

## COGNITIVE MAPPING OF FORMULAIC LANGUAGE IN UZBEK, ENGLISH, AND RUSSIAN AS A CONCEPTUAL CORPUS STUDY

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### Abstract

This research investigates the cognitive representation and conceptual organisation of formulaic expressions in English, Russian, and Uzbek through a synthesis of usage-based linguistics, cognitive mapping, and corpus analysis. This study employs COCA, the British National Corpus, and the Russian National Corpus, integrating concepts from Construction Grammar, conceptual metaphor theory, and frame semantics to examine the functioning of linguistic units as symbolic form-meaning pairings shaped by frequency, entrenchment, and chunking. The study demonstrates that formulaic expressions encapsulate both universal cognitive mechanisms, including metaphorization, personification, and prototype-based categorisation, as well as culturally specific conceptualisations rooted in the worldview of each community. English terms emphasise human agency and practical problem-solving; Russian expressions highlight perseverance, fatalism, and philosophical reflection; while Uzbek expressions illustrate collectivist principles, agricultural symbolism, and spiritual notions of blessing and reverence. The research illustrates that by correlating linguistic patterns with conceptual domains such as time, effort, fate, social connections, and emotional experience, formulaic language serves as a cognitive tool for structuring cognition and as a cultural artefact that embodies collective social knowledge. The findings advance cross-linguistic cognitive research by demonstrating how corpus-derived data and conceptual mapping techniques can reveal the deep cognitive and cultural foundations of formulaic expressions across multiple languages.

### Keywords

Formulaic expressions; cognitive mapping; conceptual metaphor; frame semantics; cognitive models; cognitive categorization; cross-linguistic cognition

### Annotatsiya

Ushbu tadqiqot ingliz, rus va o'zbek tillaridagi formulali ifodalarining kognitiv tasviri va konseptual tashkil etilishini qo'llanishga asoslangan lingvistika, kognitiv xaritalash va korpus tahlili sintenzi orqali o'rganadi. Tadqiqot COCA, Britaniya Milliy Korpusi va Rus Milliy Korpusidan foydalanib, konstruksion grammatika, konseptual metafora nazariyasi va freym semantikasining g'oyalarini integratsiya qiladi hamda til birliklarining chastota ya'ni qanchalik tez-tez uchrashi, ongda mustahkamlanish (entrenchment) va bo'laklarga bo'linish (chunking) orqali shakllanadigan ramziy shakl-mazmun juftligi sifatidagi funksiyasini tahlil qiladi. Tadqiqot shuni ko'rsatadiki, formulali ifodalar metaforalash va prototip asosidagi kategoriyalash kabi universal kognitiv mexanizmlarni, shuningdek, har bir jamiyat dunyoqarashiga xos bo'lgan madaniy-konseptual tasavvurlarni o'zida mujassam etadi. Ingliz ifodalari inson agentligi va amaliy muammoni hal qilishga urg'u berar ekan, ruscha iboralar matonat, taqdirga ishonish va falsafiy mulohazani aks ettiradi; o'zbekcha ifodalar esa kollektivizm tamoyillarini, dehqonchilik ramziyati va duo, baraka kabi ma'naviy tushunchalarni namoyon qiladi. Tadqiqot til birliklarini vaqt, mehnat, taqdir, ijtimoiy aloqalar va hissiy tajriba kabi konseptual domenlar bilan bog'lagan holda, formulaik tilning kognitiv jarayonlarni tuzuvchi vosita va ijtimoiy bilimni mujassam etuvchi madaniy artefakt sifatida xizmat qilishini ko'rsatadi. Topilmalar korpus ma'lumotlari va konseptual xaritalash usullari ko'p tilli formulaik ifodalarning chuqur kognitiv va madaniy asoslarini ochib berishini namoyish etish orqali kross-lingvistik kognitiv tadqiqotlarni yangi bosqichga olib chiqadi.

**Kalit so'zlar:** formulaik ifodalar; kognitiv xaritalash; konseptual metafora; freym semantikasi; kognitiv modelllar; kognitiv kategoriyalash; kross-lingvistik kognitsiya

### Аннотация

Настоящее исследование рассматривает когнитивное представление и концептуальную организацию формульных выражений в английском, русском и узбекском языках посредством синтеза употребленчески ориентированной лингвистики, когнитивного картирования и корпусного анализа. В работе используются СОСА, Британский национальный корпус и Российский национальный корпус; интегрируются идеи конструкционной грамматики, теории концептуальной метафоры и фреймовой семантики для анализа того, как языковые единицы функционируют как символические пары «форма–значение», формирующиеся под воздействием частотности, закреплённости

(entrenchment) и разбиение (chunking). Исследование демонстрирует, что формульные выражения отражают как универсальные когнитивные механизмы - метафоризацию, олицетворению и прототипическую категоризацию, - так и культурно специфические концептуализации, укоренённые в мировоззрении соответствующего сообщества. Английские выражения подчеркивают человеческую агентность и практическое решение проблем; русские выражения отражают стойкость, фатализм и философское осмысление; узбекские выражения воплощают принципы коллективизма, аграрную символику и духовные представления о благословении и баракате. Исследование показывает, что, соотнося языковые паттерны с концептуальными доменами - временем, усилием, судьбой, социальными связями и эмоциональным опытом, формульный язык служит когнитивным инструментом структурирования мышления и культурным артефактом, аккумулирующим коллективные знания общества. Полученные результаты продвигают кросслингвистические когнитивные исследования, демонстрируя, как корпусные данные и методы концептуального картирования позволяют выявлять глубинные когнитивные и культурные основания формульных выражений в разных языках.

**Ключевые слова:** формульные выражения; когнитивное картографирование; концептуальная метафора; фреймовая семантика; когнитивные модели; когнитивная категоризация; кросслингвистическая когниция.

There are many different linguistic theories that are classified as “usage-based linguistics” (UBL; see Barlow & Kemmer, 2000; Tummers, Heylen, & Geeraerts, 2005). However, there are two working assumptions that are shared by all of these theories with regard to the acquisition of (both first and) second language (L2) (Ellis & Wulff, 2015b:75):

1) The linguistic input that learners get is the major source for the learning of their second language (L2).

2) The cognitive processes that learners engage in the process of language acquisition are not exclusive to language acquisition; rather, they are universal cognitive mechanisms that are associated with learning of any sort.

UBL defines linguistic knowledge as a structured inventory of symbolic units or form-meaning pairings (Langacker, 1987, 2000) or constructions (Goldberg,



2006). This inventory can be categorised as either constructions or symbolic units. They are referred to as constructions in construction grammar (Goldberg, 2006). Constructions describe these patterns. Constructions can be morphemes, words, phrases, and syntactic frames, according to the description provided by Tummers et al. (for more information, see Trousdale & Hoffmann, 2013). Language learning is driven by frequency in usage-based techniques, with type and token frequency playing diverse roles. Frequency is a driving force for language acquisition. The term “type frequency” refers to the number of different realisations of a single construction, whereas “token frequency” refers to the frequency with which a specific structure appears in the input.

According to D. Divjak and C. L. Caldwell-Harris (2015), the more frequently two constructions co-occur, the more ingrained that particular constructional arrangement gets. “The development of permanent sets of associative connections in long-term memory” is what N.C. Ellis (Ellis 1996:107) refers to as “chunking”, and he emphasises how chunks serve as the foundation for automaticity and fluency in the use of language. Simultaneously, it is crucial to emphasise that not all formulaic language must be particularly prevalent to be assimilated - consider infrequent idioms such as “needle in a haystack”, “red herring”, or “bite the dust”. Conversely, the prominence and thus easy comprehension of these statements derive from their unusualness. Similarly, frequency alone does not provide for classification as a function word: n-grams such as “and”, “of”, “the” and “but” are highly prevalent, yet they lack psycholinguistic salience and coherence (Schmitt, 2004). Psycholinguistic studies and corpus analyses indicate that speakers take into account not only the frequency of a construction but also several factors, including its sequential dependencies, prototypicality, and the reliability of form-function mappings exemplified in the instance (see Ellis, 2002 for an overview). In my opinion, frequency is crucial for how language constructs get entrenched, but so are uniqueness, prototypicality, and the dependability of form-function mappings. These are all important for how language is processed and recalled. Hence, a comprehensive methodology is essential to thoroughly comprehend language learning and use.

A conceptual metaphor plays a key role in language and thinking by structuring abstract concepts through more concrete images. It represents one of the most important cognitive mechanisms, which are based on establishing connections between conceptual structures that is, concepts and domains (Abdulkhakova & Bazarbayeva 2025:4). Parts of speech and metaphors are intricately linked, since

metaphorical formulations predominantly utilise nouns, verbs, and adjectives. Consequently, several structural categories of metaphors are identified, the most prevalent of which include: the genitive metaphor (a nominal construction comprising two nouns, such as “an ocean of thoughts”); the metaphorical epithet (a conjunction of an adjective and a noun, exemplified by “an icy gaze”); and the verbal metaphor (a verb reinterpreted metaphorically in conjunction with a noun, as in “time runs away”). These analogies illustrate how grammatical structure facilitates the transmission of meanings and the generation of images in language (Boldyrev & Besedina 2007).

Sh. Safarov asserts that cognitive linguistics is a result of transdisciplinary discourse. He observes that any discipline seeking to examine intricate entities such as language inherently faces considerable obstacles (Safarov 2006:5). Nonetheless, these challenges do not lessen interest in this field. The varied uses of cognitive knowledge across several tasks augment its importance. Science encourages experts from other professions to participate in cognitive research, resulting in the integration and synergy of discoveries across disciplines. D. Abdulkhakova presents an outline of Cognitive Linguistics (CL) as a dynamic paradigm in modern language study. Originating as a reaction to transformational generative grammar, it has been emphasised how cognitive linguistics derives from cognitive science and experiential philosophy, concentrating on the essential connection between language and human cognition (Abdulkhakova 2025:2).

In the following text, S. Wulff explains how learners come to acquire formulaic language via mechanisms of usage-based learning: She argues that formulaic expressions, such as idioms, collocations and multi-word units are largely acquired through exposure frequency over statistical patterns in the input of practical language experience. Learners begin to internalise these items not as individual words but ready-made blocks with which to fill gaps at speed, and production fluency increases. S. Wulff (2002) highlights the crucial role of entrenchment, where frequent exposure strengthens memory traces to enable interspeaker formulaic expressions. She discusses chunking, the cognitive process in which students combine words that are frequently seen together into meaningful bunches. What determines how quickly and accurately they learn these chunks depends on the amount of input that is provided (both type and token frequency). The paper has also established that FL enhances fluent processing during first as well as subsequent language acquisition. S. Wulff eventually concludes that “Formulaic expressions, far

from being uninteresting or trivial to language acquisition are quite essential and therefore usage-based theories provide a compelling explanation for how learners acquire them” (Wulff 2018). According to my point of view, S. Wulff posits that learners assimilate formulaic language such as idioms and collocations predominantly through repeated exposure and application, internalising these expressions as cohesive units rather than discrete words. This process is said to be necessary for fluency in a language, and usage-based theories do a good job of explaining how learners learn these crucial language units.

The research of D. Abdulkhakova and A. Bazarbaeva showed that universal cognitive mechanisms are reflected in formulaic expressions not only in English but also Russian, Uzbek language is filled with culture-specific linguistic structures (Abdulkhakova & Bazarbaeva 2015). These include metaphorization, personification and syntagmatic (instead of paradigmatic) semantic domains such as time, effort fate and social relationships; the study found that all 3 languages are based on similar conceptual frameworks. Different languages have expressions for universal human experiences, like the concept of time as a limited and valuable resource or hard work being key to success. The inquiry also found wide cultural differences. The English appealed to individual responsibility and action. The Russian phrases were powerful, observing the strong will of a historical tough nation indeed and it keeps lowering its acceptance with existential fatalism as much. These were phrases of Uzbek which draw a lot from the symbolism of agriculture, collectivist values system and spirituality symbolizing respect for elders. Comparative tables of the study reveal that even if formulaic forms have similar structure or meaning, they can represent entirely different cultural practices in two languages. These results accounted for formulaic language as a cognitive tool and cultural artefact, structuring the attitudes of participants with respect to each linguistic community (Abdulkhakova & Bazarbaeva 2025). This study showed that formulaic phrases constituted an important intersystem in the history of a linguistic system, cognitive economy and cultural background for Uzbek learners with reference to English/Russian. The paper thus shows that the use of formulae cannot be called arbitrary or pure stylistic colouring, when grounded in usage-based principles and construction-grammar insights for poetics through conceptual metaphor theory as probed with corpus-derived evidence.

In conclusion, the study illustrated that formulaic expressions are neither arbitrary nor merely stylistic embellishments in language, by incorporating usage-based principles, construction-grammar insights, conceptual metaphor theory, and



corpus-derived evidence. They are ingrained cognitive frameworks shaped by frequency, notable co-occurrence, and extensive cultural exposure. In all three languages, universal cognitive mechanisms like metaphorization, chunking, entrenchment, and form-function mapping are very important for speakers to process and internalise formulaic language. The enduring conceptual realms of time, effort, fate, emotional experience, and social connections illustrate a universal human tendency to structure complex abstract notions through familiar embodied frameworks. The results emphasise the extent to which formulaic expressions embody culturally distinctive perspectives. English phrases emphasise personal agency and pragmatic action; Russian phrases emphasise resilience, collective memory, and philosophical fatalism; and Uzbek phrases include collaborative principles, agricultural analogies, spirituality, and respect for elders. These differences show how languages use their historical, social, and ecological settings to create their own unique ways of thinking. The research confirms that formulaic expressions function as cognitive tools and cultural artefacts, elucidating how individuals conceptualise their experiences and interpret the world through language. This research amalgamates corpus linguistics with cognitive and conceptual analysis, augmenting the understanding of formulaic language's role in cross-linguistic cognition and laying the groundwork for future experimental, computational, and educational applications.

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