

MISINTERPRETATION OF ARTIFICIAL INTELLIGENCE IN ARABIC LANGUAGE

Siti Sulaikho*

Universitas KH. A. Wahab Hasbullah Jombang, Indonesia
E-mail: ikho.zul@unwaha.ac.id

Muhammad Syahrul Munir

STIT Al Muslihuun Blitar, Indonesia
E-mail: muhammadsyahrulmunir19@gmail.com

*Correspondence E-mail: ikho.zul@unwaha.ac.id

Article Info

Article History:

Received 26 June 2023

Revised 30 Oktober 2023

Accepted 01 November 2023

Available online 14

November 2023

Abstracts

Artificial Intelligence is a convenience and problem for students and educators. The purpose of the study was to provide an overview of Artificial Intelligence misinterpretation of Arabic language. This research is descriptive qualitative. The primary source is ChatGPT and the secondary source is Arabic books. The data collection of this research is document and data analysis by means of content analysis. The results showed that Artificial Intelligence can correctly describe theories related to Arabic. But in terms of interpretation, many errors were found. This finding is different from how Artificial Intelligence can interpret other languages more accurately. Therefore, the study of Arabic sourced from Arabic linguists remains the main source. This is due to the unique characteristics of Arabic that are difficult for Artificial Intelligence to detect. The results of this study can be used as a consideration of the use of Artificial Intelligence as a reference in explaining Arabic.

Keyword:

Artificial Intelligence, Arabic, Interpretation, Arabic Linguist, ChatGPT

Introduction

Artificial Intelligence or AI is an innovative product designed to improve the welfare of human life (Martens et al., 2023). AI is considered capable of providing accurate data so that it can be used as a means of in-depth learning (Moore et al., 2023). The development of AI strengthens the opinion that believes that learners no longer need face-to-face with teachers because AI is considered to be able to replace the role of teachers (Timpe-Laughlin et al., 2023).

ChatGPT was first launched in November 2022 by the OpenAI platform (Mahadevan et al., 2023). ChatGPT is a communication system through writing that can be accessed by all groups, including learners. The existence of ChatGPT has an influence on the learning model between learners and teachers (Sun, 2023), as mentioned earlier.

The completeness of the data accessible from ChatGPT applies also to grammar, including Arabic grammar. Among the studies of Arabic grammar are *nahwu* and *şaraf* (Fadilah, 2022). *Nahwu* is defined as a science that discusses the change of words into sentences (Sulaikho et al., 2023), While *şaraf* is intended as a science that discusses the changes that occur in words. It can be concluded that *nahwu* is a study that discusses the relationship of several words which is the result of *şaraf* study (Fikrotin & Sulaikho, 2021).

The completeness of data related to Arabic grammar needs to be examined, considering that Arabic has unique language characteristics, like other ancient languages. Arabic is considered one of the ancient languages because it has survived to the present day without any significant changes. This study seeks to reveal the extent of ChatGPT's ability to provide information related to Arabic grammar, both theoretically and interpretively.

Methods

This research includes qualitative which is descriptive. The primary data source is ChatGPT, while secondary data sources include classical Arabic books and articles related to Arabic grammar. Data collection is in the form of documents, while data analysis uses analysis content.

Results and Discussion

Pengertian Tata Bahasa Arab Menurut ChatGPT

1. *Mubtada'*

Mubtada' is a term in Arabic grammar that refers to the initial element or subject in a sentence. In Arabic grammatical construction, *mubtada'* is a noun or phrase that is the subject of a predicate in a sentence. Literally, *mubtada'* means opening or prefix.

2. *Khabar*

Khabar is a term in Arabic grammar that refers to an element of information or a predicate in a sentence. In Arabic grammatical construction, *khabar* is a verb or adjective that provides information or explains about a subject in a sentence. Literally, *khabar* means news or announcement.

3. *Fi'il*

Fi'il is a term in Arabic grammar that refers to the word *terja*. In Arabic grammatical constructions, *fi'il* is a word used to express an action or state in a sentence. The verb describes the activity carried out by the subject or the circumstances that occur. Literally, *fi'il* can be translated as a verb.

In Arabic grammar, *fi'il* can be divided into three main categories, namely:

- Fi'il māḍi* (past): is a verb that expresses actions or events that occurred in the past. *Fi'il māḍi* is formed by adding a specific suffix to the root of a word.
- Fi'il muḍāri'* (present): is a verb that expresses an action or event that occurs in the present. *Fi'il muḍāri'* generally does not require any change to the suffix, except for some special forms.
- Fi'il amar* (command) is a verb used to convey a command or instruction to someone. *Fi'il amar* is often singular.

Interpretasi Tata Bahasa Arab Menurut ChatGPT

1. *Mubtada'*

Examples of stand-alone *mubtada'* are as follows:

<i>Mubtada'</i>	Pronunciation	Meaning
مُحَمَّدٌ	<i>muhammadun</i>	Muhammad
الْكِتَابُ	<i>al-kitābu</i>	book
الطَّالِبُونَ	<i>at-ṭalibūna</i>	the students

<i>Mubtada'</i>	Pronunciation	Meaning
هُنَاكَ	<i>hunāka</i>	there
زَهْرَةٌ حَمْرَاءُ	<i>zahrotun hamrā'u</i>	red flowers
ذَهَبَ الطُّلَّابُ إِلَى الْمَدْرَسَةِ	<i>zahaba at-ṭullābu ilā al-madrasah</i>	the students went to school
عَنِ السَّمَاءِ	<i>'ani as-samā'</i>	from the sky
فِي الْغَابَةِ	<i>fī al-gābah</i>	in the forest

2. *Khabar*

Contoh *khabar* adalah sebagai berikut:

<i>Khabar</i>	Cara Baca	Arti	Keterangan
يَقْرَأُ الْكِتَابَ	<i>yaqra'u al-kitāba</i>	He reads books.	يَقْرَأُ is <i>khabar</i> because it is a verb that provides information about the actions that the subject performs, that is, the word "الكتاب"
الطَّالِبُ ذَكِيٌّ	<i>at-tālibu zakīyyun</i>	Student is smart	ذَكِيٌّ is <i>khabar</i> because it is an adjective that gives information about the nature of the subject, that is, the word "الطالب"
السَّمَاءُ زُرْقَاءُ	<i>as-samā'u zurqā'u</i>	The sky is blue	زُرْقَاءُ is <i>khabar</i> because it is an adjective that gives information about the nature of the subject "السما"
تَأْكُلُ الطَّعَامَ	<i>Ta'kulu at-ṭa'āma</i>	He eats food	تَأْكُلُ is <i>khabar</i> because it is a verb that provides information about the actions performed by the subject "الطعام"

3. *Fi'il*

a. *Fi'il māḍi* (lampau)

<i>Fi'il Māḍi</i>	Pronunciation	Meaning
كَتَبَ	<i>kataba</i>	write
ذَهَبَ	<i>zahaba</i>	go
قَرَأَ	<i>qara'a</i>	read

b. *Fi'il muḍāri'* (sekarang)

<i>Fi'il Muḍāri'</i>	Pronunciation	Meaning
يَكْتُبُ	<i>yaktubu</i>	write
يَذْهَبُ	<i>yazhabu</i>	go
يَقْرَأُ	<i>yaqra'u</i>	read

c. *Fi'il amar* (perintah)

<i>Fi'il Amar</i>	Pronunciation	Meaning
اُكْتُبْ	<i>uktub</i>	write!
اِذْهَبْ	<i>iżhab</i>	go!
اقْرَأْ	<i>iqra'</i>	read!

Understanding Arabic Grammar According to the Classics

The classic book that the author refers to here is the book *Al-Jurūmiyyah* by Muhammad ibn Dawud as-Ṣanhaji (As-Shonhaji, 1998).

1. *Mubtada'*

The definition of *mubtada'* is written as follows:

المُبْتَدَأُ هُوَ الْإِسْمُ الْمَرْفُوعُ الْعَرَبِيُّ عَنِ الْعَوَامِلِ اللَّفْظِيَّةِ

Mubtada' is a noun that has the law *rafa'* and apart from '*amyl* which takes the form of *lafad*. The next description states that *mubtada'* has two variants of forms, namely *isim zāhir* and *isim ḍamīr*.

2. *Khabar*

The definition of *khabar* is written as follows:

وَالْخَبَرُ هُوَ الْإِسْمُ الْمَرْفُوعُ الْمُسْنَدُ إِلَيْهِ

Khabar is a noun that follows *mubtada'*.

The next information states that *khabar* has many variants of forms, namely:

- isim*
- jār wa majrūr*
- zaraf*
- fi'il and fā'il (jumlah fi'liyyah)*
- mubtada' and khabar (jumlah ismiyyah)*

3. *Fi'il*

In *Al-Jurūmiyyah*, *fi'il* is a verb divided into 3, namely *fi'il māḍi*, *fi'il muḍāri*, and *fi'il amar*.

الأَفْعَالُ ثَلَاثَةٌ: مَاضٍ، وَمُضَارِعٌ، وَأَمْرٌ

Kitab *Al-Jurūmiyyah* also mentions the special characteristics of the three types of *fi'il*, namely:

فَالْمَاضِي مَفْتُوحٌ الْآخِرِ أَبَدًا. وَالْأَمْرُ مَجْرُومٌ أَبَدًا. وَالْمُضَارِعُ مَا كَانَ فِي أَوَّلِهِ إِحْدَى الزَّوَائِدِ الْأَرْبَعِ الَّتِي يَجْمَعُهَا قَوْلُكَ "أَنْبَيْتُ". وَهُوَ مَرْفُوعٌ أَبَدًا حَتَّى يَدْخُلَ عَلَيْهِ نَاصِبٌ أَوْ جَارِمٌ

- The characteristic of *fi'il māḍi* is that it forever has the *harakat fathah* on the last letter.
- The characteristic of *fi'il amar* is that it forever has the *harakat sukūn* in the last letter.
- The characteristic of *fi'il muḍāri* is that it is preceded by one of the four additional letters, namely *hamzah*, *nūn*, *ya'*, and *ta'*. The last letter of *fi'il muḍāri* forever has the *harakat ḍammah*, except when preceded by '*amil nāṣib* and '*amil jāzim*.

Interpretation of Arabic Grammar According to the Classics

Kitab *Al-Jurūmiyyah* lists examples of *mubtada'*, *khabar*, and *fi'il* as follows:

1. *Mubtada'*

Example	<i>Mubtada'</i>	Explanation
زَيْدٌ قَائِمٌ	زَيْدٌ	زَيْدٌ is <i>mubtada'</i> because it is a noun (<i>isim zāhir</i>) which has the law <i>rafa'</i> and is located at the beginning of the sentence
أَنَا قَائِمٌ	أَنَا	أَنَا is <i>mubtada'</i> because it is a noun (<i>isim ḍamīr</i>) which has the law <i>rafa'</i> and is located at the beginning of the sentence

2. *Khabar*

Example	<i>Khabar</i>	Explanation
---------	---------------	-------------

زَيْدٌ قَائِمٌ	قَائِمٌ	قَائِمٌ is <i>khavar</i> because it is a noun that has <i>the law rafa'</i> and is located after <i>mubtada'</i>
زَيْدٌ فِي الدَّارِ	فِي الدَّارِ	فِي الدَّارِ is <i>khavar</i> because it is <i>jār wa majrūr</i>
زَيْدٌ عِنْدَكَ	عِنْدَكَ	عِنْدَكَ is <i>khavar</i> because it is <i>zāraf</i>
زَيْدٌ قَامَ أَبُوهُ	قَامَ أَبُوهُ	قَامَ أَبُوهُ is <i>rumored</i> because it is both <i>fi'il</i> and <i>fā'il</i> (<i>jumlah fi'liyyah</i>)
زَيْدٌ جَارِيَتُهُ ذَاهِبَةٌ	جَارِيَتُهُ ذَاهِبَةٌ	جَارِيَتُهُ ذَاهِبَةٌ is <i>khavar</i> because it is in the form of <i>mubtada'</i> and <i>khavar</i> (<i>jumlah ismiyyah</i>)

3. *Fi'il*

<i>Fi'il</i>	Example	Explanation
<i>Māḍi</i>	صَرَبَ	صَرَبَ is <i>fi'il māḍi</i> indicated by the <i>harakat fathah</i> feature on the last letter
<i>Muḍāri'</i>	يَضْرِبُ	يَضْرِبُ is <i>fi'il muḍāri'</i> which is indicated by the additional letter <i>ya'</i> on the first letter and the <i>harakat ḍammah</i> on the last letter
<i>Amar</i>	اِضْرِبْ	اِضْرِبْ is <i>fi'il Amar</i> indicated by the <i>characteristic of the sukūn harakat</i> in the last letter

Analysis of Arabic Grammar Interpretation According to ChatGPT and the Classics

In the following section, the author will compare the example mentioned by ChatGPT with the information written in *the book of Al-Jurūmiyyah*.

ChatGPT Example	ChatGPT Explained	Explanation of the Classics
مُحَمَّدٌ	مُحَمَّدٌ is <i>mubtada'</i>	مُحَمَّدٌ is a noun so that it can be <i>mubtada'</i> , provided that it is located at the beginning of the sentence
الْكِتَابُ	الْكِتَابُ is <i>mubtada'</i>	الْكِتَابُ is a noun so that it can be <i>mubtada'</i> , provided that it is located at the beginning of the sentence
الطَّالِبُونَ	الطَّالِبُونَ is <i>mubtada'</i>	الطَّالِبُونَ is a noun so that it can be <i>mubtada'</i> , provided that it is located at the beginning of the sentence
هُنَاكَ	هُنَاكَ is <i>mubtada'</i>	هُنَاكَ not <i>mubtada'</i> because it is <i>zāraf</i> . Although it is located at the beginning of the sentence, the word هُنَاكَ still cannot be <i>mubtada'</i>
زَهْرَةٌ حَمْرَاءُ	زَهْرَةٌ حَمْرَاءُ is <i>mubtada'</i>	زَهْرَةٌ حَمْرَاءُ are two words that have different positions. زَهْرَةٌ is <i>mubtada'</i> because it is a noun and is located at the beginning of a sentence. حَمْرَاءُ can be <i>news</i> or <i>ṣīfat</i> from <i>mubtada'</i> .
ذَهَبَ الطُّلَابُ إِلَى الْمَدْرَسَةِ	ذَهَبَ الطُّلَابُ إِلَى الْمَدْرَسَةِ is <i>mubtada'</i>	ذَهَبَ الطُّلَابُ إِلَى الْمَدْرَسَةِ cannot be called <i>mubtada'</i> . ذَهَبَ الطُّلَابُ إِلَى الْمَدْرَسَةِ is a series of words consisting of <i>fi'il</i> , <i>fā'il</i> , and <i>jār wa majrūr</i> . <i>Fi'il</i> or verb cannot be <i>mubtada'</i> even if it is located at the beginning of the calumat.

ChatGPT Example	ChatGPT Explained	Explanation of the Classics
عَنِ السَّمَاءِ	عَنِ السَّمَاءِ is <i>mubtada'</i>	عَنِ السَّمَاءِ is <i>jār wa majrūr</i> so it cannot be <i>mubtada'</i> , even if it is located at the beginning of the sentence.
فِي الْعَابَةِ	فِي الْعَابَةِ is <i>mubtada'</i>	فِي الْعَابَةِ is <i>jār wa majrūr</i> so it cannot be <i>mubtada'</i> , even if it is located at the beginning of the sentence.
يَقْرَأُ الْكِتَابَ	يَقْرَأُ is <i>khavar</i> because it is a verb that gives information about the action performed by the subject, that is, the word "الكتاب"	يَقْرَأُ cannot be a <i>khavar</i> if it consists of only one word. يَقْرَأُ الْكِتَابَ can be <i>khavar</i> when located after <i>mubtada'</i> . On the other hand, يَقْرَأُ الْكِتَابَ cannot be <i>khavar</i> if it is at the beginning of a sentence
الطَّالِبُ ذَكِيٌّ	الطَّالِبُ ذَكِيٌّ is <i>khavar</i> because it is an adjective that gives information about the nature of the subject, i.e. the word "الطالب"	الطَّالِبُ ذَكِيٌّ is <i>khavar</i> because it is a noun located after <i>mubtada'</i> .
السَّمَاءُ زُرْقَاءُ	السَّمَاءُ زُرْقَاءُ is <i>khavar</i> because it is an adjective that gives information about the nature of the subject "السماء"	السَّمَاءُ زُرْقَاءُ is <i>khavar</i> because it is a noun located after <i>mubtada'</i> .
تَأْكُلُ الطَّعَامَ	تَأْكُلُ is <i>khavar</i> because it is a verb that gives information about the action that the subject performs "الطعام"	تَأْكُلُ cannot be <i>khavar</i> if it consists of only one word. تَأْكُلُ الطَّعَامَ can be a <i>khavar</i> when it is located after <i>mubtada'</i> . On the other hand, تَأْكُلُ الطَّعَامَ cannot be <i>khavar</i> if it is at the beginning of a sentence

Based on the analysis of the interpretation above, ChatGPT provides the following conditions:

1. *mubtada'* is a noun
1. *mubtada'* should be located at the beginning of the sentence
2. *khavar* is a verb or adjective

The provisions formulated by ChatGPT are absolute and without classification. In contrast to the grammatical provisions that have been formulated in the classics, namely:

1. *mubtada'* is a noun
1. in general, *mubtada'* is located at the beginning of sentences
2. *khavar* is a noun
3. *khavar* can be a verb if the verb is connected to the subject
1. in general, *khavar* is located after *mubtada'*
4. *khavar* sometimes precedes *mubtada'* when it consists of *jār wa majrūr* and *ẓaraf*.

Conclusion

Language has a dynamic nature, although it has standard grammatical rules. These standard grammar rules ultimately have double legal flexibility. In the study of Arabic grammar, *shaḥ* law is often found which is contrary to the standard grammatical rules. This *shaḥ* law is still recognized and used by Arabic speakers. The presence of ChatGPT as a form of Artificial Intelligence development can facilitate access for Arabic language learners. ChatGPT can help provide theoretical information on Arabic grammar. On the other hand, ChatGPT has not been able to provide information related to the interpretation of Arabic grammar accurately. This research can be used as a foundation for future researchers to further explore ChatGPT's skills related to Arabic studies from different sides. Not only ChatGPT, further researchers can also analyze other forms of AI development.

References

- As-Shonhaji, M. D. (1998). *Matan Al-Ajurumiyah*. Dar As-Shamai'i. <http://ia600202.us.archive.org/29/items/waqmamme/mamme.pdf>
- Fadilah, Y. W. (2022). Kelayakan Media Pembelajaran iSpring Suite Berbasis Android pada Mata Pelajaran Nahwu Shorof. *Arabia: Jurnal Pendidikan Bahasa Arab*, 13(2), 315–338. <https://doi.org/http://dx.doi.org/10.21043/arabia.v13i2.10710>
- Fikrotin, V., & Sulaikho, S. (2021). Kelayakan Media Pembelajaran iSpring Suite Berbasis Android pada Mata Pelajaran Shorof. *Al-Ittijah: Jurnal Keilmuan Dan Kependidikan Bahasa Arab*, 13(2), 95–118. <https://doi.org/10.32678/al-ittijah.v13i2.4852>
- Mahadevan, S., Chinnadurai, S., & Navaneethakrishnan, B. (2023). ChatGPT as an Example of Difference between Knowledge and Wisdom. *Ndian Journal of Rheumatology*. https://doi.org/10.4103/injr.injr_60_23
- Martens, B., Parker, G., Petropoulos, G., & Van Alstyne, M. W. (2023). Platform Competition and Information Sharing. *SSRN*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4528803
- Moore, J., Stuart, S., McMeekin, P., Walker, R., Nouredanesh, M., Tung, J., Reilly, R., & Godfrey, A. (2023). Toward enhanced free-living fall risk assessment: Data mining and deep learning for environment and terrain classification. *Intelligence-Based Medicine*, 8. <https://doi.org/https://doi.org/10.1016/j.ibmed.2023.100103>
- Sulaikho, S., Wahidmurni, & Amrullah, A. M. K. (2023). Tantangan Pendidik Nahwu Untuk Meningkatkan Kompetensi Profesional Sebagai Upaya Menumbuhkan Motivasi Pembelajar Pemula Terhadap Struktur Bahasa Arab. *Al-Lahjah: Jurnal Pendidikan, Bahasa Arab, Dan Kajian Linguistik Arab*, 6(2), 29–34.
- Sun, S. (2023). How ChatGPT Influences and Impacts Teaching and Learning - A Case Study. *MWAIS 2023 Proceedings*, 19. <https://aisel.aisnet.org/mwais2023/19>
- Timpe-Laughlin, V., Dombi, J., & Sasayama, S. (2023). L2 learners' pragmatic output in a face-to-face vs. a computer-guided role-play task: Implications for TBLT. *Language Teaching Research*. <https://doi.org/https://doi.org/10.1177/13621688231188310>