



Section 1. Applied Linguistics

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A CRITICAL REVIEW OF THE OPTIMAL AGE TO START LEARNING ENGLISH AS A FOREIGN LANGUAGE

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Abstract

Young learners encounter challenges in acquiring English as a foreign language (EFL) due to the demands of their social, cognitive and linguistic development. The central issues are determining the appropriate age at which young learners should be introduced to EFL to align their developmental readiness with the demands of language acquisition. This literature review explored empirical and theoretical studies on various determinants of EFL uptake among children and the optimal age suitable for young learners to learn English as a foreign language. The findings support that this age balances brain plasticity with cognitive maturity, improves psychosocial motivation for competence and consolidates L1 resources while supporting transfer. The findings also demonstrate that L1 mastery and environmental scaffolding are critical when considering age. The optimal timing is the alignment of readiness, exposure and support. The review also highlights the necessity of a supportive environment and effective scaffolding in translating developmental readiness into successful outcomes. The review contributes to the field by aligning biological, cognitive, social and environmental factors to the optimal age debate as a multidimensional concern, without a gender-specific focus. The review will guide educators and policy makers in designing language learning environments that maximize the benefits of this critical window.

Keywords: *Psycholinguistics, Sociolinguistics, Second Language Acquisition, EFL*

1. Introduction

Young learners encounter challenges in acquiring English as a foreign language (EFL) due to the demands of their social, cognitive and linguistic development (Hernandez, et al., 2021; Sanchez-Alonso & Aslin, 2022; Xue, 2020). The presence of a first

language (L1) base can hinder their ability to grasp English when they are developing their ability to think critically and differentiate languages (Hernandez, et al., 2021). The central issue is determining the appropriate age at which young learners should be introduced to EFL to align their developmental

readiness with the demands of language acquisition. It is important to identify the optimal age for EFL learning due to its impact on long term proficiency of learners. The most appropriate age when these learners ought to be taught is especially significant for academic achievement and social integration in English speaking nations where children of immigrant families are required to adapt to English as the medium of instruction (Sanchez-Alonso & Aslin, 2022; Xue, 2020). Besides, the global lingua franca status of English makes early acquisition a critical determinant of future educational and professional opportunities in non-English speaking countries (Ali, 2020). Educators can design curricula that maximizes learning outcomes by understanding the age at which learners have attained cognitive and linguistic readiness; children may experience confusion and shallow understanding if they are introduced to English too early before mastery of their L1; in contrast, older learners may struggle with entrenched L1 patterns that limit English proficiency, cross-cultural communication and academic success when they are introduced late (Ali, 2020). Therefore, inaction may hinder future opportunities for the learners by perpetuating inequalities in language learning outcomes. This literature review explores empirical and theoretical studies on various determinants of EFL uptake among children and the optimal age suitable for young learners to learn English as a foreign language.

2. Empirical review

Empirical studies support that the age period between 5 to 12 is favourable to start learning English as a foreign language because children's cognitive development provides an optimal foundation for language acquisition. Learners at this stage have developed the mental structures required to process new linguistic input while benefiting from the flexibility of early brain development. Menks et al. (2024) examined a sample of 8–25-year-olds using behavioural measures and found significant improvement in grammar learning accuracy across childhood with adolescents demonstrating increased working memory and language networks. These findings demonstrate an acceleration in brain systems in late child-

hood and early adolescence that support extraction capacities that are key dimensions of EFL learning. Porsch et al.'s (2023) study on German students who began English in early primary grades against the later grades found that early starters had advantages in Year 9 reading and listening comprehension. Early starters formed the basic understanding of the core elements of English when exposed to a structured learning environment. However, learning at this age demands consistent engagement since learners need to be encouraged to commit their attention to understanding the differences between their first language (L1) and English (Munoz, 2007). Setting timelines for practice is essential to improve their understanding and limit interference from the native language, since L1 affects how learners acquire and process English.

The concern regarding the optimal age to begin learning English as a Foreign Language is associated with children's cognitive and linguistic development. Empirical studies emphasize that language learning demands the coordination of syntax, semantics and working memory which makes age-related cognitive readiness a key factor in successful acquisition. Prael et al. (2024) found that learners with consolidated L1 knowledge were able to construct L2 grammar through implicit transfer and conscious reflections. Tóth-Fáber et al. (2021) found that children's implicit statistical learning skills created long term representations of linguistic input that enable stable acquisition of new language rules. These findings demonstrate that EFL learning is based on pre-existing linguistic resources rather than beginning a fresh; indicating that children can accelerate their L2 learning when they already manipulate grammatical rules in their L1. Besides, recent acquisition of L1 provides young learners with developmental momentum that improves their ability to acquire EFL. Menks et al. (2024) observed that learners between 6–8 years had a high sensitivity to grammar structures due to their cognitive freshness of their recent L1 acquisition. Zhou et al. (2024) reported a significant increase in working memory and statistical learning ability among learners aged between 5 and 8 years. These findings demonstrate that recent experiences in mastering L1 structures leave children prepared to understand patterns

and construct meaning in L2. Porsch et al. (2023) found that learners who were effective communicators in their L1 improved in their EFL listening and interaction tasks due to their ability to formulate ideas and negotiate meaning in L1. The ability of young learners to share and communicate their ideas in their language and English language demonstrates their language understanding which appears to develop as they acquire more experience in writing and speaking of the language. Therefore, empirical studies highlight that the ideal age to start learning English as a foreign language relate with the level at which children consolidate their L1; studies associate this age with heightened cognitive readiness, capacity for L1-L2 transfer, instructional scaffolding and the momentum of recent L1 acquisition.

The effectiveness of starting EFL relies on the linguistic environment surrounding the learner. The cultural identity of the local language shapes learners' motivation and aptitude for learning English. A supportive environment such as community, school and home provides exposure to English in a meaningful context and fosters the desire to engage with the language. Seo and Lim (2024) explored how parents' proficiency and home English use affect bilingual development among Korean EFL learners, and found that learners whose homes provided English interaction outperformed peers in early English tasks. Li, Kong, and Zhang, (2024) found that home resources such as informal English learning and caregivers' belief in the value of early English learning shaped Chinese pre-schoolers' attitude towards EFL. Choi et al., (2023) used audio environmental analysis to compare preschool language exposure among English monolingual children and found a significant correlation between adult-child conversational turns, frequency of L1 and L2 speech in the home environment with children's receptive language ability. Juanda et al., (2024) used structural equation modelling to determine how learners' perception of parents' support affect their task engagement in EFL. Juanda et al., (2024) found that supportive home, school and peer relationship environments have a significant influence on engagement among younger learners in elementary schools. Engagement in turn influences whether early exposure and L1 mastery drive improvement.

Children are motivated and perceive value in EFL practice and engagement through environmental exposure. These findings suggest that learners who are embedded in homes, schools and communities with literacy sources, parental support and exposure to English demonstrate gains in engagement – environmental support is a necessary condition for early age advantages.

Learners attain the benefits from starting EFL when they are immersed in a supportive linguistic environment. Learners at ages 5 and 10 have developing metalinguistic awareness and L1 stability to navigate grammatical and phonemic contrast between L1 and L2. Nakao, Oga-Baldwin, and Fryer (2024) explored phoneme-grapheme recognition among Japanese school learners in grades 3–6 and observed a significant improvement in phoneme-grapheme correspondences as learners advanced in school years. There was an initial gap between learners whose orthography and phoneme recognition differed from English but the gap reduced when instruction included training on contrasts and grapheme sound rules. Seo and Lim (2024) achieved a significant improvement in English phoneme discrimination and listening when Korean elementary EFL learners were exposed to a training intervention that combined variability phonetic training features. Nguyen and Zeichner (2021) expanded on this view by demonstrating how learners' linguistic diversity demanded teachers to accommodate the challenges presented by different L1 backgrounds. For example, learners whose L1 lack specific phonemic contrast found in English may experience initial struggles with pronunciation while those whose L1 share structural similarities with English may progress quicker in grammar. It appears that learners at the age of 5 to 10 are able to recognize and negotiate these differences based on their growing metalinguistic awareness.

3. Theoretical review

Vygotsky's theories of learning and social interaction propose that young learners need support from society and older member groups in their learning trajectories (Taber, 2025; Widiastuti et al., 2023). According to Vygotsky's sociocultural theory, students can improve their behavioural disposition

when they get societal support and individual social realities define learning (Taber, 2025). Vygotsky also suggested the Zone of Proximal Development (ZPD) as a foundation for understanding how young learners thrive in learning language (Irshad et al., 2021). Erikson's theory of personality extends this argument by demonstrating how learning and development in children occurs in their early life (Kesavelu, Sheela, & Abraham, 2021). This section explores theoretical studies that may position young learners at an advantage in new language acquisition; including Vygotsky's Flow theory, Erickson's Theory of Personality, and Piagetian developmental theory and their effect on language acquisition among EFL learners of a young age.

Vygotsky's Zone of Proximal Development (ZPD) outlines the significance of scaffolding in learning where students move beyond their existing abilities with the support of knowledgeable teachers or peers (Irshad et al., 2021; Xi, & Lantolf, 2021). ZPD is among the most effective concepts in education psychology and language that was introduced in the early 20th century. The ZPD describes the developmental space between what learners can attain independently and what they can accomplish with the guidance of a knowledgeable peer (Gehlot, 2021; Irshad et al., 2021). ZPD's construct presents learning as a socially mediated interaction where family members, peers, or teachers provide the required scaffolding to extend the learners' competence. ZPD in the context of EFL demonstrates social and cognitive language acquisition that demands learners to participate in guided and collaborative interactions (Xi, & Lantolf, 2021). Younger learners, between the age of 5 and 10, may arguably be more open to guidance and feedback than some older learners who have higher resistance to expose their cognitive limitations; increased openness among younger learners allows them to benefit from scaffolding and show progress in independent mastery of English.

Theoretical studies have extended Vygotsky's original idea to various field such as second language acquisition, literacy development and general education. Ebadi et al., (2021) used ZPD to demonstrate scaffolding as the main approach through which learners' progress, where teachers encourage effort and

engagement in optimal tasks that are above learners' current level without overwhelming them. Portnova, Rebreikina, and Martynova (2022) used ZPD to argue how learners benefit from feedback when the targets structures are beyond their independent performance. McCafferty and Rosborough (2023) theorized that ZPD extended in multimodal environment when language learners engage with digital tools, visuals and gestures. These theoretical studies depict ZPD in the context of its expansion across modalities, adaptability to different social actors and reliance on scaffolding. ZPD's central argument that learners can reach more achievement with support than alone. The theory proposes that scaffolding is not providing help but providing assistance to challenge learners at a level beyond their independent abilities. Tasks fall outside the ZPD and fail to promote growth when they are easy, however, difficult tasks may cause disengagement or anxiety; therefore, effective teaching demands an alignment with the learners' developmental readiness. ZPD places peers and teachers at the centre of scaffolding where they are required to serve in a collaborative learning environment. Therefore, ZPD emerges as reciprocal learning dynamics where learners scaffold each other in alternative roles rather restricting them to hierarchical relationships. Khezrlou (2023) suggested that developmental aspects of ZPD are effective when learners are cognitively prepared to engage in scaffolding activities.

Jean Piaget's developmental theory provides an explanation to how children acquire knowledge, reason and adapt to their environment cognitively (Bodrova & Leong, 2024). Piaget proposed that children develop through four phases of sensorimotor, preoperational, concrete operational and formal operational (Culduz, 2023). Piaget identified the sensorimotor phase (Birth – 2 years) as the foundational stage where children develop objective performance (Waite-Stupiansky, 2022). The sensorimotor phase establishes a foundation for symbolic reasoning and later language acquisition. The preoperational stage (age 2–7) lays a foundation for children to use symbols, language and images to represent their world (Waite-Stupiansky, 2022). Piaget (1952) described that children during this phase demonstrate growth in symbolic functions but

struggle with logical operations. The concrete operational phase (age 7–11) is defined by children's ability to develop logical reasoning regarding real-world concepts; this period is beneficial for EFL learning since learners can now understand grammar, sentence structures and logical relationships between L1 and L2. The formal operational phase (age 12 and above) allows children to use abstract, hypothetical and systematic reasoning regarding problems (Culduz, 2023). Piaget (1952) describes this stage as the period where older learners engage in metacognition and reflect on their learning processes. The formal operational phase for EFL implies that older learners analyse grammar, and apply strategies (Pakpahan & Saragih, 2022). However, these learners encounter more L1 interference during accent acquisition than younger learners. The preoperational stage is ideal for implicit learning such as absorbing vocabulary, phonology and pragmatic activities because statistical learning and symbol use are emergent competencies (Waite-Stupiansky, 2022). However, the preoperational stage hinders explicit discovery since learners below 7 years struggle with abstract grammar explanations and metalinguistic problems that require logical operations.

Erikson's theory of personality extends Sigmund Freud's argument regarding the development of the psychosocial sense of individuals from childhood (Shreyas et al., 2024). Erikson's theory provides a foundation that associated age-connected and social emotional challenges with learning readiness (Alam & Nirma, 2021; Lika, 2024; Shreyas et al., 2024). Each cycle of childhood growth highlights a psychosocial conflict that children need to resolve to form an identity and motivation. The social conflicts are intertwined with cognitive and affective processes that determine second language acquisition (SLA). The cycles of Initiative vs. Guilt (ages 3–5) and Industry vs. Inferiority (ages 6–12) are critical when introducing EFL for young learners (Marunda-Piki, 2022). The natural curiosity and imagination of the children engender receptivity to communicative EFL during the initiative stage. However, instruction at this stage should focus on encouragement rather than correction because they are sensitive to failure or criticism, hence chil-

dren may develop guilt and withdraw from engagement if they experience repeated frustration (Bano & Abubakar, 2022). The industry stage (ages 6–12) avails a foundation for sustained EFL acquisition because learners crave validation and competence from peers. This psychosocial need aligns with structured EFL instructions that contribute to their sense of achievement such as successful mastery of vocabulary, grammar or communicative tasks (Lika, 2024). Teachers can help children build linguistic competence by providing ground learning activities, constructive feedback and scaffolding.

4. Discussion

Empirical findings demonstrate that ages between 5 and 12 are the ideal developmental stage for starting to learn EFL; this range is in line with children's receptiveness to environmental scaffolding, metalinguistic awareness and cognitive abilities. The empirical review showed that cognitive factors in SLA, such as working memory, attention control, statistical learning, phonological awareness and nonverbal intelligence, influence how learners perceive and process a second language. Menks et al (2024) found that learning grammar improved through late childhood with accelerated brain systems to support the process of linguistic extraction. Similarly, Zhou et al. (2024) noted an increase in working memory among learners aged 5–8. Porsh et al (2023) affirmed that learners who begun English in their early primary school outperformed late starters in reading and listening comprehension. These findings support the argument that early exposure offers and advantage to the early learning of foundational skills that accumulate over time. Prael et al. (2024) confirmed that statistical learning skills allowed children to form durable linguistic representation. Empirical studies also reported that environment played a role with Seo and Lim (2024) reporting how EFL learners with English use at home outperformed peers in bilingual tasks. Li et al (2023) demonstrated that caregivers' attitudes determined motivation among young learners. These empirical findings affirm that environmental exposure and motivation are critical conditions for early age advantages to be realized. Phonological studies

also affirm that ages 5–10 allow learners to negotiate linguistic contrast better. Nakao et al., (2024) reported improved phoneme-grapheme correspondence in grade 3–6. Nguyen and Zeichner (2021) reported the need for teachers to accommodate a diversity of L1 backgrounds since learners whose L1 lacks English phonemic contrasts struggle initially while those with structural similarities advance faster.

While empirical findings agree on the benefits of beginning EFL between ages 5 and 12, they diverge on their determination of exactly when; for instance, Menks et al. (2024) suggest older learners benefit from maturation changes because of the improved working memory and language networks. However, Porsch et al (2023) indicated that early exposure yields cumulative benefits by retaining long-term advantages in listening and reading. Although older learners provide advanced cognitive systems, benefits are associated with the foundational scaffolding of early childhood. Prael et al. (2024) and Toth-faber et al. (2021) suggest a balance between starting early and ensuring L1 stability by emphasizing consolidation of L1 as a prerequisite of EFL success. While a late start loses the benefit of developmental momentum, an early start risks confusion when L1 is not solidified. Theoretical models of Vygotsky, Piaget, and Erikson support some of the findings. For instance, ZDP's focus on scaffolding aligns with empirical findings that demonstrate learners aged 5 to 10 are more open to guidance than adolescents. Piaget's concrete operational stage (ages 7–11) supports the findings that middle childhood learners excel in semantics through logical reasoning and understanding of grammatical structures. Erikson's industry phase (ages 6–12) aligns with the findings that structured EFL tasks build confidence by highlighting learners' motivation to achieve validation and competes. The findings advance the debate regarding the ideal age to start EFL by integrating cognitive, linguistic and environmental perspectives with theoretical frameworks of development. The empirical findings agree that ages 5–12 constitutes the ideal age for development and indicate a flexible but optimal window that is determined by multiple factors unlike earlier arguments of a rigid critical period: the findings move the discussion solely from biologi-

cal variables to the integration of sociocultural and environmental determinants.

5. Research Implications

Inclusivity of diversity in EFL entails creating a learning environment where all learners have access to equal opportunities to succeed regardless of linguistic background, cultural identity or proficiency level. Inclusivity for young learners is important because this developmental window has been demonstrated to be an optimal age for beginning EFL. Although children between 5 and 12 years are cognitively ready to acquire new linguistic systems, their progress can be limited by discriminatory practices that devalue non-native speakers. Learners may miss critical opportunities to practice when they perceive their accent, vocabulary or grammar to be undervalued or mocked. Such discrimination disrupts ZDP's emphasize on the role of supportive interaction by eroding trust between learners and instructors. Policies that support inclusivity can limit these risks by safeguarding children against language-based prejudice. Besides, the societal pressures for EFL learners to assimilate may exacerbate the inferiority. Inclusive policies that prohibit language-based discrimination and focus on training teachers in culturally responsive pedagogy will ensure learners feel valued.

The recognition of linguistic diversity and support for L1 and L2 should be considered when assessing the ideal age to start EFL. L1 of young learners at the ages of 5 to 12 is developed to serve as a scaffold for English learning but does not limit their acquisition of L2. The lack of understanding linguistic diversity can hinder developmental advantages for young learners. For instance, strategies that discourage L1 use may increase learner frustration when phonemic structures differ from English. In contrast, teaching approaches that build on learners' native languages allow them to use existing cognitive models to internalize new ones. Vygotsky's (1978) sociocultural theory supports the use of cultural and linguistic tools in learning. Besides, teachers can accelerate comprehension by integrating L1 comparisons into lessons to provide learners with anchors for abstract concepts. For instance, drawing parallels between verb conjugation in English

and Spanish can help learners internalise rules effectively (Menks et al. (2024).

6. Conclusion

The central issue is determining the appropriate age at which young learners should be introduced to EFL to align their developmental readiness with the demands of language acquisition. Identifying the optimal age for EFL learning is important because of its effect on the long-term proficiency of learners (Hernandez, et al., 2021; Sanchez-Alonso & Aslin, 2022). The issue of optimal age has implications for academic achievement and social integration in English speaking nations where children or immigrant families are required to adapt to English as the medium of instruction. Both empirical and theoretical findings suggest that 5 to 12 years is the ideal age to start learning EFL; findings support that this age balances brain plasticity with cognitive maturity, improves psychosocial motivation for competence and consolidates L1 resource while supporting language knowledge transfer. The findings also demonstrate that L1 mastery and environmental scaffolding are critical when considering age, emphasising the necessity of a supportive environment and effective pedagogical scaffolding in translating devel-

opmental readiness into successful outcomes (Field, 2023) The review contributes to the field by aligning biological, cognitive, social and environmental factors to the optimal age debate as a multidimensional concern. Learners who start late may undermine EFL outcomes by facing entrenched L1 interferences, reduced openness to scaffolding and less motivation to practice (Prela et al., 2024; Toth-faber et al., 2021). The review will guide educators and policy makers in designing language learning environment that maximizes the benefits of this critical window.

The strength of this study includes the use of the multidimensional approach to explore the optimal age for EFL learning. Both empirical and theoretical reviews provide a holistic framework for understanding EFL learning. The study strengthens the validity of conclusion on claims regarding age and EFL. However, the study's claim regarding the optimal age may require future investigation since some studies found that early starters outperformed late starters (Porsh et al., 2023), while other studies suggest that later learners catch up in adulthood when motivation is high (Menks et al., 2024). Besides, future research should explore under-investigated role effective factors such as gender, identity, motivation and anxiety on age effect.

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