

Psycholinguistics and Language Learning in the 21st Century: Theoretical and Empirical Perspectives

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Publication details, including author guidelines

URL : <https://jurnal2.unimen.cloud/index.php/majesty>

Editor : Dr. Asbar, M.Pd.

Article History

Received: May 2026

Revised: May 2026

Accepted: June 2026

How to cite this article (APA)

Mantasiah, M., Wahyuni, S., & Samad, I. S. (2026). Psycholinguistics and Language Learning in the 21st Century: Theoretical and Empirical Perspectives. *Maspul Journal of English Studies*, 8(1), 52–58. <https://doi.org/10.33487/majesty.v8i1.118>

The readers can link to article via <https://doi.org/10.33487/majesty.v8i1.118>

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Maspul Journal of English Studies (Majesty)

ISSN 2657-0157 (Electronic)





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Article History:

Received: May 2026

Revised: May 2026

Accepted: June 2026

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CITATION:

Mantasiah, M., Wahyuni, S., & Samad, I. S. (2026). Psycholinguistics and Language Learning in the 21st Century: Theoretical and Empirical Perspectives. *Maspul Journal of English Studies*, 8(1), 52–58.

<https://doi.org/10.33487/majesty.v8i1.118>

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ABSTRACT

Background. Psycholinguistics plays an important role in explaining how individuals acquire, process, understand, and produce language through various cognitive mechanisms.

Purpose. This study aims to examine the role of psycholinguistics in language learning and language development by integrating theoretical foundations and recent empirical findings.

Methods. It employed a literature review method using data from peer-reviewed journal articles published between 2020 and 2025, as well as seminal books and theoretical works in psycholinguistics relevant to the topic. The selected literature focused on language learning, language acquisition, cognitive processes, social interaction, affective factors, and digital technology in language education. Data were analyzed descriptively and critically to identify major concepts, research trends, and practical implications.

Results. The findings indicate that language learning is influenced by the interaction of cognitive, social, and affective factors. Working memory, attention, and information processing contribute significantly to language acquisition, while social interaction and positive affective conditions support language development and communicative competence. Empirical evidence also demonstrates that digital technologies enhance cognitive engagement, vocabulary retention, and personalized learning experiences.

Conclusion. The study concludes that psycholinguistics serves not only as a theoretical framework for understanding language processes but also as a practical foundation for developing effective, adaptive, and learner-centered language learning strategies in the digital era.

KEYWORDS

Psycholinguistics; language learning; language development; cognitive factors; digital learning

INTRODUCTION

Language is one of the most complex and fundamental cognitive abilities in human life. Through language, individuals can

express ideas, establish social relationships, develop knowledge, and transmit values and culture across generations. The use of language involves not only the mastery of

vocabulary and grammatical rules but also a range of mental mechanisms that enable individuals to comprehend, store, process, and produce speech effectively. Therefore, the study of the relationship between language and mental processes is essential for understanding how humans communicate and learn languages (Harley, 2021).

One field of study that specifically examines the relationship between language and mental processes is psycholinguistics. Psycholinguistics is an interdisciplinary field that integrates linguistics, psychology, and cognitive science to explain how language is acquired, processed, understood, and produced by humans (Harley, 2021). Psycholinguistic research encompasses various aspects, including first and second language acquisition, speech perception, phonological processing, meaning comprehension, linguistic memory, and language production. Through these investigations, psycholinguistics provides deeper insights into the cognitive mechanisms underlying human language abilities.

In the context of language learning, psycholinguistics makes a significant contribution to explaining how learners acquire and develop language skills. Numerous studies have shown that cognitive factors such as working memory, attention, phonological perception, and information-processing abilities play crucial roles in successful language acquisition (Baddeley, 2012; Wang, 2023). Working memory enables learners to store and manipulate linguistic information during the learning process, while attention helps them allocate cognitive resources to relevant information. Consequently, the success of language learning is determined not only by the quality of instructional materials but also by

learners' ability to process the linguistic information they receive.

In addition to cognitive factors, social and affective factors also play important roles in language development. The social interactionist perspective emphasizes that language develops through interactions between individuals and their environment (Vygotsky, 1978). Interactions with teachers, peers, and the wider community provide learners with opportunities to use language in authentic communicative contexts. Furthermore, affective factors such as motivation, self-confidence, and language-learning anxiety influence learners' level of engagement in the learning process. Dewaele and Li (2020) argue that positive emotional conditions can enhance participation and language performance, whereas high levels of anxiety may hinder the learning process.

Technological advancements in the twenty-first century have further expanded the application of psycholinguistics in language learning. The use of digital media, learning applications, online communication platforms, and artificial intelligence-based technologies has transformed the way learners acquire and process linguistic information. Research conducted by Klimova and Pikhart (2023) indicates that digital language learning can provide cognitive benefits, including increased learner engagement, enhanced memory, and greater flexibility in the learning process. Moreover, technology enables learners to access more diverse language input tailored to their individual learning needs.

Although numerous studies have examined the relationship between psycholinguistics and language learning, most have focused on specific aspects in isolation, such as working memory, vocabulary acquisition, social interaction, or the use of technology in language learning. Studies that integrate

psycholinguistic theoretical foundations with recent empirical findings on language learning and language development remain relatively limited. A comprehensive synthesis is needed to provide a more holistic understanding of how cognitive, social, affective, and technological factors interact in supporting language development.

Based on these considerations, this study aims to examine the role of psycholinguistics in language learning and language development through a review of relevant theoretical foundations and empirical findings. This review is expected to provide a more comprehensive understanding of the contribution of psycholinguistics to explaining language acquisition and development processes, as well as its implications for developing more effective, adaptive, and learner-centered language learning strategies in the context of twenty-first-century education.

Research Questions

To address the identified gap and provide a comprehensive synthesis of existing knowledge, this review is guided by the following research questions:

- RQ1: What theoretical foundations of psycholinguistics explain language learning and language development?
RQ2: What empirical evidence supports the role of psycholinguistic factors in language learning and language development?
RQ3: What are the future directions and implications of psycholinguistic research for language learning in the twenty-first century?

METHOD

Research Design

The study adopted a literature review design. This design focused on identifying, reviewing, and synthesizing scholarly

literature related to psycholinguistics, language learning, and language development. The review incorporated both theoretical and empirical studies to explore current knowledge, research trends, and future directions in the field. The selected literature was examined critically to identify recurring themes and establish connections among existing findings.

Participants

Since this study employed a literature review design, no human participants were involved. The units of analysis consisted of six empirical studies selected from scholarly publications related to psycholinguistics, language learning, and language development. These studies were retrieved from academic databases, including Google Scholar, ERIC, and ScienceDirect, as well as reputable international journals.

The selected studies were chosen because they provided empirical evidence addressing cognitive, social, affective, and technological dimensions of language learning and development. In addition, several seminal theoretical works in psycholinguistics were included to support the interpretation of findings and the development of the discussion section.

Instrument

The primary research instrument was a literature review protocol developed by the researchers. The protocol was used to identify, select, organize, and evaluate relevant literature. The review process focused on several criteria, including relevance to psycholinguistics and language learning, publication quality, recency of publication, and contribution to the objectives of the study. A data extraction matrix was also employed to record key information from each source, including research objectives, methodology, major findings, and implications.

Data Collection Procedures

Data collection was conducted through a systematic literature search using keywords such as *psycholinguistics*, *language learning*, *language development*, *language acquisition*, *cognitive processes*, and *psycholinguistic theory*. The search primarily focused on peer-reviewed publications published between 2020 and 2024 to identify recent empirical evidence relevant to the research topic.

The literature selection process was guided by predefined inclusion and exclusion criteria. The inclusion criteria were: (1) empirical studies examining psycholinguistic aspects of language learning or language development; (2) peer-reviewed publications published between 2020 and 2024; (3) studies addressing cognitive, social, affective, or technological factors related to language learning; and (4) studies providing findings relevant to the research questions. The exclusion criteria included publications unrelated to psycholinguistics, studies lacking empirical evidence, duplicate records, and inaccessible full-text sources.

Following the screening process, six empirical studies were selected for analysis. To provide a comprehensive conceptual framework, several seminal theoretical works in psycholinguistics were also reviewed and used to support the interpretation of the findings.

Data Analysis

The collected data were analyzed using content analysis techniques. Each selected source was reviewed thoroughly to identify key concepts, theoretical perspectives, empirical findings, and emerging research trends. The findings were then classified into major themes, including theoretical foundations of psycholinguistics, cognitive factors in language learning, social and

affective factors in language development, technology-enhanced language learning, and future perspectives of psycholinguistic research. To enhance the trustworthiness of the review, source triangulation was employed by comparing findings and perspectives across different studies. The synthesized findings served as the basis for the discussion and conclusions of the study.

RESULTS

The analysis of the selected literature revealed four major categories of empirical evidence regarding the contribution of psycholinguistics to language learning and language development. These categories include cognitive factors, social factors, affective factors, and technology-enhanced language learning. The findings demonstrate that psycholinguistic principles influence language learning outcomes through multiple interconnected mechanisms operating at cognitive, social, emotional, and technological levels.

Empirical Evidence of Cognitive Factors in Language Learning

The reviewed studies consistently highlight the importance of cognitive processes in language learning. Wang (2023) found that learning strategies involving meaningful repetition, memory activation, and information organization improve vocabulary retention and facilitate the understanding of foreign language structures. Similarly, Roembke et al. (2023) reported that vocabulary acquisition becomes more effective when learners encounter words in multiple communicative contexts. These findings indicate that memory and information-processing abilities play crucial roles in successful language acquisition.

Empirical Evidence of Social Factors in Language Development

The reviewed literature also demonstrates the importance of social interaction in language development. Verga and Kotz (2021) reported that social interaction contributes to the formation of language representations and communicative competence. Interaction with teachers, peers, and the surrounding environment provides opportunities for authentic language use and supports the development of linguistic and pragmatic skills.

Empirical Evidence of Affective Factors in Language Learning

Affective variables emerged as another important theme in the reviewed literature. Dewaele and Li (2020) found that learners with higher levels of motivation and positive learning experiences generally achieve better language performance. Conversely, language anxiety was identified as a factor that may reduce learners' willingness to communicate and negatively affect learning outcomes.

Empirical Evidence of Technology and Language Learning in the Twenty-First Century

The reviewed studies suggest that technology has become an important component of contemporary language learning. Klimova and Pikhart (2023) found that digital learning environments enhance learner engagement, strengthen cognitive functions, and support flexible learning experiences. Furthermore, Pikhart et al. (2023) reported that digital media can improve vocabulary retention and facilitate more effective language learning in certain educational contexts.

DISCUSSION

Theoretical Foundations of Psycholinguistics in Language Learning

The findings of this review support the central assumptions of psycholinguistic theory, which emphasize the role of cognitive processes in language acquisition and development. Psycholinguistics examines how individuals acquire, comprehend, store, and produce language through complex mental mechanisms (Harley, 2021). The reviewed evidence demonstrates that successful language learning is closely associated with learners' ability to process, retain, and retrieve linguistic information.

Theoretical explanations of language learning can be traced to several influential perspectives. Behaviorism views language as a learned behavior shaped through stimulus, response, and reinforcement (Skinner, 1957). In contrast, Chomsky's (1965) nativist theory argues that humans possess an innate capacity for language acquisition through the Language Acquisition Device (LAD). Piaget (1952) further explains that language development is closely linked to cognitive development, whereas Vygotsky (1978) emphasizes the role of social interaction and sociocultural experiences. Together, these perspectives suggest that language development results from the interaction of biological, cognitive, and environmental factors.

The findings regarding memory and information processing also support Baddeley's (2012) concept of working memory, which functions as a temporary system for storing and manipulating linguistic information. This perspective aligns with information processing theory, which views language learning as a process involving input reception, information processing, storage in long-term memory, and retrieval during communication.

Interactions Among Cognitive, Social, and Affective Factors

The reviewed studies indicate that language learning is a multidimensional process influenced by the interaction of cognitive, social, and affective factors. Cognitive abilities enable learners to process linguistic information, while social interaction provides opportunities for meaningful language use. At the same time, affective variables such as motivation, self-confidence, and anxiety influence learners' engagement and willingness to communicate.

These findings suggest that effective language learning environments should not focus solely on linguistic input but should also encourage meaningful interaction and provide psychological support for learners. Such an approach is consistent with contemporary learner-centered language education.

Implications of Digital Technology for Psycholinguistics and Language Learning

The findings also demonstrate that technological developments have expanded the application of psycholinguistic principles in language education. Digital platforms provide learners with multimodal input, immediate feedback, and personalized learning opportunities. These features support cognitive processes involved in language acquisition and contribute to increased learner engagement.

From a psycholinguistic perspective, technology-assisted language learning can be viewed as an extension of cognitive and social learning environments. The integration of digital tools with psycholinguistic principles therefore offers promising opportunities for enhancing language learning effectiveness in contemporary educational settings.

Future Perspectives

Advances in artificial intelligence, neurolinguistics, and educational technology are expected to further strengthen the contribution of psycholinguistics to language education. Adaptive learning systems, intelligent tutoring technologies, and brain-imaging research may provide deeper insights into how learners process language and how instruction can be tailored to individual cognitive characteristics.

Future research should continue exploring the integration of psycholinguistics, cognitive science, and educational technology to develop more effective, personalized, and evidence-based language learning practices.

CONCLUSION

This literature review demonstrates that psycholinguistics provides a strong theoretical foundation for understanding the processes of language learning and language development. Various psycholinguistic theories explain that language ability is influenced not only by linguistic exposure but also by cognitive processes involving working memory, attention, perception, and information processing. Therefore, understanding the mental mechanisms underlying language processing is essential for the development of more effective language learning strategies.

The synthesis of previous studies indicates that successful language learning is influenced by the interaction of cognitive, social, and affective factors. Cognitive factors help learners process, store, and use linguistic information, while social factors provide opportunities to use language in authentic communicative contexts. In addition, affective factors such as motivation, self-confidence, and levels of language-learning anxiety influence

learners' engagement in the language learning process. These findings suggest that language learning is a multidimensional process involving various psychological aspects and learning environments.

This review also reveals that the advancement of digital technology has expanded the application of psycholinguistic principles in language learning. The use of digital media, online learning platforms, and artificial intelligence-based technologies offer opportunities to create more personalized, interactive, and adaptive learning experiences that accommodate learners' individual characteristics. Consequently, psycholinguistics serves not only as a conceptual framework for explaining language processes but also as a practical foundation for developing language learning in the digital era. The integration of psycholinguistics, educational technology, and cognitive science is expected to remain an important direction for future research and practice in language education.

Acknowledgment

Acknowledgements, funding information and declaration of competing interests have been removed for blind review.

Conflict of Interest

The authors declare that they have no conflict of interest.

Author Contributions

Author contributions has been withheld for the purpose of maintaining reviewer anonymity and will be included in the supplementary title page.

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