

A NEUROLINGUISTIC APPROACH TO ADDRESSING STUDENTS' DIFFICULTIES IN ARABIC MORPHOLOGY (SHOROF): A CASE STUDY AT STAINU KOTABUMI LAMPUNG

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Abstract

This study aims to examine the application of a neurolinguistic approach in overcoming students' difficulties in shorof learning at STAINU Kotabumi. Students encounter significant challenges in memorizing, recognizing derivation patterns, and applying Arabic morphological rules, particularly tashrif patterns, in their daily speaking and writing practices. This study employs a qualitative case study design, with Arabic shorof lecturers and students enrolled in shorof courses serving as informants. Data were collected through classroom observation and in-depth interviews, then analyzed using thematic analysis techniques. The findings reveal that the neurolinguistic approach assists students in comprehending shorof learning through the optimization of brain functions in language processing. The reinforcement of the nervous system in linguistic aspects is capable of integrating the brain's role in shorof learning across cognitive, affective, and psychomotor dimensions. The application of neurolinguistic strategies, including multi-sensory learning techniques and repetition-based memory reinforcement, proved effective in facilitating students' mastery of tashrif patterns while simultaneously enhancing their motivation and active engagement throughout the learning process. Thus, the neurolinguistic approach as a pedagogical alternative in Arabic morphology learning is capable of maximizing students' potential through the optimization of brain functions. This approach has broad implications for the development of Arabic language learning in Islamic higher education, particularly in strengthening shorof studies in a more systematic and sustainable manner.

Keywords: Neurolinguistics, Shorof, Arabic Morphology, Learning difficulties, Case study

Abstrak

Penelitian ini bertujuan untuk mengkaji penerapan pendekatan neurolinguistik dalam mengatasi kesulitan mahasiswa dalam pembelajaran shorof di STAINU Kotabumi. Mahasiswa mengalami kesulitan dalam menghafal, mengenali pola derivasi, dan menerapkan kaidah morfologi bahasa Arab, khususnya pola tashrif, dalam praktik berbicara dan menulis sehari-hari. Penelitian ini menggunakan pendekatan studi kasus kualitatif, dengan informan adalah dosen pengampu mata kuliah shorof dan mahasiswa yang mengikuti pembelajaran shorof. Data dikumpulkan melalui observasi kelas dan wawancara mendalam, kemudian dianalisis menggunakan teknik analisis tematik. Hasil penelitian menunjukkan bahwa pendekatan neurolinguistik membantu mahasiswa

dalam memahami pembelajaran *shorof* melalui optimalisasi fungsi otak dalam memproses bahasa. Penguatan sistem saraf pada aspek kebahasaan mampu mengintegrasikan peran otak terhadap kemampuan belajar *shorof* dalam aspek kognitif, afektif, dan psikomotorik. Penerapan strategi neurolinguistik yang meliputi teknik pembelajaran multisensori dan penguatan memori berbasis pola berulang terbukti memudahkan mahasiswa dalam menguasai pola-pola *tashrif*, sekaligus meningkatkan motivasi dan keterlibatan aktif dalam proses pembelajaran. Dengan demikian, pendekatan neurolinguistik sebagai alternatif pedagogis dalam pembelajaran morfologi bahasa Arab mampu meningkatkan potensi mahasiswa yang bertumpu pada optimalisasi kerja otak. Pendekatan ini berimplikasi luas terhadap pengembangan pembelajaran bahasa Arab di perguruan tinggi Islam, khususnya dalam penguatan kajian *shorof* secara lebih sistematis dan berkelanjutan.

Kata kunci: Neurolinguistik, *Shorof*, Morfologi bahasa Arab, Kesulitan belajar, Studi kasus

INTRODUCTION

Arabic occupies a central position in Islamic education because it functions not only as a means of communication but also as the principal language through which Muslims access the Qur'an, the Sunnah, and the vast corpus of classical Islamic scholarship (*turāth*). Mastery of Arabic therefore represents an essential academic competency for students enrolled in Islamic higher education institutions. Most primary references in Islamic theology, jurisprudence, Qur'anic exegesis, hadith studies, and other branches of Islamic sciences continue to be written in Arabic, requiring students to possess sufficient linguistic competence to comprehend authentic religious texts accurately. Consequently, Arabic language instruction within Islamic universities should not merely emphasize communicative competence but also develop students' analytical ability to understand the linguistic structures underlying classical Islamic literature (Azra, 2021).

Among the various branches of Arabic linguistics, *shorof* (Arabic morphology) occupies a particularly strategic position because it provides the foundation for understanding the formation, transformation, and derivation of Arabic words. Morphology enables learners to identify morphological patterns (*awzān*), recognize derivational relationships among words, and interpret semantic changes resulting from different morphological structures. A comprehensive understanding of *shorof* allows students to analyze Arabic texts systematically, identify grammatical functions, and infer lexical meanings more accurately. Consequently, mastery of Arabic morphology contributes significantly to students' overall reading comprehension, linguistic accuracy, and interpretation of Islamic sources (Huda, 2020).

Unlike other components of Arabic grammar, *shorof* requires learners to understand highly systematic yet complex derivational processes. Students are expected to memorize numerous morphological patterns, recognize their transformations across different grammatical contexts, and apply these patterns productively in reading, writing, and speaking. Such demands require not only memorization but also higher-order cognitive processing involving pattern recognition, categorization, abstraction,

and long-term retention. Therefore, successful mastery of *shorof* depends largely on how learners organize linguistic information cognitively rather than on simple repetition of grammatical formulas.

Despite its fundamental importance, Arabic morphology remains one of the most challenging subjects for students enrolled in Islamic higher education institutions throughout Indonesia. Many students perceive *shorof* as an abstract discipline dominated by extensive memorization and highly technical terminology. The complexity of Arabic derivational systems, combined with numerous morphological variations and exceptions, frequently overwhelms learners, particularly those without previous educational experience in Islamic boarding schools (*pesantren*). As a result, many students memorize morphological paradigms mechanically without understanding the linguistic principles governing morphological transformations. Such learning habits ultimately hinder students' ability to apply morphological knowledge when reading authentic Arabic texts or interpreting religious literature.

The difficulties encountered in learning *shorof* have been widely acknowledged within Arabic language education. Students commonly experience problems recalling *tashrīf* patterns, distinguishing among similar derivational structures, identifying root words within authentic texts, and applying morphological rules appropriately in different linguistic contexts. These learning difficulties extend beyond simple memory limitations and reflect broader cognitive challenges associated with processing complex linguistic information. Since Arabic morphology requires learners to integrate visual recognition, phonological processing, semantic interpretation, and grammatical reasoning simultaneously, ineffective instructional strategies may significantly reduce students' learning outcomes.

Unfortunately, conventional approaches to teaching *shorof* continue to rely predominantly on rote memorization and repetitive drills. Instruction is frequently centered on memorizing morphological paradigms without providing meaningful contextual experiences that facilitate conceptual understanding. Students often memorize extensive lists of morphological forms without comprehending the logical relationships connecting one pattern to another. Consequently, knowledge acquired during classroom instruction tends to remain isolated within short-term memory and is easily forgotten when students encounter authentic Arabic texts requiring flexible application of morphological principles.

From a cognitive perspective, this instructional model appears inconsistent with contemporary understandings of how the human brain processes language. Recent developments in neuroscience and educational psychology demonstrate that meaningful learning occurs when learners actively construct knowledge through multisensory experiences, contextual understanding, emotional engagement, and repeated retrieval within authentic situations. Learning strategies emphasizing only mechanical memorization frequently fail to establish durable neural connections necessary for long-

term language acquisition. Therefore, the persistent difficulties experienced by students may result not only from the inherent complexity of Arabic morphology but also from instructional approaches that inadequately accommodate learners' cognitive characteristics.

A similar situation was identified at STAINU Kotabumi, an Islamic higher education institution located in North Lampung Regency, Lampung Province. Preliminary classroom observations conducted during the second semester of the 2026–2027 academic year revealed that most students experienced substantial difficulties mastering Arabic morphological patterns. Although they could reproduce several memorized *tashrīf* tables during classroom exercises, many students struggled to recognize identical patterns when they appeared in authentic Arabic sentences. They frequently failed to identify root words correctly, misunderstood derivational relationships, and demonstrated uncertainty when analyzing unfamiliar vocabulary encountered in Islamic reference materials.

Furthermore, classroom observations indicated that students tended to perceive *shorof* as a subject requiring extensive memorization rather than conceptual understanding. Many participants admitted that they attempted to memorize complete *tashrīf* paradigms without understanding why particular morphological transformations occurred. Consequently, their knowledge remained fragmented and highly dependent upon textbook examples. When confronted with new sentence structures or unfamiliar vocabulary, they often became confused because they lacked sufficient conceptual understanding of Arabic morphological systems.

These instructional challenges have broader academic implications. Weak mastery of Arabic morphology directly affects students' ability to read classical Islamic literature, interpret Qur'anic verses accurately, analyze prophetic traditions, and understand scholarly arguments presented in Arabic. Since morphology functions as one of the fundamental linguistic components supporting reading comprehension, inadequate morphological competence ultimately limits students' academic performance across numerous Islamic disciplines. Therefore, improving *shorof* instruction represents an urgent priority for Islamic higher education institutions seeking to strengthen students' scholarly competencies.

In response to these challenges, the present study proposes a neurolinguistic approach as an alternative instructional framework for improving Arabic morphology learning. Neurolinguistics offers an interdisciplinary perspective integrating neuroscience, linguistics, cognitive psychology, and language education to explain how the human brain processes, stores, retrieves, and produces linguistic information. Rather than emphasizing memorization alone, neurolinguistic instruction seeks to optimize learners' cognitive potential by designing learning experiences consistent with natural brain functioning. Such an approach encourages meaningful learning through multisensory

engagement, contextual understanding, pattern recognition, emotional involvement, and repeated retrieval practices that strengthen long-term memory formation.

The application of neurolinguistic principles appears particularly relevant to Arabic morphology because *shorof* itself consists of systematic morphological patterns requiring learners to recognize structural regularities rather than memorize isolated forms. When instructional activities stimulate multiple sensory modalities while simultaneously activating analytical reasoning and long-term memory processes, students are expected to develop stronger conceptual understanding of morphological relationships. Consequently, Arabic morphology may become more meaningful, less intimidating, and more applicable within authentic language contexts.

Based on these considerations, this study addresses two primary research questions. First, what forms and characteristics of learning difficulties do students at STAINU Kotabumi experience while studying *shorof*? Second, how can a neurolinguistic approach be implemented to overcome these learning difficulties, and which neurolinguistic instructional strategies most effectively improve students' mastery of Arabic morphological patterns? These research questions guide the investigation toward understanding both the cognitive obstacles encountered by students and the pedagogical solutions that may facilitate more effective Arabic morphology instruction.

Previous studies have provided valuable foundations for the present investigation while simultaneously revealing important research gaps. Jailani et al. (2021) demonstrated that neurolinguistic approaches improve Arabic language learning by optimizing brain functions associated with cognitive, affective, and psychomotor development. Similarly, Rizki (2025) argued that linguistically informed instructional models considering learners' cognitive characteristics significantly enhance Arabic language acquisition. More specifically, Sulaikho, Yasmar, and Shofiyani (2023) identified students' limited understanding of morphological terminology, insufficient exposure to derivational examples, and confusion regarding multiple word forms as primary obstacles in learning Arabic morphology. Meanwhile, Rahmawati and Anwar (2021) reported that the Visual, Auditory, and Kinesthetic (VAK) learning model significantly improved Arabic learning achievement through multisensory instructional experiences.

Although these studies collectively demonstrate the importance of cognitive and multisensory approaches in Arabic language instruction, research specifically integrating neurolinguistic theory into the teaching of *shorof* within Islamic higher education remains remarkably limited. Existing investigations have generally examined Arabic language learning from broader perspectives without focusing specifically on morphological instruction or investigating how neurolinguistic principles can address the unique cognitive challenges associated with Arabic derivational systems. Consequently, empirical evidence concerning neurolinguistic-based *shorof* instruction at Islamic universities remains insufficient.

Accordingly, this study seeks to fill this research gap by investigating the implementation of a neurolinguistic approach to *shorof* instruction at STAINU Kotabumi. The study contributes both theoretically and practically by extending neurolinguistic perspectives into Arabic morphology education while providing evidence-based instructional strategies suitable for Islamic higher education institutions. Ultimately, the findings are expected to support the development of more effective, brain-compatible, and meaningful approaches to Arabic language instruction capable of improving students' mastery of Arabic morphology and strengthening their capacity to engage critically with classical Islamic scholarship.

METHOD

This study employed a qualitative approach using a single-case study design to explore comprehensively the implementation of a neurolinguistic approach in *Shorof* instruction within its natural educational setting. A qualitative case study was considered the most appropriate research design because it enables researchers to investigate a contemporary phenomenon in depth while considering the contextual factors influencing the learning process. According to Creswell and Creswell (2018), qualitative research facilitates a rich understanding of participants' experiences, perceptions, and interpretations of social phenomena, whereas a case study allows researchers to examine the complexity of a particular case holistically within its real-life context. Accordingly, this study focused on STAINU Kotabumi, a private Islamic higher education institution located in North Lampung Regency, Lampung Province, Indonesia. The institution was selected purposively because it represents an Islamic university facing challenges in teaching Arabic morphology (*Shorof*) while simultaneously seeking innovative instructional approaches to improve students' learning outcomes.

The participants consisted of *Shorof* lecturers, undergraduate students enrolled in the *Shorof* course, and the Head of the Arabic Language Education Study Program. Informants were selected using purposive sampling based on their direct involvement and experience with the instructional process (Patton, 2015). Data were collected through three complementary techniques: classroom observations conducted systematically throughout the instructional process, semi-structured in-depth interviews designed to elicit participants' experiences and perceptions regarding the implementation of the neurolinguistic approach, and document analysis involving course syllabi, semester lesson plans, instructional materials, and students' learning assessments. These multiple sources of evidence enabled comprehensive understanding while strengthening the credibility of the findings.

The collected data were analyzed using thematic analysis integrated with the interactive model developed by Miles, Huberman, and Saldaña (2020), consisting of data condensation, data display, and conclusion drawing and verification. These analytical procedures were conducted iteratively throughout the research process to ensure continuous refinement of emerging themes. To establish the trustworthiness of the

findings, the study employed source triangulation, methodological triangulation, prolonged engagement, member checking, and the criteria of credibility, transferability, dependability, and confirmability as proposed by Lincoln and Guba (1985). These strategies ensured that the findings accurately represented participants' perspectives while maintaining methodological rigor and transparency throughout the research process.

RESULT AND DISCUSSION

This section presents an in-depth analysis and interpretation of the findings obtained in the study on the application of a neurolinguistic approach to address students' difficulties in learning *Shorof* at STAINU Kotabumi. The analysis was conducted by integrating empirical findings from the field with the neurolinguistic theoretical framework outlined earlier and by engaging them in dialogue with relevant previous research. This discussion is organized into three interrelated themes: students' difficulties in learning *Shorof* from a neurolinguistic perspective, the effectiveness of the neurolinguistic approach in addressing these difficulties, and the implications of the findings for the development of Arabic language instruction at Islamic higher education institutions. Through the integration of empirical evidence and theoretical perspectives, this discussion is expected to contribute to the advancement of Arabic language education while providing a more comprehensive understanding of *Shorof* learning challenges in Indonesian Islamic universities.

Students' Difficulties in Learning *Shorof*: A Neurolinguistic Perspective

The findings indicate that students' difficulties in learning *Shorof* at STAINU Kotabumi are multidimensional and cannot be explained solely through conventional pedagogical approaches. From a neurolinguistic perspective, students' difficulties in memorizing and reproducing *tashrif* patterns are closely associated with information-processing mechanisms that have not been optimally stimulated during instruction. According to the information-processing theory proposed by Atkinson and Shiffrin (1968), information entering sensory memory can only be transferred into long-term memory after undergoing effective encoding within working memory. Consequently, when *Shorof* instruction emphasizes rote memorization without meaningful contextual understanding, morphological information tends to remain in short-term memory and is easily forgotten. This finding is consistent with Sulaikho et al. (2023), who reported that students' difficulties in Arabic morphology primarily originate from inadequate contextual understanding of derivational patterns rather than from the inherent complexity of the material itself.

Moreover, the discrepancy identified between students' ability to memorize *tashrif* patterns mechanically and their inability to apply those patterns in authentic sentence contexts can be explained through the neurolinguistic concept of language transfer. Paradis (2009) argues that language processing involves two complementary memory systems: the declarative system, responsible for explicit knowledge of linguistic rules,

and the procedural system, which governs the automatic and contextual use of language. Conventional *Shorof* instruction primarily activates declarative memory while neglecting procedural development, preventing students from transferring their morphological knowledge into practical language use. These findings reinforce the necessity of developing instructional approaches that stimulate both systems simultaneously in order to facilitate meaningful Arabic language acquisition.

The Effectiveness of the Neurolinguistic Approach in Overcoming *Shorof* Learning Difficulties

The results consistently demonstrate that the implementation of a neurolinguistic approach through multisensory learning, meaningful repetitive practice, and the creation of a brain-compatible learning environment effectively assists students in overcoming their difficulties in learning *Shorof*. These findings support the study conducted by Jailani et al. (2021), which concluded that neurolinguistic instruction successfully integrates cognitive, affective, and psychomotor processes during Arabic language learning. The effectiveness of this instructional approach can be explained through three complementary neurobiological mechanisms.

The first mechanism concerns the optimization of information encoding through multisensory engagement. Sousa (2011) explains that the human brain processes information more efficiently when multiple sensory channels are activated simultaneously because multisensory stimulation creates richer neural networks and stronger memory traces. Within *Shorof* instruction, combining visual stimuli such as color-coded *tashrif* charts, auditory repetition through rhythmic pronunciation, and kinesthetic activities involving repeated writing and manipulation of word patterns enables students to construct more stable and meaningful representations of Arabic morphology. This finding is also supported by Rahmawati and Anwar (2021), who demonstrated that instructional models integrating visual, auditory, and kinesthetic modalities significantly improve Arabic language learning outcomes.

The second mechanism involves strengthening memory consolidation through meaningful repetition. According to Jensen (2008), the brain retains information more effectively when new knowledge is connected to meaningful experiences and prior knowledge. In this study, each *tashrif* pattern was consistently linked to examples derived from the Qur'an, Hadith, and authentic daily communication, allowing students to establish meaningful cognitive associations between abstract morphological rules and practical language use. Such learning experiences facilitate elaborative encoding, a process through which newly acquired information becomes more permanently stored within long-term memory.

The third mechanism relates to reducing learning anxiety by creating a neurologically supportive classroom environment. Research in educational neuroscience indicates that excessive stress activates the limbic system and inhibits the functioning of the prefrontal cortex, the brain region responsible for higher-order cognitive processes, including

conceptual understanding, reasoning, and problem solving. Through positive reinforcement, supportive classroom interactions, and learning activities designed at an optimal level of challenge, the neurolinguistic approach successfully reduced students' anxiety while increasing their cognitive readiness to understand and internalize Arabic morphological concepts. Consequently, students demonstrated greater confidence and sustained engagement throughout the learning process.

Implications for Arabic Language Instruction in Islamic Higher Education

The findings of this study offer several important implications for the development of Arabic language instruction at Islamic higher education institutions. From a curriculum perspective, the results emphasize the importance of incorporating neurolinguistic principles into curriculum design, particularly in organizing *Shorof* materials according to students' cognitive processing capacities. Brain-compatible curriculum design enables learners to acquire Arabic morphology gradually, systematically, and meaningfully, thereby improving long-term retention and transferability of knowledge.

The study also highlights the importance of strengthening lecturers' professional competencies in neurolinguistics and educational neuroscience. A deeper understanding of how the brain processes linguistic information enables instructors to develop instructional strategies that are more responsive to students' cognitive characteristics, resulting in more innovative, effective, and student-centered *Shorof* instruction.

Furthermore, the findings recommend the development of neurolinguistically informed instructional materials integrating visual, auditory, and kinesthetic learning modalities into a coherent instructional system. Such learning resources not only facilitate classroom instruction but also encourage independent learning beyond formal instructional settings. Consequently, the neurolinguistic approach should be viewed not merely as an alternative teaching strategy but as a comprehensive pedagogical framework capable of supporting the sustainable development of Arabic language education in Islamic higher education institutions.

CONCLUSION

This study investigated the application of a neurolinguistic approach to addressing students' difficulties in learning *Shorof* at STAINU Kotabumi. The findings indicate that students experience multidimensional challenges, including difficulty memorizing and recalling *tashrif* patterns, limited ability to recognize morphological structures in authentic sentence contexts, and insufficient competence in applying Arabic morphological rules in both spoken and written communication. These challenges are influenced not only by the inherent complexity of Arabic morphology but also by students' diverse educational backgrounds, the continued reliance on conventional instructional methods, and the limited availability of innovative learning resources that align with principles of brain-based learning.

The study further demonstrates that the neurolinguistic approach provides an effective instructional framework for overcoming these difficulties. Its implementation is characterized by three complementary strategies: multisensory learning that integrates visual, auditory, and kinesthetic modalities; meaningful repetition that connects *tashrif* patterns with authentic examples drawn from the Qur'an, Hadith, and everyday communication; and the creation of a neurologically supportive learning environment through positive reinforcement, reduced learning anxiety, and emotionally engaging classroom interactions. These strategies enhance information encoding, strengthen memory consolidation, and promote deeper conceptual understanding of Arabic morphology, resulting in improved learning motivation, greater classroom participation, and stronger mastery of *Shorof*.

The findings also have important implications for the development of Arabic language education in Islamic higher education. They highlight the need to incorporate neurolinguistic principles into Arabic language curricula, strengthen lecturers' competencies through professional development in neurolinguistics and educational neuroscience, and develop innovative instructional materials that facilitate meaningful and brain-compatible learning experiences. Overall, this study confirms that the neurolinguistic approach represents a promising pedagogical framework for Arabic morphology instruction because it aligns instructional practices with the cognitive mechanisms underlying language acquisition. Future research should extend this approach to other areas of Arabic language learning, including *Nahwu*, *Qirā'ah*, and *Kalām*, while developing standardized neurolinguistic instructional models and assessment instruments that can be implemented across Islamic higher education institutions in Indonesia.

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