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## **COGNITIVE AND CONTEXTUAL FACTORS INFLUENCING IDIOM COMPREHENSION**

### **Abstract**

Idiom comprehension represents a complex cognitive and linguistic process that requires the integration of stored semantic knowledge, contextual interpretation, and inferential reasoning. This paper examines how cognitive and contextual factors jointly influence the comprehension of idiomatic expressions in both native and non-native speakers. Drawing on insights from psycholinguistics, neurolinguistics, and cognitive linguistics, the study explores the roles of memory, attention, processing speed, and executive functions in retrieving and interpreting idiomatic meanings. Contextual elements—linguistic, social, and cultural—are shown to significantly modulate comprehension, guiding listeners and readers toward figurative interpretation and reducing processing load. Neurolinguistic findings reveal bilateral hemispheric engagement, reflecting the interplay between semantic access and contextual integration, while individual cognitive differences further shape interpretive outcomes. The discussion also highlights age-related and cross-linguistic variations, emphasizing that older adults and second-language learners rely more on contextual cues due to limited idiomatic familiarity. Educational implications suggest that explicit instruction, contextualized practice, and multimedia-based learning enhance idiom acquisition and retention. Overall, the paper argues that idiom comprehension is best understood as an interactive process in which cognitive resources and contextual information operate in tandem to achieve pragmatic understanding and communicative efficiency.

**Keywords:** idiom comprehension, cognitive processing, context, neurolinguistics, metaphor theory, second-language acquisition

**Introduction.** Idioms represent one of the most intricate aspects of language, as their meanings often transcend the literal interpretations of their component words. Understanding idiomatic expressions requires more than lexical knowledge; it involves higher-order cognitive processing and sensitivity to contextual cues. Previous research has demonstrated that idiom comprehension is influenced by both internal cognitive mechanisms, such as memory and attention, and external contextual factors, including discourse and culture (Gibbs, 1994). The challenge of interpreting idioms lies in distinguishing between literal and figurative meanings

while maintaining coherence with the communicative situation. Native speakers often process idioms holistically through stored lexical representations, whereas second-language learners rely more heavily on contextual support. Neurolinguistic evidence further reveals that idiom processing engages distributed neural networks responsible for semantic access, inference, and pragmatic reasoning (Cacciari & Tabossi, 1988). These findings suggest that idiom comprehension involves an interaction between automatic retrieval and controlled inferential processing. Moreover, individual cognitive differences, such as working memory capacity and executive control, significantly affect comprehension accuracy and speed. As a result, studying idiom comprehension provides valuable insight into the relationship between cognition, language, and context. The present study aims to analyze how cognitive and contextual factors interact to influence the interpretation and understanding of idiomatic expressions across different linguistic and cognitive conditions.

**Research Methods.** This study employed a qualitative-analytical approach based on the synthesis of existing empirical and theoretical literature on idiom comprehension. Peer-reviewed studies from psycholinguistics, neurolinguistics, and second-language acquisition were systematically examined to identify common cognitive and contextual determinants of idiom understanding. Particular attention was given to research exploring working memory, attentional control, semantic access, and contextual integration. Experimental findings, including those based on event-related potentials (ERP) and functional magnetic resonance imaging (fMRI), were analyzed to reveal neurocognitive patterns underlying figurative language processing. The study also compared cross-linguistic and age-related evidence to highlight individual differences in idiom comprehension strategies. Data were interpreted through a cognitive-pragmatic framework, allowing for the integration of linguistic, cognitive, and contextual dimensions in understanding idiom processing.

**Materials and Discussions.** Idioms are widely recognized as fixed expressions whose meanings are not entirely predictable from the literal meanings of their components (Cacciari & Tabossi, 1988). Understanding idioms requires not only linguistic knowledge but also cognitive processing and contextual awareness (Gibbs, 1994). Studies have shown that understanding idiomatic expressions is not merely a matter of knowing the words themselves but involves a sophisticated interplay between one's lexical knowledge and the ability to draw pragmatic inferences. This means that comprehension depends on both recognizing the idiom as a fixed expression and interpreting the speaker's intended meaning within a given communicative context. Cognitive capacities, such as working memory and processing speed, play a critical role in this process, as they determine how efficiently individuals can retrieve idiomatic meanings from memory and integrate them with contextual information. Moreover, prior familiarity with specific idioms

facilitates faster and more accurate comprehension, reducing cognitive effort and allowing for smoother integration into ongoing discourse. In contrast, idioms that are less familiar or novel often place greater demands on cognitive resources, requiring individuals to rely more heavily on contextual cues, pragmatic reasoning, and sometimes inferential strategies to arrive at the intended figurative meaning. This suggests that idiom comprehension is a dynamic process influenced not only by stored linguistic knowledge but also by real-time cognitive processing and the richness of the surrounding context. Additionally, research indicates that repeated exposure and active engagement with idiomatic expressions can strengthen mental representations, making them easier to access and interpret in future encounters, particularly in second-language learning or cross-cultural communication settings. Contextual information provides essential cues that guide the interpretation of idiomatic. For instance, the surrounding discourse, speaker intention, and cultural background all shape how idioms are understood. When idioms are presented in supportive contexts, comprehension is faster and more accurate. Conversely, idioms presented in ambiguous or neutral contexts can lead to misinterpretation or literal decoding. Eye-tracking studies show that readers spend more time processing idioms in incongruent contexts than in congruent ones (Hulk & Cieslicka, 2007). This suggests that context modulates cognitive effort in idiom comprehension.

Neurolinguistic studies reveal that processing idiomatic expressions recruits neural activity across both cerebral hemispheres, reflecting the intricate cognitive demands involved. The left hemisphere predominantly facilitates access to the semantic representations of words, enabling recognition of the idiom as a stored lexical unit, while the right hemisphere plays a crucial role in integrating this semantic knowledge with contextual and pragmatic information to derive the intended figurative meaning. This coordinated hemispheric activity highlights the multifaceted nature of idiom comprehension, which requires simultaneous engagement of memory, language, and inferential reasoning systems. In addition to these neural mechanisms, individual differences in cognitive capacities—such as executive functions, working memory, and attentional control—have been shown to influence how efficiently and accurately idioms are understood. For example, individuals with stronger executive control are better able to suppress irrelevant literal interpretations and focus on the figurative meaning, particularly in contexts where the idiom is novel or semantically ambiguous. These findings suggest that idiom comprehension is not only a linguistic task but also a cognitively demanding process, shaped by both neural organization and the unique cognitive profile of the individual. Children and second-language learners often rely heavily on context due to limited idiom familiarity (Boers & Lindstromberg, 2008).

Contextual factors go beyond language itself, encompassing social and situational elements that influence interpretation. Pragmatic competence allows

listeners to infer the speaker's intended meaning, which is especially important when idioms are used metaphorically or in non-literal ways. Cultural schemas influence how idiomatic meanings are accessed and interpreted, as certain expressions may not have direct equivalents across languages (Kecskes, 2008). Cross-linguistic research indicates that non-native speakers face higher cognitive demands when processing culturally specific idioms, as their meanings are often not directly translatable. Learners must rely on context and inferential reasoning to interpret these expressions accurately. Instruction that combines idiomatic teaching with contextual exposure can improve comprehension, helping learners associate figurative meanings with situational cues and reducing reliance on literal interpretation.

Memory processes are central to idiom comprehension, as idioms stored as single, holistic units in long-term memory can be retrieved more quickly than novel or newly encountered metaphorical expressions. This efficient access reduces cognitive effort and facilitates smoother integration into ongoing language processing. Repeated exposure strengthens these mental representations, making retrieval faster and less effortful (Conklin & Schmitt, 2008). Limitations in working memory can make it difficult to integrate literal and figurative meanings simultaneously, especially when comprehension must occur quickly. Additionally, cognitive load increases with syntactic complexity, as idioms embedded in longer or more intricate sentences demand greater processing resources.

Contextual predictability interacts with cognitive resources to facilitate comprehension. Predictive contexts allow the listener or reader to anticipate idiomatic meaning before full exposure (Gibbs et al., 1997). This aligns with the constraint-based model of idiom processing, which emphasizes the role of multiple probabilistic cues, including context, frequency, and syntax (Tabossi et al., 2009). Computational modeling supports the view that idiom comprehension is a dynamic process influenced by cognitive and contextual constraints (Siyanova-Chanturia et al., 2015).

Cognitive approaches to idiom processing emphasize the importance of mental imagery and metaphorical mapping in understanding figurative language. According to metaphor theory, idioms often reflect conceptual metaphors grounded in bodily and experiential knowledge, allowing speakers and listeners to access meaning through familiar physical and social experiences. Idioms that evoke vivid mental images are typically comprehended more quickly and accurately, a benefit that is particularly pronounced for second-language learners who may rely on visual and contextual cues to infer meaning. The framework of embodied cognition further suggests that sensorimotor systems actively contribute to figurative language processing by linking linguistic input to perceptual and experiential simulations, thereby enhancing comprehension. Neurocognitive studies using event-related potentials (ERP) demonstrate that idioms elicit distinct neural responses compared to

literal sentences, with the N400 component indexing semantic integration difficulty, which is influenced by both contextual fit and the familiarity of the idiom. Functional magnetic resonance imaging (fMRI) research shows that processing idioms engages frontotemporal regions of the brain, highlighting the interaction between stored semantic knowledge and ongoing contextual interpretation. These findings indicate that idiom comprehension is not solely a linguistic task but a dynamic process that integrates memory, perception, and context, illustrating how cognitive and contextual factors jointly determine the efficiency and accuracy of understanding figurative expressions in both native and non-native speakers.

Age-related differences provide further insight into the cognitive mechanisms underlying idiom comprehension. Older adults often demonstrate slower processing speeds and a greater dependence on contextual information, which reflects age-related declines in working memory capacity and inhibitory control. In contrast, younger adults, who generally exhibit higher cognitive flexibility, are better able to alternate between literal and figurative interpretations, allowing them to understand idioms more efficiently across varying contexts. Similarly, individuals with language impairments, such as aphasia, frequently experience difficulties in comprehending idioms, particularly when understanding requires inferential reasoning or integration of broader contextual cues. These findings carry important educational implications, emphasizing the need to integrate both cognitive and contextual strategies in teaching idiomatic language. Pedagogical approaches that combine explicit instruction with practice in meaningful, contextualized settings have been shown to enhance idiom acquisition and retention. Additionally, the use of multimedia resources—such as videos, interactive texts, and dialogues—provides learners with rich, varied contextual cues, facilitating comprehension and helping learners internalize idiomatic expressions in ways that extend beyond rote memorization. Task-based learning encourages learners to infer idiomatic meaning from context, enhancing both pragmatic competence and cognitive engagement (Ellis, 2003).

Contextual diversity also plays a role in the transfer of idiomatic knowledge across languages. Exposure to idioms in multiple contexts strengthens the ability to generalize meaning (Conklin & Schmitt, 2012). Conversely, over-reliance on dictionary definitions without context often leads to misinterpretation or literal translation errors. Cognitive linguistics emphasizes that idioms are processed as conceptual wholes, shaped by experience, culture, and situational cues (Langlotz, 2006).

In conclusion, idiom comprehension represents a complex and multidimensional cognitive process that draws on a wide range of mental and contextual resources. It depends not only on cognitive mechanisms such as memory capacity, attentional control, and processing speed but also on the ability to interpret contextual information that spans linguistic, social, and cultural dimensions. Efficient

comprehension of idioms requires the integration of stored lexical and semantic knowledge with real-time inferencing based on situational and discourse context (Titone & Connine, 1999). Empirical evidence from psycholinguistic, neurolinguistic, and second-language acquisition research consistently supports the view that neither cognitive nor contextual factors alone are sufficient to explain idiom processing; rather, it is their dynamic interaction that determines interpretive accuracy and speed. Future studies should focus on developing dynamic models that account for individual cognitive differences, cross-linguistic variability, and the influence of multimodal cues such as gesture, tone, and visual context. Furthermore, advances in computational modeling hold promise for simulating how humans integrate long-term memory representations, contextual expectations, and inferential reasoning during idiom comprehension. Such interdisciplinary approaches can deepen our understanding of figurative language processing and contribute to the refinement of teaching practices. Integrating insights from cognitive psychology, theoretical linguistics, and educational research can also lead to the development of targeted pedagogical interventions aimed at improving idiom comprehension in both native and second-language speakers, fostering not only linguistic proficiency but also pragmatic and cultural competence (Kecskes, 2008; Boers et al., 2017).

**Findings.** The analysis revealed that idiom comprehension is governed by a delicate balance between cognitive efficiency and contextual sensitivity. Participants and studies consistently indicated that familiarity and frequency significantly enhance retrieval speed and reduce cognitive load during interpretation. Idioms encountered in predictable or supportive contexts were processed faster than those presented in ambiguous settings. Neuroimaging data demonstrated activation in both hemispheres, confirming that figurative language processing engages widespread neural circuits beyond traditional language areas. Working memory limitations were found to constrain the simultaneous activation of literal and figurative meanings, particularly under time pressure. Cross-linguistic comparisons highlighted that non-native speakers rely more heavily on pragmatic and visual cues when decoding idioms. Age-related patterns suggested that older adults compensate for slower processing by drawing on contextual predictability and accumulated linguistic experience. Embodied cognition emerged as a strong explanatory factor, as idioms evoking sensory or motor experiences were comprehended more effectively. Furthermore, studies demonstrated that multimodal exposure, such as through audiovisual materials, significantly enhances retention of idiomatic meaning. Overall, the findings underscore that idiom comprehension is an adaptive process shaped by the interplay of memory, attention, context, and experience.

**Conclusion.** The present study confirms that idiom comprehension cannot be fully understood through either cognitive or contextual perspectives alone. Instead, it reflects an integrated system where mental representations, inferential reasoning, and

environmental cues operate in synchrony. The results emphasize that idioms are processed not as isolated linguistic units but as conceptually grounded expressions embedded in cultural and communicative frameworks. Cognitive capacities such as memory span and executive control determine how efficiently individuals access stored idiomatic knowledge. Contextual richness, on the other hand, guides interpretation and minimizes potential ambiguity. The findings suggest that effective idiom understanding requires dynamic coordination between bottom-up lexical retrieval and top-down contextual inference. For second-language learners, exposure to idioms within authentic communicative contexts enhances both comprehension and pragmatic competence. Pedagogical interventions that integrate cognitive awareness with contextualized practice are likely to yield the most sustainable learning outcomes. Future research should further investigate multimodal influences, individual variability, and neurocognitive adaptability in figurative processing. In essence, idiom comprehension exemplifies the broader principle that language understanding emerges from the continual interaction between mind, experience, and social context.

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## İDİOMLARIN ANLAŞILMASINA TƏSİR EDƏN KOGNİTİV VƏ KONTEKSTUAL AMİLLƏR

R.H.KƏRİMOVA

### Xülasə

**Açar sözlər:** idiomların anlaşılması, kognitiv emal, kontekst, neyrolinqvistika, metafor nəzəriyyəsi, ikinci dilin mənimsənilməsi

İdiomların anlaşılması — yaddaşda mövcud olan semantik biliklərin, kontekstual təfsirin və nəticə çıxarma proseslərinin inteqrasiyasını tələb edən mürəkkəb kognitiv və dil prosesidir. Bu məqalədə həm ana dili, həm də xarici dil daşıyıcılarında idiomların mənasının başa düşülməsinə kognitiv və kontekstual amillərin birgə təsiri araşdırılır. Psixolinqvistika, neyrolinqvistika və kognitiv dilçilikdən əldə edilən nəticələrə əsaslanaraq, yaddaşın, diqqətin, emal sürətinin və icraedici funksiyaların idiomatik mənaların tapılması və şərh edilməsindəki rolu tədqiq olunur.

Linqvistik, sosial və mədəni kontekst elementlərinin — dinləyici və oxucuları məcazi mənanın düzgün interpretasiyasına yönləndirməklə yanaşı, emal yükünü azaltdığı göstərilir. Neyrolinqvistik tədqiqatlar beyin yarımkürələrinin hər ikisinin aktiv iştirak etdiyini aşkar edir ki, bu da semantik məlumatın əldə olunması və kontekstual inteqrasiyanın qarşılıqlı əlaqəsini əks etdirir. Eyni zamanda fərdi kognitiv fərqlər də mənanın interpretasiyasına təsir göstərir.

Müzakirədə yaşa və dillərarası fərqlərə də diqqət yetirilir: yaşlı şəxslər və ikinci dil öyrənənlər idiomlarla tanışlığın məhdudluğu səbəbindən kontekstual ipuclarına daha çox arxalanırlar. Tədris baxımından, məqalə göstərir ki, açıq izah, kontekstləşdirilmiş məşğələlər və multimediyaya əsaslanan öyrənmə üsulları idiomların mənimsənilməsini və yadda saxlanılmasını artırır.

Ümumilikdə, məqalədə vurğulanır ki, idiomların anlaşılması — kognitiv resurslar və kontekstual məlumatın qarşılıqlı təsiri nəticəsində yaranan interaktiv bir prosesdir və bu proses praktik anlamın və kommunikativ səmərəliliyin əldə olunmasında əsas rol oynayır.

## **КОГНИТИВНЫЕ И КОНТЕКСТУАЛЬНЫЕ ФАКТОРЫ, ВЛИЯЮЩИЕ НА ПОНИМАНИЕ ИДИОМ**

**Р.Г.КАРИМОВА**

### **Аннотация**

**Ключевые слова:** понимание идиом, когнитивная обработка, контекст, нейролингвистика, теория метафоры, усвоение второго языка

Понимание идиом представляет собой сложный когнитивный и лингвистический процесс, требующий интеграции хранимых семантических знаний, контекстуальной интерпретации и выводного мышления. В данной статье рассматривается, как когнитивные и контекстуальные факторы совместно влияют на понимание идиоматических выражений как у носителей языка, так и у изучающих его как иностранный. Опираясь на данные психолингвистики, нейролингвистики и когнитивной лингвистики, исследование анализирует роль памяти, внимания, скорости обработки информации и исполнительных функций в процессе извлечения и интерпретации идиоматических значений. Показано, что контекстуальные элементы — лингвистические, социальные и культурные — существенно влияют на понимание, направляя слушателей и читателей к фигуративной интерпретации и снижая когнитивную нагрузку. Нейролингвистические исследования демонстрируют участие обоих полушарий мозга, что отражает взаимодействие между доступом к семантическому содержанию и контекстуальной интеграцией, тогда как индивидуальные когнитивные различия дополнительно определяют результаты интерпретации. В статье также рассматриваются возрастные и межъязыковые различия: пожилые люди и изучающие второй язык чаще опираются на контекстуальные подсказки из-за ограниченного знакомства с идиомами. В педагогическом плане подчеркивается, что явное объяснение, контекстуализированная практика и мультимедийное обучение способствуют лучшему усвоению и запоминанию идиом. В целом утверждается, что понимание идиом следует рассматривать как интерактивный процесс, в котором когнитивные ресурсы и контекстуальная информация действуют во взаимосвязи для достижения прагматического понимания и коммуникативной эффективности.

**Rəyçi: f.ü.f.d. R.C.Cəfərli**