, where certain linguistic skills may

develop faster than others depending on exposure, language dominance, learning experience, and cognitive adaptation. Research on the development of bilingual competence indicates that learners often display asymmetrical proficiency development, where certain language skills progress faster than others depending on initial language dominance and exposure (Liu, 2023). These findings suggest that bilingual proficiency develops gradually and cumulatively, with stronger linguistic systems influencing weaker ones through cross-language transfer (Ballera & Beup, 2025). Importantly, this perspective underscores that bilingual competence is dynamic and continuously reshaped across stages of learning.

Transitional instability frequently occurs during intermediate stages, as learners begin integrating grammatical knowledge with communicative performance while still relying partially on first-language structures (Liu, 2023). Although sociocultural factors such as motivation, identity, and language exposure have been recognized as important influences on bilingual development (Li, 2024; Ma, 2022), they are beyond the scope of the present study. Therefore, this study focuses specifically on linguistic competencies and cognitive regulation as the primary dimensions of emerging bilingual development among EFL university students.

Previous Studies on Linguistic and Cognitive Dimensions of Bilingual Development

Previous studies have examined bilingual development from both linguistic and cognitive perspectives. Liu (2023) investigated the development of bilingual competence and reported that language proficiency develops gradually across different linguistic domains. Similarly, Wong and Tian (2022) emphasized the importance of bilingual communication experiences in supporting language development. Other studies have explored the role of cross-linguistic interaction in shaping bilingual performance and language learning outcomes (Alfaifi & Saleem, 2024). From a cognitive perspective, Olkkonen et al. (2024) highlighted the contribution of attentional regulation and lexical processing to second language fluency, while Grose-Hodge et al. (2024) demonstrated the relationship between cognitive factors and bilingual language achievement. These studies suggest that linguistic development and cognitive regulation are both important components of bilingual competence.

However, most previous studies tend to focus on either linguistic outcomes or cognitive processes separately. Limited research has examined how linguistic competencies and cognitive abilities develop simultaneously among EFL learners, particularly across different stages of proficiency development within the same educational context.

Research Gap and Conceptual Framework

Although previous studies have contributed to understanding bilingual development, several limitations remain. First, many studies focus primarily on isolated linguistic outcomes such as grammar, vocabulary, or pronunciation without examining the cognitive processes that support language development. Second, studies investigating cognitive regulation often emphasize attentional control or executive functions without directly connecting these processes to observable linguistic development. Third, limited research has adopted a developmental comparative perspective to examine how linguistic and cognitive dimensions evolve across different proficiency levels among EFL learners within the same educational setting.

To address these gaps, the present study integrates linguistic and cognitive perspectives within a developmental framework of emerging bilingual competence. Specifically, the study examines how phonological, morphological, syntactic, and semantic development interact with attentional regulation, working memory, inhibitory control, and language management among Indonesian EFL university students. By comparing learners at different stages of English language learning, this study seeks to provide a more comprehensive understanding of emerging bilingual development in higher education contexts.

RESEARCH METHODS

Research Design

This study employed a qualitative multiple case study design to explore bilingual development among Indonesian EFL university students. A qualitative approach was selected to obtain an in-depth understanding of learners' linguistic and cognitive experiences across different proficiency levels, while the multiple case study design enabled cross-level comparison among beginner, intermediate, and advanced learners (Isik, 2025; K.Yin, 2018).

Research Participant

The participants consisted of 15 students from the English Education Study Program at Muhammadiyah University Tangerang during the 2024/2025 academic year. Purposive sampling was employed to select participants from second-, fourth-, and sixth-semester cohorts. These participants were subsequently grouped into beginner, intermediate, and advanced developmental categories based on their observed linguistic and cognitive performance during interviews and classroom observations.(Creswell, 2018).

Participant classification was conducted after the initial data collection process, including interviews and classroom observations. Rather than relying on a standardized language proficiency test, participants were grouped based on their observed linguistic and cognitive performance. Linguistic indicators included vocabulary range, grammatical complexity, pronunciation, fluency, and communication effectiveness, while cognitive indicators included attentional regulation, language control, self-monitoring, and communication management during language use. CEFR descriptors were used only as a supporting reference for interpreting linguistic performance and were not employed to assign formal CEFR proficiency levels. Based on these indicators, participants were categorized into beginner, intermediate, and advanced developmental groups to facilitate cross-case comparison. Therefore, these categories should be understood as developmental groupings rather than official CEFR classifications.

Table 1: Coding rubric for developmental participant grouping

Group	Linguistic Indicators	Cognitive Indicators
Beginner	Limited vocabulary, simple sentence construction, frequent pronunciation difficulties, strong reliance on direct translation	Frequent hesitation, reliance on L1 support, difficulty maintaining attention during communication
Intermediate	Increased vocabulary range, emerging grammatical accuracy, occasional code-switching, improved sentence complexity	Better attentional regulation, partial language control, reduced hesitation during communication
Advanced	Greater fluency, more complex sentence structures, broader vocabulary use, improved semantic flexibility	More efficient language management, stronger attentional control, greater communicative confidence

The indicators presented in Table 1 were used as analytical criteria during interviews and classroom observations. Participant grouping was not intended to establish formal proficiency levels but rather to identify developmental tendencies in linguistic and cognitive performance across different stages of English language learning. The categorization was derived from recurring patterns observed in participants' language use, communication behavior, and cognitive regulation during learning activities.

Data Collection

Data were collected through semi-structured interviews, classroom observations, and supporting documentation. Semi-structured interviews were conducted to explore participants' perceptions of bilingual development, language use, and cognitive challenges during English learning. Classroom observations were used to identify linguistic performance, interaction patterns, and language-switching behavior in authentic learning contexts. Supporting

documentation included students' academic materials and classroom records relevant to language learning activities.

Classroom observations were conducted during regular English learning sessions. The observations focused on students' language use, participation in classroom interactions, code-switching behavior, vocabulary use, grammatical performance, attentional focus, and communication management. Observation data were recorded through structured field notes based on the linguistic and cognitive indicators established in the study framework. These observations were subsequently compared with interview data to support participant classification and data triangulation.

Data Analysis

Data were analyzed using thematic analysis following the interactive model of Miles, Huberman, and Saldaña (2014), involving data reduction, data display, and conclusion drawing (Huberman, 2014). The analysis began with verbatim transcription of interview recordings and observation notes. The researchers conducted open coding by identifying meaningful segments related to linguistic development and cognitive regulation. Similar codes were then grouped into categories such as vocabulary development, grammatical development, attentional regulation, and language control. These categories were subsequently organized into broader themes representing linguistic factors and cognitive factors. Cross-case comparisons were conducted across beginner, intermediate, and advanced groups to identify recurring patterns and developmental differences.

The analysis began with transcription of interview recordings and observation notes. Open coding was first conducted to identify meaningful units related to linguistic development and cognitive regulation. Similar codes were then grouped into broader categories representing phonological, morphological, syntactic, semantic, attentional regulation, working memory, and language control factors. Subsequently, thematic patterns were developed by comparing categories across participant groups. The resulting themes were continuously reviewed and refined through repeated examination of the data to ensure consistency and alignment with the research questions.

To enhance analytical transparency, a coding framework was developed based on the study's linguistic and cognitive indicators derived from the interview and observation instruments. Each factor was assigned a specific code and used to classify recurring patterns identified in the data. The coding framework is presented in Table 2.

Table 2: Qualitative Coding Framework for Cognitive and Linguistic Factors Affecting English Speaking

Cognitive Factor	**Code**	**Sample Finding**
Attentional Regulation	ATT	Students reported difficulty maintaining focus when speaking English for extended periods.
Working Memory	WM	Students frequently forgot vocabulary during spontaneous communication.
Task Switching / Language Control	TS	Students switched to Indonesian when unable to express ideas in English.
Linguistic Factor	**Code**	**Sample Finding**
Phonological Transfer	PHO	Students acknowledged that their pronunciation remained influenced by an Indonesian accent.
Morphological Challenges	MOR	Students reported difficulties using tenses and verb forms correctly.
Syntactic Interference	SYN	Students admitted translating Indonesian sentence patterns into English.
Semantic Issues	SEM	Students often selected grammatically correct words that did not fit the intended meaning.

Following the coding process, similar codes were grouped into broader categories and subsequently organized into two major themes: Linguistic Factors and Cognitive Factors. The Linguistic Factors theme consisted of phonological transfer (PHO), morphological challenges (MOR), syntactic interference (SYN), and semantic issues (SEM). Meanwhile, the Cognitive

Factors theme included attentional regulation (ATT), working memory (WM), and task switching/language control (TS). These themes were then compared across participant groups to identify patterns, similarities, and differences in the development of emerging bilingual competence.

Trustworthiness and Ethical Consideration

To ensure trustworthiness, methodological triangulation was applied by comparing interview, observation, and documentation data. Member checking was conducted to confirm the accuracy of participants' responses and interpretations. Cross-case analysis was also employed to compare findings across different proficiency groups and strengthen analytical consistency (Creswell, 2018). To enhance analytical credibility, coding decisions were reviewed repeatedly throughout the analysis process. The consistency of thematic categorization was strengthened through comparison of interview, observation, and documentation data, ensuring that themes reflected recurring patterns across multiple sources.

All participants voluntarily agreed to participate in this study and provided informed consent prior to data collection. Participant identities were anonymized using coded labels (e.g., R1, R2) to maintain confidentiality and protect personal information throughout the research process.

FINDINGS AND DISCUSSION

Findings

Linguistic Development Across Proficiency Levels

The results show that students' linguistic competencies develop progressively across semesters, although the development is not strictly linear. The development observed in this study covers phonological, morphological, syntactic, and semantic aspects, which evolve differently across proficiency levels. Based on the classification of participants, 33.3% of the respondents are categorized as beginner learners, 33.3% as intermediate learners, and 33.3% as advanced learners. This distribution reflects the composition of participants across different semester levels, including second semester (beginner), fourth semester (intermediate), and sixth semester (advanced). The balanced distribution allows for a clearer comparison of linguistic and cognitive development across different stages of becoming bilingual.

Participants were grouped into beginner, intermediate, and advanced developmental categories based on their observed linguistic and cognitive performance during interviews and classroom observations. These categories were used to facilitate comparison across participant groups and should be understood as developmental groupings rather than formal proficiency classifications.

Linguistic Development of Beginner Level Learners

Students in the second semester can be categorized as beginner learners (A1–A2 level), as they demonstrate strong first language interference, particularly in pronunciation and basic sentence construction. Most participants relied on direct translation from Indonesian and experienced difficulty producing unfamiliar English sounds. This is reflected in the following responses:

"I usually translate from Indonesian first before speaking." (R2, Semester 2)

"Some English words are difficult to pronounce." (R4, Semester 2)

Classroom observations further revealed difficulties across several linguistic domains. At the phonological level, learners frequently hesitated when pronouncing unfamiliar consonant clusters and vowel sounds. Morphologically, students often omitted grammatical markers and demonstrated limited control of verb forms. Syntactically, direct translation from Indonesian frequently resulted in non-target-like sentence structures, such as "I very like English." Semantically, limited vocabulary restricted learners' ability to express ideas precisely, causing them to rely heavily on familiar words and Indonesian translations.

Linguistic Development of Intermediate Level Learners

At the fourth semester, students can be categorized as intermediate learners (B1–B2 level), as they demonstrate noticeable improvement in grammatical awareness and vocabulary use, although their performance remains inconsistent in spontaneous communication. This is evident in the following responses:

"I know the grammar, but sometimes I forget when speaking." (R3, Semester 4)
"Sometimes I mix English with Indonesian." (R1, Semester 4)

Observation data showed that intermediate learners demonstrated improved pronunciation and vocabulary use compared to beginner learners. Morphological awareness was also more evident through attempts to apply tense forms and grammatical markers, although inconsistently. Syntactic development was reflected in the production of longer and more varied sentence structures. Semantically, learners were able to convey more complex meanings; however, occasional word-choice inaccuracies and code-switching were still observed during spontaneous communication.

Linguistic Development of Advanced Level learners

In the sixth semester, students can be categorized as advanced learners, as they demonstrate greater fluency, improved sentence complexity, and better control of meaning, although traces of first language influence are still present. However, traces of first language influence were still present, as reflected in the following responses:

"I feel more confident, but I still think in Indonesian sometimes." (R2, Semester 6)
"For complex sentences, I still need time to think." (R5, Semester 6)

Classroom observations indicated greater control across linguistic domains. Participants demonstrated more accurate pronunciation, broader vocabulary use, and greater flexibility in expressing ideas. Morphological and syntactic accuracy were generally higher, allowing learners to produce more complex utterances. Nevertheless, traces of first-language influence remained visible in certain situations, particularly when discussing unfamiliar topics or constructing cognitively demanding messages.

Cognitive Development Across Proficiency Levels

In addition to linguistic growth, the findings indicate that students' cognitive abilities, particularly attentional regulation and language control, develop alongside their proficiency level. Students in the second semester (beginner level) reported experiencing high cognitive load when using English. They needed to consciously process vocabulary, grammar, and meaning simultaneously, which often slowed down communication. This is reflected in the following responses:

"I have to think about vocabulary and grammar at the same time." (R1, Semester 2)
"It takes time to understand and answer." (R3, Semester 2)

These responses indicate that beginner learners relied heavily on controlled processing and experienced challenges in attentional regulation, working memory, and language management. Learners frequently reported difficulty retaining vocabulary while simultaneously constructing sentences. Classroom observations also revealed frequent pauses, hesitations, and switches to Indonesian when learners were unable to retrieve appropriate English expressions.

At the fourth semester (intermediate level), students showed improved ability to regulate attention and maintain communication:

"I understand faster now, but still need time to respond." (R2, Semester 4)
"Sometimes I switch to Indonesian when speaking." (R4, Semester 4)

In addition to improved attentional regulation, intermediate learners demonstrated stronger working memory capacity by retaining and applying vocabulary and grammatical knowledge more effectively during communication. However, observation data indicated that language switching remained common when learners encountered unfamiliar vocabulary or

complex ideas.

In the sixth semester, students demonstrated more automatic language processing and greater control over language switching:

"Speaking English feels more natural now." (R1, Semester 6)

"Simple conversations are easier now." (R3, Semester 6)

These responses suggest that advanced learners perceived communication in English as more manageable and less cognitively demanding compared to beginner learners. Advanced learners demonstrated greater efficiency in attentional regulation, working memory, and language management. Observation data showed fewer communication breakdowns and more successful retrieval of vocabulary during spontaneous interaction. Learners were also better able to maintain English use without frequent reliance on Indonesian, indicating stronger language control and more automatic processing.

Integration of Linguistic and Cognitive Development

The findings indicate that linguistic and cognitive development are closely interconnected across proficiency levels. Students with higher linguistic competence also demonstrated better attentional control and language management. At the beginner level, limited linguistic knowledge increased cognitive burden, making language processing slower and less efficient. At the intermediate level, improvements in linguistic knowledge reduced cognitive load, allowing for more stable communication. At the advanced level, both linguistic competence and cognitive control became more integrated, resulting in more fluent and flexible language use.

Table 3: Linguistic and Cognitive Profiles Across English Proficiency Levels

Proficiency Level	Linguistic Characteristics	Cognitive Characteristics
Beginner	Strong L1 interference, limited vocabulary, pronunciation difficulties	High cognitive load, slower processing
Intermediate	Improved grammar awareness, inconsistent fluency	Better attentional management
Advanced	Greater fluency, semantic flexibility	More efficient communication management

The table summarizes the relationship between linguistic competence and cognitive development across proficiency levels. The findings show that improvements in linguistic ability are accompanied by more efficient attentional regulation and communication management throughout the bilingual development process.

The findings suggest that cognitive regulation may facilitate linguistic development by reducing the mental effort required for language processing. As learners become more capable of maintaining attention, retrieving vocabulary, and managing interference from Indonesian, they can allocate more cognitive resources to constructing accurate grammatical structures and expressing meaning effectively. The findings showed that participants who demonstrated stronger linguistic performance also tended to display better attentional regulation, working memory, and language management. Across proficiency groups, improvements in linguistic competence were accompanied by improvements in cognitive regulation.

Learners' Perceptions of Emerging Bilingual Competence

A significant finding of this study is that students across all levels perceived themselves as being in an ongoing process of becoming bilingual. This perception is directly reflected in their responses during the interview:

"Yes, I can understand and use two languages in daily life" (R1)

"Yes, I feel that I am in the process of becoming bilingual because I can communicate using English and Indonesian" (R2)

"Yes, I do. I can understand and communicate in both languages" (R3)

These responses reflect how participants perceive their developing ability to use Indonesian and English in everyday communication. However, these perceptions should not be

interpreted as evidence of fully developed bilingual competence. Rather, they provide insight into learners' awareness of their ongoing language development. The findings suggest that perceptions of emerging bilingual competence evolve alongside improvements in linguistic and cognitive abilities, reflecting increasing confidence and engagement with both languages.

Therefore, in this study, becoming bilingual is not defined as achieving perfect mastery but as an ongoing process of developing the ability to manage and use two languages effectively in different contexts. This finding indicates that bilingualism develops gradually through continuous interaction between linguistic experience and language use.

Discussion

Linguistic Development and Cross-Linguistic Influence

Linguistic Characteristics of Beginner-Level Learners

This finding suggests that first-language reliance is not merely a limitation but rather an important cognitive and linguistic strategy that supports early-stage language production. Learners use their first language as a scaffold to compensate for limited lexical and grammatical resources, allowing them to maintain communication despite constraints. This extends Basalaeva (2025), who argues that early-stage learners rely heavily on their first language, by showing that such reliance also reflects adaptive strategies in managing cognitive load. In addition, McManus (2022) emphasizes that cross-linguistic influence at this stage is dominant because learners have not yet developed stable second language representations, which further explains the strong dependency observed in this study. One possible explanation is that beginner learners have not yet developed sufficiently automatic access to English vocabulary and grammatical structures. As a result, Indonesian serves as a cognitive support system that helps learners organize meaning before expressing it in English. Rather than representing failure to use the target language, first-language reliance may function as a transitional strategy that enables communication while linguistic resources are still developing.

Linguistic Characteristics of Intermediate-Level Learners

This suggests that linguistic development at the intermediate level is characterized by a gap between knowledge and performance**.** Learners may possess explicit grammatical knowledge, but their ability to retrieve and apply it automatically during communication is still limited. This condition reflects the ongoing restructuring of linguistic systems, where learners are gradually integrating form and meaning. This aligns with Liu (2023), who states that intermediate learners often experience transitional instability. Furthermore, Ballera (2025) and Beup highlight that linguistic development at this stage is uneven, particularly between grammatical accuracy and communicative fluency, which is also evident in the findings of this study. This gap may occur because declarative knowledge develops faster than procedural knowledge. Learners may understand grammatical rules and vocabulary conceptually but still struggle to access them rapidly during real-time communication. Consequently, intermediate learners often demonstrate greater knowledge than performance, reflecting a period of restructuring rather than stable language mastery.

Linguistic Characteristics of Advanced-Level Learners

These findings suggest that language development remains dynamic even among more proficient learners. Rather than representing a final stage of development, advanced learners continue to negotiate interactions between Indonesian and English, particularly in cognitively demanding situations. This finding highlights the continuous and non-linear nature of language development that supports Alfaifi and Saleem (2024), who argue that advanced learners continue to experience subtle cross-linguistic influence, particularly in semantic and pragmatic aspects. Moreover, Rafli and Murtadho (2025) emphasize that bilingual development is cumulative rather than replacing the first language system entirely, which is clearly reflected in this study.

Cognitive Regulation in Bilingual Development

Cognitive Characteristics of Beginner-Level Learners

This finding suggests that limited linguistic resources increase cognitive demands, requiring learners to allocate more attentional effort during language production**.** As a result, communication becomes slower and less efficient. This is consistent with Grose-Hodge et al. (2024) and Ebubeogu and Kabare (2025), who highlight that beginner learners require significant attentional effort due to limited working memory capacity. Limited working memory capacity may contribute to communication difficulties because learners must simultaneously retrieve vocabulary, monitor grammatical accuracy, and formulate meaning. These multiple demands increase cognitive load and reduce fluency during communication.

Cognitive Characteristics of Intermediate-Level Learners

These findings suggest the development of attentional flexibility and better language control. This indicates that learners are beginning to develop more efficient cognitive strategies in managing two language systems. Although processing is still partially controlled, learners are better able to allocate attention and maintain communication. This aligns with Tang (2024) and Ma (2022), who explain that cognitive control becomes more stable at this stage, although not yet fully automatic. Improvements in working memory appear to support more efficient retrieval of linguistic information, enabling learners to maintain communication despite occasional breakdowns. However, the persistence of code-switching suggests that language control mechanisms are still developing.

Cognitive Characteristics of Advanced-Level Learners

This suggests that increased proficiency leads to more efficient cognitive processing and reduced cognitive load during communication. Learners are able to process language more automatically, especially in familiar contexts, although complex tasks still require effort. This finding aligns with Li (2024), who argues that advanced bilingual learners exhibit more efficient executive control. Increased proficiency leads to greater lexical automaticity and improved fluency in second language use (Olkkonen et al., 2024). Importantly, these findings indicate that cognitive abilities play a significant role in influencing both the rate and quality of language acquisition. More effective language management among advanced learners may reflect increased automaticity in lexical retrieval and sentence planning. This allows learners to allocate fewer cognitive resources to basic language processing and more resources to communicative goals.

Integration of Linguistic and Cognitive Development

This pattern suggests that linguistic and cognitive development do not occur independently, but interact dynamically throughout the process of becoming bilingual. Improvements in one domain support development in the other, creating a mutually reinforcing relationship. This is consistent with recent studies in bilingualism, which emphasize the interaction between linguistic knowledge and cognitive processes (Mithra & Padmanabhan, 2025). It also aligns with Wong and Tian (2022), who argue that bilingual development is shaped by both cross-linguistic interaction and cognitive regulation. Furthermore, this categorization is theoretically supported by CEFR descriptors, which emphasize progressive development of fluency, automaticity, and reduced cognitive load across proficiency levels (Council of Europe, 2020).

Importantly, this finding directly addresses the research gap identified in this study, which highlights the lack of research integrating linguistic competencies and cognitive abilities across different proficiency levels. By showing how these two dimensions develop simultaneously, this study contributes to a more comprehensive understanding of bilingual development in higher education contexts. This interaction can be explained through the role of cognitive regulation in supporting language processing. Attentional regulation enables

learners to focus on relevant linguistic input while minimizing distraction from competing language systems. Working memory assists learners in temporarily storing and manipulating vocabulary and grammatical structures during communication, whereas language control helps manage interference from the first language. As these cognitive processes become more efficient, learners can devote greater cognitive resources to producing accurate and meaningful language. Consequently, cognitive development may facilitate linguistic development by improving the efficiency of language processing and communication management.

Learners' Perceptions of Emerging Bilingual Competence

The findings do not suggest that participants have achieved fully developed bilingual competence. Instead, they reveal how learners perceive their own language development as they increasingly use Indonesian and English in different contexts. These perceptions provide insight into learners' developing linguistic identity and confidence rather than serving as objective evidence of bilingual status. This perspective is consistent with developmental approaches to bilingualism, which view bilingual competence as gradually emerging through continued language use and exposure rather than appearing as a fixed achievement. Therefore, in this study, becoming bilingual is not defined as achieving perfect mastery but as an ongoing process of developing the ability to manage and use two languages effectively in different contexts. This finding indicates that bilingualism develops gradually through continuous interaction between linguistic experience and language use.

CONCLUSION

This study explores how linguistic competencies and cognitive abilities develop among Indonesian university students learning English. The results show that language development occurs across multiple aspects, although the process is not always linear. This study explored how linguistic competencies and cognitive abilities develop among Indonesian university students learning English. The findings indicate that linguistic development occurs across phonological, morphological, syntactic, and semantic domains, while cognitive development is reflected in attentional regulation, working memory, and language control. The results suggest that these dimensions develop gradually and interact dynamically rather than progressing through strictly separated stages. Participants demonstrated varying developmental tendencies, highlighting the complex and evolving nature of language learning in EFL contexts.

Theoretically, this study contributes to EFL and bilingual development research by demonstrating that emerging bilingual competence can be understood as the interaction between linguistic development and cognitive regulation rather than solely as the attainment of language proficiency. By integrating linguistic and cognitive perspectives within a developmental framework, this study provides a more comprehensive understanding of how EFL learners gradually develop the ability to use two languages in communication. Practically, the findings may serve as a reference for English language teachers and curriculum designers in understanding bilingual development among EFL learners. The study highlights the importance of addressing not only linguistic competencies but also cognitive factors such as attentional regulation, working memory, and language management when supporting students' language development.

Despite its contributions, this study has several limitations. First, the study involved a relatively small number of participants from a single university, which may limit the transferability of the findings to other educational contexts. Second, participant grouping was based on observed linguistic and cognitive performance rather than objective proficiency measures, and no standardized language proficiency test was administered. Finally, the study relied primarily on qualitative interview and observation data collected within a specific institutional setting. Future studies are therefore encouraged to involve larger participant groups, incorporate objective proficiency assessments, apply longitudinal or mixed-method approaches, and explore bilingual development across diverse educational contexts.

REFERENCES

Alfaifi, A. A., & Saleem, M. (2024). Negative transfer and delay in proficiency development: L1-influenced syntax issues faced by Arab EFL learners. *Bilingual Publishing Group Forum for Linguistic Studies*, *06*(04), 42–57.

Ballera, M. B., & Beup, E. C. (2025). Basic interpersonal communication skills, cognitive academic language proficiency, and language proficiency of grade 10 students. *Journal Interdisciplinary Perspectives*, *3*(8), 547–555.

Basalaeva, N. (2025). Bilingualism and personality. *Lund University*.

Bialystok, E. (2017). Psychological Bulletin. *American Psychological Association*, *3*(143), 233–262. https://dx.doi.org/10.1037/bul0000099

Council of Europe. (2020). *Understanding your English level*. British Council.

Creswell, J. W. (2018). *Research design: Qualitative, quantitative, and mixed method approaches* (Vicki Knight, S. Connelly, L. Habib, Sarah K. Quesenberry, & M. P. Scott (eds.); Third Edit).

Cross, R., Jacqueline, D., Slaughter, Y., & Cross, R. (2022). *Plurilingualism and language and literacy education*. 341–357.

Ebubeogu, M. C., & Kabare, T. P. (2025). Impact of bilingualism on learning English as a Second Language for English proficiency students : A Case study of Tangaza University foreign students. *International Journal of Linguistics*, *6*(2), 17–47.

Grose-hodge, M., Dabrowska, E., & Divjak, D. (2024). Bilingual acquisition during school years : predictors of achievement in the societal and heritage language. *Frontiers in Language Sciences*.

Huberman, M. B. M. and A. M. (2014). *Qualitative data analysis: A Method sourcebook (H. Salmon, K. Perry, K. Koscielak, & L. Barrett (eds.); Third Edit)*. SAGE Publications, Inc.

Isik, O. (2025). Qualitative Research approaches and data collection methods : Understanding meaning and experience. *Journal of Humanities and Education Development (JHED)*, *7*(6), 19–32.

K.Yin, R. (2018). *Case Study research and applications: Design and Methods*.

Kremin, L.V., & Byers-heinlein, K. (2021). *Why not both ? Rethinking categorical and continuous approaches to bilingualism*. https://doi.org/10.1177/13670069211031986

Lababa. (2024). From challenge to resource: Understanding cross-linguistic influence in SLA. *Lingua: Journal of Linguistics and Language*, *2*(2), 88–101.

Lauder, A. (2008). The status and function of English in Indonesia : a review of key factors. *Makara, Sosial Humaniora*, *12*(1), 9–20.

Li, J. (2024). The Implications of acculturation model theory on foreign language classroom teaching. *Frontiers in Educational Research*, *7*(6), 11–15. https://doi.org/10.25236/FER.2024.070602

Liu, L. (2023). The literacy development of English language learners in a transitional bilingual education program. *Frontiers in Educational Research*, *6*(5), 56–62. https://doi.org/10.25236/FER.2023.060511

Ma, Q. (2022). The Role of the Schumann acculturation model in Generation Z English Acquisition context. *Atlantis Press Advances in Social Science, Education and Humanities Research*, *631*(SDMC 2021), 1282–1285.

McManus, K. (2022). *Book Review: Crosslinguistic influence and second language learning*. *12*(3), 509–513.

Olkkonen, S., Snellings, P., Veivo, O., & Lintunen, P. (2024). Cognitive fluency in L2 : The effect of automatic and controlled lexical processing on speech rate. *Journal of Psycholinguistic Research*, *53*(5), 1–17. https://doi.org/10.1007/s10936-024-10099-0

Ortiz, S. O., & Cehelyk, S. K. (2024). The bilingual is not two monolinguals of the same age : Normative testing implications for multilinguals. *Journal of Intelligence*.

Rafli, Z., & Murtadho, F. (2025). Parental strategies in managing L1 interference in early second language acquisition : an intrinsic case study. *JOLLT Journal of Languages and*

Language Teaching, *13*(2), 616–631.

Mithra S.G.S.M., & Padmanabhan, A. (2025). Exploring the impact of bilingual education on student outcomes : A qualitative student-centric approach. *Science Talks*, *15*(July), 100476. https://doi.org/10.1016/j.sctalk.2025.100476

Gnana Sanga S

Sukyadi, D., & Hamied, F. A. (2020). English language education in Indonesia : A review of research (2011 – 2019) English language education in Indonesia : A review of. *Cambridge University Press*, *July*, 1–33. https://doi.org/10.1017/S0261444820000208

Walla, D., & Walla, D. (2025). Metalinguistic awareness in the multilingual EFL classroom : a study of grade 5 – 7 students in Norway. *International Journal of Multilingualism*, *22*(2), 944–959. https://doi.org/10.1080/14790718.2024.2340035

Wang, H. L. (2024). *Japanese ESL learners' self-perceptions of being bilingual*. 101–113.

Wong, K. M., & Tian, Z. (2022). Chinese-English dual language bilingual education in the United States **美国中英双**语沉浸式教学. *Journal of Multilingual and Multicultural Development*, *43*(6), 477–486. https://doi.org/10.1080/01434632.2022.2092627