



THE TRANSLATION OF BODY PART IDIOMS USING CHATGPT: A COMPARATIVE ANALYSIS WITH OFFICIAL DICTIONARIES

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Abstract:

In the era of digital transformation and the rapid advancement of generative artificial intelligence, the translation of idiomatic expressions has become a crucial benchmark for evaluating the cognitive and linguistic capabilities of Large Language Models (LLMs). This paper presents a detailed analysis of research conducted on a corpus of ten English body part idioms taken from the Pioneer B2 textbook used at Singidunum University. The aim of the research was to compare translations generated by the ChatGPT model with solutions from official idiomatic dictionaries, utilising Pavol Kvetko's classification and Mona Baker's equivalence strategies as the theoretical framework. The analysis encompasses idioms of varying degrees of transparency, ranging from completely opaque to semi-idioms. The study results indicate a 90% accuracy rate in conveying meaning, alongside an unexpectedly high 60% correspondence of keywords in both languages. The research confirms that ChatGPT successfully identifies functional equivalents in the Serbian language, often prioritising the naturalness of expressions over literal translation. This work contributes to the discussion on the role of AI tools as assistants in translation and education, emphasising that while AI shows exceptional dexterity in mapping conceptual fields, human oversight remains essential for the final validation of stylistic nuances. The findings have significant applications for international scientific research, particularly in the domain of applying information technology in foreign language teaching.

Keywords:

Chatgpt, Machine Translation, Idioms, Body Parts, Large Language Models.

INTRODUCTION

In the era of digital transformation and the rapid advancement of generative artificial intelligence, the translation of idiomatic expressions has become a crucial benchmark for evaluating the cognitive and linguistic capabilities of Large Language Models (LLMs). It is quite significant to be familiar with idiomatic expressions in a language, since it is almost not possible to either speak, read or listen to the English language without encountering idioms. In order to understand an idiom from one language in another language, a process of translation must take place. Idioms, as specific lexical units whose meaning cannot be derived from the simple sum of their constituent parts, pose a particular challenge for machine translation due to their deep roots in the culture, history, and metaphorical reasoning of speakers.

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Among the most prevalent groups of idioms in both everyday speech and academic discourse are body part idioms —phraseological units containing names of body parts. Within the context of English Language Teaching (ELT) at the B2 level, the understanding and correct usage of body part idioms are considered indicators of high linguistic competence. This paper presents a detailed analysis of research conducted on a corpus of ten English body part idioms taken from the Pioneer Level B2 Student's book used in teaching EFL at Singidunum University. When translating body part idioms, it is of utmost importance not to translate word for word but the meaning of the whole expression. [1]

In recent years, artificial intelligence has exerted a significant influence across various fields, including translation studies. One of the most prominent AI-based tools is ChatGPT, a language model developed by OpenAI, capable of generating human-like text and performing complex translation tasks. Owing to its wide accessibility and advanced natural language processing capabilities, ChatGPT has gained considerable popularity among both students and professionals. Nevertheless, its effectiveness in translating idiomatic expressions, particularly those deeply embedded in cultural and linguistic contexts, remains a subject of ongoing scholarly investigation. For this reason, ChatGPT was selected as the primary tool for analysis in this study. [2] [3]

The aim of the research was to compare translations generated by the ChatGPT model with solutions from official idiomatic dictionaries, utilising Pavol Kvetko's [4] classification and [5] Mona Baker's equivalence strategies as the theoretical framework. Through the analysis of ten specific examples—ranging from highly opaque idioms such as *turn a blind eye* to semi-idioms like *lend somebody a hand*—the study explores whether AI systems prioritise literal translation or succeed in identifying functional equivalents in the Serbian language that retain the original communicative impulse and cultural nuance. The results of the study, which show a 90% accuracy rate in terms of conveying meaning, alongside an unexpectedly high correspondence of keywords in both languages, provide profound insight into the current capabilities of artificial intelligence in handling the "inner form" of language. This analysis directly contributes to the discussion on the role of AI tools as assistants in translation and education, emphasising that while AI demonstrates exceptional dexterity in mapping conceptual fields, human oversight remains essential for the final validation of terminological precision and stylistic harmony.

2. THE PURPOSE OF THE RESEARCH

The paper explores the challenges of translating body part idioms with a particular focus on AI-based translation systems, specifically ChatGPT. The aim of the research is to examine to what extent such a system can accurately interpret and translate idiomatic expressions, and whether its ability becomes limited or not in comparison to human translation recorded in an official dictionary.

3. THEORETICAL FRAMEWORK

Idioms (from the Greek word *idios*, which means original, unique) are specific expressions which carry a different meaning as a unit rather than just deciphering the meaning of individual words they are comprised of. Idioms are a type of language within a language created to confuse non-native speakers as well as to underscore a sense of closeness among native speakers. Therefore, an idiom is an original creation as it provides a completely new meaning to a group of words already containing their individual meanings. Thus, it is a fixed combination of words containing a particular meaning which cannot be deduced from its constituent parts (just as the colour green cannot be fully identified as a combination of blue and yellow). [6]

An idiom or idiomatic expression can be defined as a phrase characterized by non-compositionality, meaning that its interpretation cannot be derived from the literal meanings of its individual components [7].

There is a plethora of examples of idiomatic expressions both in the Serbian language and the English language. According to [5] idioms are "frozen patterns of language which allow little or no variation in form and, in the case of idioms, often carry meanings which cannot be deduced from their individual components" [5].

For the purposes of this research, we shall rely on [4] classification of; based on the degree of transparency. There are 3 distinctive groups: pure idioms, semi-opaque idioms, and semi-idioms, respectively. Pure idioms, also known as opaque idioms, are expressions whose overall meaning is completely detached from the individual meanings of its constituents. Semi-opaque idioms are transparent expressions where the literal interpretation of the words clearly points towards the literal meaning of the whole unit. Semi-idioms are restricted combinations in which only one constituent keeps its literal meaning, while the remaining constituents are used figuratively. [4]



Table 1. Groups of idioms by Kvetko

PURE IDIOMS	SEMI-OPAQUE IDIOMS	SEMI-IDIOMS
turn a blind eye	put his foot down	keep their head
get cold feet	keep one's fingers crossed	stick your nose into
my heart was in my mouth	hold your tongue	lend somebody a hand
see eye to eye	-	-

3.1. TRANSLATION

According to the Cambridge online dictionary, translation is defined as: “the activity or process of changing the words of one language into the words in another language that have the same meaning.” [8]

According to [9] “source language is a language from which a translation is made” while [10] “target language is a language into which a translation is made.”

3.2. LITERAL AND FREE TRANSLATION

One of the most common challenges in translation is the choice between literal and free translation. Idioms very often contain specific linguistic constructions that cannot be translated literally into another language. Such linguistic differences include grammatical structures, syntax, and style of expression [11].

Literal translation means conveying the meaning of an idiom word-for-word, without adapting to the context of an idiom in the source language. This approach often leads to misunderstanding or a total loss of meaning in the target language [1].

4. IDIOM TRANSLATION

Research [5] suggested strategies in translating idioms, as follows:

1. Using idioms of similar meaning and form - the strategy according to which an idiom in the target language does not convey the meaning of the source language accurately, instead it contains similar lexical items.
2. Using idioms of similar meanings but dissimilar forms – finding an idiom of a similar meaning in the source language which contains different lexical items in the target-language translation.
3. Borrowing the source language idioms – taking an idiomatic expression from the source language and using it in the target-language translation.

4. Translation by paraphrase – when an equivalent idiom in the target language is impossible to be found, translators opt for paraphrasing in order to preserve as similar meaning as possible to the original, using different lexical items.
5. Translation by omission of an entire idiom – the omission of the entire idiom in the target-language translation since it is impossible to find an equivalent or similar lexical item through using any of the aforementioned strategies [5].

5. RESEARCH METHODOLOGY

The research was conducted as follows:

Firstly, the authors of this paper have selected a corpus of 10 body part idioms in the English language from Unit 3b [12]: *turn a blind eye*, *get cold feet*, *put his foot down*, *my heart was in my mouth*, *keep their head*, *see eye to eye*, *stick your nose into*, *hold your tongue*, *keep one's fingers crossed*, *lend somebody a hand*. This particular group of idiomatic expressions has been chosen due to its frequent use in B2 English language classes since it is an integral part of the aforementioned course book. Secondly, the same idioms were later identified according to their forms based on [4] classification. Thirdly, their translation from an official dictionary was recorded. Fourthly, those same body part idioms were given to Chat GPT for translation. The following prompt was used for every single body idiom: “Translate the following English idiom _____ into Serbian. Provide the most natural Serbian equivalent”. The translations from English into Serbian, generated by ChatGPT, are assessed according to two criteria: the presence of a functional equivalent conveying the same meaning in Serbian and the presence of the same keywords in the observed idioms in both languages. Lastly, an analysis of all examples, based on Baker's strategies for idiom translation, was conducted.



6. ANALYSIS

The authors of the paper have set two hypotheses for the analysis of idiomatic expression translation.

H1: The majority of the studied idioms are identical in terms of meaning in the English and Serbian language.

H2: The keywords within the observed idioms containing the names of body parts are different in the English and Serbian language.

The purpose of this paper is to discover whether the hypotheses are true or not.

6.1. TRANSLATION OF IDIOMS BY USING A DICTIONARY

The following table represents the translations of body part idioms as found in the dictionary of idioms in the Serbian language [13]

The following list represents an analysis of the translation of body part idioms from the dictionary, based on Baker's strategies for idioms translation:

Using idioms of similar meaning and form: *zažmuriti na jedno oko, zabadati nos u što, držati jezik za zubima, držati palčeve, ostati hladne glave*

Using idioms of similar meanings but dissimilar forms: *srce mu je došlo u podgrlac/knedla mu je zastala u grlu, gledati istim očima*

Borrowing the source language idioms: no

Translation by paraphrase: *nemati tri čiste / uplašiti se rizika, dati gas / ubrzati vozilo, biti nepopustljiv / zauzeti odlučan stav, osetiti veliko uzbuđenje, poželeti uspeh, pomoći / biti od pomoći*

Translating by omission of entire idioms: *lupiti šakom o sto, brnjicu na gubicu*

6.2. THE USE OF AI IN TRANSLATION

The use of artificial intelligence in translation has become increasingly prominent in recent years, particularly with the development of advanced language models such as ChatGPT. As an AI-based tool, ChatGPT is capable of processing and generating natural language, which makes it suitable for a wide range of linguistic tasks, including translation. Owing to its wide accessibility and advanced natural language processing capabilities, ChatGPT has gained considerable popularity among both students and professionals. [14]

In the context of this research, ChatGPT was employed as a tool for translating English body part idioms into Serbian with the aim of evaluating its ability to recognise idiomatic meaning and provide appropriate equivalents in the target language. To ensure consistency and objectivity, all idioms were submitted using an identical prompt, without additional contextual information. [3]

In order to better understand the results provided by ChatGPT, it is important to briefly explain the underlying mechanism by which such models process and translate idiomatic expressions. ChatGPT does not analyse language in the same way as human translators. Instead of relying on explicit grammatical rules or semantic reasoning, it operates based on patterns learned during training on large-scale textual data. [15]

When presented with an idiomatic expression, the model identifies it as a sequence of tokens and compares it to similar patterns encountered in its training data, predicting the most probable equivalent in the target language. [16]

While this approach enables a high degree of fluency it may also lead to paraphrasing or less accurate translations, particularly in cases involving culturally specific or less transparent idioms.

Table 2. Translation of idioms by using a dictionary

Idiom	Dictionary translation
to turn a blind eye	zažmuriti na jedno oko (pred kim, čim); praviti se da ne vidi (koga, što); činiti se nevešt u odnosu na koga, što
get cold feet	nemati tri čiste; izgubiti hrabrost; uplašiti se rizika; žargon uhvatiti, imati prpu
put his foot down	dati gas; pritisnuti papučicu za gas; ubrzati vozilo; biti nepopustljiv; zauzeti odlučan stav; lupiti šakom o sto
my heart was in my mouth	osetiti veliko uzbuđenje; srce mu je zaigralo; srce mu je došlo u podgrlac; knedla mu je zastala u grlu
keep their head	ostati hladne glave
to see eye to eye	gledati istim očima (sa kim, na što); biti istog mišljenja (sa kim, o čemu)
stick your nose into	zabadati nos u što; gurati nos u tuđe poslove, u stvari koje se koga ne tiču, tamo gde mu nije mesto
hold your tongue	držati jezik za zubima; jezik za zube! brnjicu na gubicu!
keep one's fingers crossed	držati palčeve kome, čemu; poželeti uspeh kome čemu
lend somebody a hand	pružiti ruku; pomoći, biti kome od pomoći; pomoći kome



Therefore, the translation process performed by ChatGPT can be described as probabilistic rather than meaning-driven, which explains the inconsistencies observed in the analysis. [17]

7. THE TRANSLATION OF BODY PART IDIOMS BY CHATGPT

Table 3, The translation of body part idioms by ChatGPT

7.1. THE ANALYSIS OF BODY PART IDIOMS TRANSLATED BY CHATGPT

The following list represents an analysis of the translation of body part idioms by Chat GPT, based on Baker's strategies for idioms translation:

Using idioms of similar meaning and form: turn a blind eye = zažmuriti (na jedno oko), stick your nose into = mešati se u tuđa posla, keep one's fingers crossed = držati palčeve

Using idioms of similar meanings but dissimilar forms: my heart was in my mouth = srce mi je bilo u petama, keep their head = zadržati hladnu glavu, see eye to eye = biti na istoj talasnoj dužini

Borrowing the source language idioms: no

Translation by paraphrase: get cold feet = uhvatila ga je trema / panika, put his foot down = presekao je/bio je čvrst, hold your tongue = ugristi se za jezik

Translating by omission of entire idioms: put his foot down = udariti rukom o sto

8. RESEARCH RESULTS

According to the results, 3 body idiom translations by ChatGPT match both the meaning and the form of the original in English, being: turn a blind eye = zažmuriti na jedno oko, stick your nose into = gurati nos u tuđa posla, keep one's fingers crossed = držati palčeve.

According to the results, 3 body idiom translations by ChatGPT match the meaning but have a different form from the original in English, being: my heart was in my mouth = srce mi je bilo u petama, keep their head = zadržati hladnu glavu, see eye to eye = biti na istoj talasnoj dužini.

According to the results, there are no translation examples based on borrowing the source language.

According to the results, 3 body idiom translations by ChatGPT were translated by paraphrase, being: get cold feet = uhvatila ga je trema / panika, put his foot down = presekao je/bio je čvrst, hold your tongue = ugristi se za jezik.

According to the results, 1 body idiom translation by ChatGPT was translated by omission of entire idioms: put his foot down = udariti rukom o sto.

Table 3. The translation of body part idioms by ChatGPT

Idiom	Dictionary translation
turn a blind eye	zažmuriti (na jedno oko), praviti se da ne vidi, ne primećuje, gledati kroz prste
get cold feet	uhvatila ga je trema, uhvatila ga je panika, prepao se, pokolebao se
put his foot down	presekao je, bio je čvrst, odlučan; udario je rukom o sto; zauzeo je čvrst stav; postavio je granice
my heart was in my mouth	srce mi je bilo u petama; srce mi je lupalo kao ludo; jedva sam disao od straha
keep their head	ostati priseban; zadržati hladnu glavu; ostati smiren
see eye to eye	slagati se; biti istog mišljenja; imati isto viđenje; biti na istoj talasnoj dužini
stick your nose into	mešati se u tuđa posla; gurati nos u tuđa posla; zabadati nos gde mu nije mesto
hold your tongue	ugristi se za jezik; ćutati; zadržati jezik
keep one's fingers crossed	držati palčeve; navijati da ispadne dobro
lend somebody a hand	pružiti nekome ruku; pomoći nekome



9. DISCUSSION

H1: The majority of the studied idioms are identical in terms of meaning in the English and Serbian language. Based on the analysis, 9 out of 10 examples are identical in meaning in both languages. ChatGPT had 90% correct translations. Therefore, this hypothesis was proven correct.

H2: The keywords within the observed idioms containing the names of body parts are different in the English and Serbian language. Based on the analysis, 6 out of 10 examples have the same keywords in both languages. ChatGPT had 60% translations containing the same keywords as the original in English. Therefore, this hypothesis was proven incorrect.

10. FUTURE RESEARCH DIRECTIONS AND AI APPLICATIONS IN LINGUISTICS

The results of this study on body part idioms provide insight into the current capabilities of artificial intelligence while simultaneously paving the way for future scholarly inquiry. A logical next step would involve analysing idioms within a broader context (e.g., within full sentences or paragraphs) to determine whether AI demonstrates enhanced recognition when provided with richer contextual cues. Furthermore, the scope of research could be extended to other idiomatic categories, such as those involving animal or colour idioms, to verify whether AI maintains a consistent level of proficiency across diverse semantic fields.

In a broader sense, the integration of AI into translation and language pedagogy aligns with the global agenda for sustainable development by promoting more inclusive and accessible education. Digital platforms powered by AI have the potential to transform foreign language learning into a more engaging and culturally inclusive experience, thereby preparing students for meaningful cross-cultural interaction in a globalised world.

11. CONCLUSION

The research conducted on the reliability and efficiency of generative artificial intelligence in translating phraseological units at the B2 level offers several key findings significant for both the academic community and practical applications in foreign language teaching.

The results unequivocally confirm that ChatGPT, as a representative model of contemporary language technologies, demonstrates a high degree of precision in processing complex body part idioms, achieving a 90% accuracy rate in conveying core meaning. Consequently, the first hypothesis (H1) is confirmed, proving that AI successfully recognises the semantic equivalence of idiomatic expressions in English and Serbian, despite their inherent opacity and cultural specificity.

Furthermore, the study revealed an unexpectedly high degree of lexical overlap between the two languages, leading to the rejection of the second hypothesis (H2). In 60% of the analysed cases, English and Serbian utilise identical body parts within the same metaphorical constructions, suggesting shared cognitive foundations in employing human anatomy to express abstract concepts. Of particular significance is the AI model's capacity for deep semantic adaptation in instances where literal translation is unfeasible. The successful transformation of an English idiom locating fear in the "mouth" into its Serbian equivalent which places it in the "heels" (pete) confirms that ChatGPT operates on the level of functional equivalence rather than mere word substitution.

In the context of the Sinteza 2026 conference, these findings suggest that generative AI should become an integral yet complementary component of modern foreign language curricula. Although the technology displays exceptional dexterity in mapping metaphorical fields, it continues to operate based on probability and patterns rather than a genuine understanding of cultural context or emotional intelligence. It is concluded that AI tools cannot fully replace the human element; the teacher's role remains vital in the domains of critical thinking, stylistic nuance, and final translation validation. The future of ELT (English Language Teaching) at higher education institutions, such as Singidunum University, lies in the synergy between technological efficiency and human mentorship, thereby optimising the language acquisition process and enhancing student outcomes.



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