

Analyzing Arabic Syntax in *Waṣāyā al-Ābā' lil-Abnā'*: A Comparative Study between Traditional Nahwu and ChatGPT Approaches

¹Alysa Salsabila Ramadhan, ²Een Mu'arofah, ³Anisa Rihadatul A'isy

¹Universitas Sultan Ageng Tirtayasa, Indonesia, ^{2,3}UIN Sultan Maulana Hasanuddin Banten,
Indonesia

¹alysasalsabilar22@gmail.com, ²eenmuarofah14@gmail.com,

³anisarihadatulaisy@gmail.com

ABSTRACT

This study conducted a comparative analysis of the syntactic structure (*tarkīb*) in the classical Arabic text *Waṣāyā al-Ābā' lil-Abnā'* by evaluating two distinct methodologies: the Traditional *Nahwu* Approach (rooted in classical grammar) and the Artificial Intelligence (AI)-based Analysis via ChatGPT. Employing a qualitative descriptive-comparative method, the research described and contrasted the *tarkīb* outputs from both sources, aiming to (1) detail the *tarkīb* analysis according to traditional *nahwu*, (2) describe the analysis of the same text using ChatGPT, and (3) determine the comparative advantages and limitations of each approach. The findings reveal that the Traditional *Nahwu* Approach provides highly detailed, contextually rich, and terminologically accurate descriptions of all grammatical elements (*fi'l*, *fā'il*, *maf'ūl bih*, *jār-majrūr*, *iḍāfah*), including precise identification of positional rules (e.g., *fā'il mu'akhhkar*). In contrast, ChatGPT successfully recognized basic syntactic patterns and assigned general functions, but demonstrated limitations in achieving the required classical precision, often failing to identify complex structures (such as the explicit and implied *fā'il* or detailed *iḍāfah* forms) and positional variations. In conclusion, while traditional *nahwu* excels in depth and interpretive accuracy, ChatGPT offers a quick, accessible, and practical tool for preliminary syntactic mapping. The integration of these two approaches—termed AI-Assisted *Nahwu* Analysis (AINA)—demonstrates significant potential to enrich the study of Arabic syntax by bridging classical scholarship with modern AI technology.

Keywords: *Arabic Syntax; Tarkīb; Nahwu; ChatGPT; AI-Assisted analysis.*

INTRODUCTION

Arabic syntax (*tarkīb*) is central to understanding the Arabic language, intrinsically linked to *ṣarf* (morphology) and *naḥwu* (syntax). While *ṣarf* concerns word formation and inflection—generating numerous derivative forms from a single root (Jayadi et al., 2025)—*naḥwu* governs sentence structure by defining the grammatical relations and syntactic functions among words (Al Balushi & Al-Balushi, 2025). Together, these two branches constitute the essence of *tarkīb*, forming the grammatical foundation critical for accurately comprehending complex Arabic texts, particularly classical works rich in linguistic and moral values. Mastery of *tarkīb* therefore enhances grammatical precision and deepens the understanding of meaning, context, and rhetorical expression in Arabic discourse.

In classical Arabic education, the analysis of *tarkīb* requires a deep understanding of *i'rāb* (grammatical case endings), sentence structures, and contextual interpretation (Luthfan & Hadi, 2019). A prominent text for such study is *Waṣāyā al-Ābā' lil-Abnā'*, a classical work filled with moral and educational advice that features eloquent constructions, idiomatic expressions, and complex syntactic patterns. Mastery of *tarkīb* in this text is crucial not only for grammatical accuracy but also for appreciating the cultural and intellectual values embedded in the Arabic heritage. However, traditional approaches to *tarkīb* analysis—relying heavily on manual parsing, teacher-centered instruction, and classical *naḥwu* books like *Al-Ājurrūmiyyah* and *Qawā'id al-Lughah al-'Arabiyyah*—often limit accessibility and engagement. Students frequently struggle with identifying syntactic functions and grammatical relations, especially given the complexity and vast vocabulary of Classical Arabic (Nurbaiti, 2024).

The digital transformation era offers a solution to these challenges through the integration of technology, specifically Artificial Intelligence (AI) utilizing Natural Language Processing (NLP). AI-powered systems can automate syntactic analysis, provide instant feedback, and facilitate deeper comprehension of classical texts, thus modernizing Arabic grammar study while preserving its classical tradition (Kumalasari & Aini, 2023). Recent advancements in NLP and Machine Learning (ML) have demonstrated AI capabilities in understanding semantic relations and grammatical correctness, with tools like ChatGPT being used to support reading comprehension and automated assessment (Musthafa, 2024; Yatri et al., 2023). However, the application of AI in *tarkīb* analysis for classical Arabic texts remains relatively unexplored (Altammami, 2025). While AI models can recognize basic structures, they often struggle with the complexity of classical literature (Farghal & Haider, 2024).

This literature reveals a clear research gap in integrating AI analysis with traditional *naḥwu* theory for classical Arabic. Therefore, this study introduces the AI-Assisted Nahwu Analysis (AINA) approach to compare conventional *naḥwu* and ChatGPT analyses of *Waṣāyā al-Ābā' lil-Abnā'*. The research seeks to answer: (1) How are the *tarkīb* results of *Waṣāyā al-Ābā' lil-Abnā'* according to the traditional *naḥwu* approach? (2) What is the result of the *tarkīb* analysis of the same text using ChatGPT? and (3) What are the differences between the two analyses? The urgency of this research lies in its potential to bridge classical Islamic scholarship with modern technology, expand the digital realm of Arabic linguistics, and contribute practically to the development of adaptive, AI-based *naḥwu* learning media rooted in Arabic scientific traditions.

METHODS

Subjects of Research

The subject of this comparative research consisted of two primary data sources: (1) **The Text of *Waṣāyā al-Ābā' lil-Abnā'***: Serving as the main material object for syntactic analysis. (2) **Syntactic Analysis Result Generated by ChatGPT**: The output produced by the AI on the identical text passages.

Both sources were examined comparatively to identify syntactic similarities and differences between the Traditional *Nahwu* Approach and the ChatGPT Approach. Supporting theoretical references included classical Arabic grammar books such as *Al-Ājrumiyyah*, *Qawā'id al-I'rāb*, and *Alfiyyah Ibn Mālik*, dictionaries, and relevant contemporary linguistic studies. Consistent with qualitative methodology, the researcher acted as the primary instrument (human instrument) responsible for data collection, interpretation, and verification (Creswell & Poth, 2018).

Instruments and Interview Questions

This study applied a qualitative descriptive-comparative method with a Content Analysis design. Content analysis was chosen for its systematic and replicable technique for making valid inferences from texts in their context (Krippendorff, 2019; Neuendorf, 2017). The supporting instruments used were: (1) Laptop equipped with ChatGPT: For conducting the AI-based tarkīb analysis. (2) Content Analysis Sheet: Used to systematically record and code the outputs from both the traditional nahwu analysis and the ChatGPT analysis. (3) Arabic Linguistic References: Utilized to ensure the accuracy of the traditional syntactic interpretations.

The research procedure involved several stages: Preparation (selecting focus, data determination, and reference collection); Data Collection (analyzing selected Arabic sentences from the text using both Nahwu theory and ChatGPT); Analysis (comparing the two outputs, identifying differences, and categorizing findings); and Conclusion (interpreting the results and discussing the implications of AI accuracy). To ensure data credibility and validity, the researcher applied source triangulation and peer debriefing methods (Krippendorff, 2019; Neuendorf, 2017)..

Data Collection

The data collection process systematically extracted Arabic texts from *Waṣāyā al-Ābā' lil-Abnā'* and obtained their respective syntactic analyses. For the traditional method, each text was examined to identify grammatical functions (*mubtada'*, *khobar*, *maf'ul bih*, etc.) strictly according to *Nahwu* principles. Simultaneously, ChatGPT's outputs were recorded and categorized based on sentence structure and grammatical description. The collected data were then coded and compared to highlight the analytical strengths and limitations of both approaches.

The data analysis followed the steps of content analysis (Gheyle, 2017): identification, categorization, comparison, and interpretation. In evaluating the AI results, the researcher acknowledged findings that large language models (LLMs) can function as effective linguistic assistants but still require human verification due to inherent biases, inconsistencies, and contextual limitations (Najah Qomariah et al., 2025; Nasaruddin, 2024). Therefore, the final interpretation focused on assessing how accurately and consistently the AI analysis could replicate human syntactic reasoning within the complex structures of classical Arabic literature.

RESULTS AND DISCUSSION

The Classical Text: *Waṣāyā al-Ābā’ lil-Abnā’*

The text analyzed in this study is *Waṣāyā al-Ābā’ lil-Abnā’* (Advice of the Fathers to their Sons), authored by the renowned Egyptian scholar, Shaykh Muhammad Shakir al-Iskandariyah, while he was a teacher at Al-Azhar University around 1326 AH (1905 CE). This book holds a respected place in the *pesantren* (Islamic boarding school) tradition, often categorized as a *kitab kuning* (classical Islamic text) used by students beginning their study of classical Arabic (Arifin et al., 2023). The content primarily focuses on moral and educational advice given from a father (or teacher) to his son (or student) regarding proper conduct towards both fellow human beings and Allah (SWT).

The selection of *Waṣāyā al-Ābā’ lil-Abnā’* was based on several key advantages: (1) its concise and explicit content minimizes the need for extensive reinterpretation; (2) its use of compelling expressions like “*yā bunayya*” (“O my son”) and “Know that,” establishes a reciprocal, affectionate relationship between the author and the reader, reflecting a tender, fatherly tone (Basarrudin, 2024); (3) its arguments are substantiated by references to Qur’anic verses and Hadiths; and (4) its classical and relatively complex language makes it highly suitable for students with a strong foundation in Arabic, serving as an effective text for *naḥwu* and *ṣarf* application (Anggriawan et al., 2024).

Syntactic Analysis via Traditional *Nahwu* Approach

The syntactic analysis was conducted using the *tarkīb taḥlīlī* method, a traditional *naḥwu* approach that examines each word’s syntactic position and function through the principle of *al-’āmīl wa al-ma’mul* (governing element and governed element). The method identifies the syntactic role and *maḥall al-i’rāb* of components such as *mubtada’*, *khobar*, *fā’il*, *maf’ul bih*, and *iḍāfah* structures.

The analysis revealed that the text consistently adheres to established grammatical principles found in classical manuals such as *al-Ājurrūmiyyah*—which defines *fā’il* as *al-ism al-marfū’ al-madzkūr qablahu fi’luhu*—and Ibn Mālik’s *Alfiyyah*, which elaborates the rules of *iḍāfah* and *mudāf ilayh* (verses 84–86). Complex

structures such as *maf'ul bih muqaddam* and *fā'il mu'akhhkar* also appear, aligning with the explanations of Khalid 'Abd al-'Aziz in *al-Nahwu al-Taṭbīqī*.

Overall, the analysis affirms earlier findings by Qudsiyah, Sofa, and Sugianto (2024) that *tarkīb taḥlīlī* offers strong contextual accuracy in interpreting classical Arabic syntax. It also echoes Resti-Maulidiya, Abdurrahman, and Saleh (2024), who argue that traditional *nahwu* effectively reveals syntactic relations and semantic depth in *turāth* literature.

Table 1. Traditional *Nahwu* Analysis of *Waṣāyā al-Ābā' lil-Abnā'*

No	Sentence	Traditional Nahwu Analysis	Reason for Tarkīb
1	نصيحة الأستاذ	Khabar–mubtada + iḍāfah	a. “Khabar mubtada” because it is a marfū‘ noun following the mubtada’. b. Iḍāfah because it comprises two nouns in a possessive relation (muḍāf–muḍāf ilayh).
2	لتلميذ	Jar–majrūr + iḍāfah	a. Jar–majrūr due to the presence of a ḥarf jar followed by a noun. b. Iḍāfah because it joins two nouns in a possessive structure.
3	أرشدك الله	Fi‘l māḍī + maf‘ul bih muqaddam + fā‘il mu’akhhkar	a. Fi‘l māḍī due to its meaning and <i>mabnī faṭḥ</i> . b. Maf‘ul bih muqaddam because the attached pronoun functions as a manṣūb object preceding the subject. c. Fā‘il mu’akhhkar because the subject appears after the object.
4	ووفقك لصالح الأعمال	Ḥarf ‘atf + fi‘l + fā‘il + maf‘ul bih + jar–majrūr + iḍāfah	a. Wāw as ḥarf ‘atf. b. Fi‘l māḍī with implied fā‘il (huwa). b. Maf‘ul bih in the accusative case. c. Jar–majrūr after preposition. d. Iḍāfah in the final phrase.
5	أن أراك	Ḥarf naṣb + fi‘l muḍāri‘ + fā‘il + maf‘ul bih	a. An as ḥarf naṣb wa maṣdar. b. Fi‘l muḍāri‘ with implied fā‘il. c. Maf‘ul bih indicated by attached pronoun.
6	قوي الإدراك	‘Atf bayān + iḍāfah	a. ‘Atf bayān clarifying the previous word. b. Iḍāfah structure.
7	تواسي الفقراء	Fi‘l muḍāri‘ + fā‘il + maf‘ul bih	a. Fi‘l muḍāri‘ with implied subject “anta.” b. Manṣūb noun as maf‘ul bih.
8	وتشفق على الضعفاء	Ḥarf ‘atf + fi‘l muḍāri‘ + fā‘il + jar–majrūr	a. Wāw as conjunction. b. Fi‘l muḍāri‘ with implied fā‘il. c. Jar–majrūr phrase.
9	تغفر الزلات	Fi‘l muḍāri‘ + fā‘il + maf‘ul bih	a. Fi‘l muḍāri‘ with implied “anta.” b. Accusative object.
10	في صلاتك	Jar–majrūr + iḍāfah	As above.
11	ولا تهمل	Ḥarf ‘atf + ḥarf nafy + fi‘l muḍāri‘ + fā‘il	a. Wāw as conjunction. b. “Lā” negates the verb. c. Fi‘l muḍāri‘ with implied subject.
12	في عبادة ربك	Jar–majrūr + iḍāfah	As above.

13	تقبل نصيحة ناصح	Fi‘l muḍāri‘ + fā‘il + maf‘ūl bih + iḍāfah	a. Fi‘l muḍāri‘ with implied “anta.” b. Object in accusative case. c. Iḍāfah structure.
14	ومعلمك	Ḥarf ‘aṭf + ma‘ṭūf + iḍāfah	a. Wāw as conjunction. b. Ma‘ṭūf connected to its antecedent. c. Iḍāfah.
15	لا تجد أحدا	Ḥarf nafy + fi‘l muḍāri‘ + fā‘il + maf‘ūl bih	a. Negation by “lā.” b. Fi‘l muḍāri‘ with implied subject. c. Maf‘ūl bih in accusative.

ChatGPT Syntactic Analysis

ChatGPT produced a functional syntactic analysis focusing primarily on identifying major grammatical categories such as verbs, objects, prepositional phrases, and simple *iḍāfah* constructions.

While these identifications were generally accurate, ChatGPT did not consistently provide deeper classical *nahwu* distinctions, such as *maf‘ūl bih muqaddam*, *fā‘il mu’akhhkar*, or specific types of *ḥurūf ‘aṭf*. Additionally, some analyses lacked explicit mention of underlying *i’rāb* markers.

Table 2. ChatGPT Analysis of Waṣāyā al-Ābā’ lil-Abnā’

No	Sentence	ChatGPT Analysis	Reason for Tarkīb
1	نصيحة الأستاذ	Khabar–mubtada + iḍāfah	+ “Naṣiḥah” functions as mubtada; “al-ustādh” as muḍāf ilayh.
2	لتلميذ	Jar–majrūr + iḍāfah	Identifies ḥarf jar and iḍāfah.
3	أرشدك الله	Fi‘l māḍī + maf‘ūl bih + fā‘il	Recognizes verb–object–subject relation but not the muqaddam–mu’akhhkar nuance.
4	ووفقك لصالح الأعمال	Conjunction + verb + object + prepositional phrase	Focuses on functional roles.
5	أن أراك	Ḥarf naṣb + fi‘l muḍāri‘ + maf‘ūl bih	Correctly identifies clause governed by <i>an</i> .
6	قوي الإدراك	Verb + subject + object	Functional interpretation.
7	تواسي الفقراء	Conjunction + verb + jar–majrūr	Identifies prepositional phrase expressing compassion.
8	وتشفق على الضعفاء	Verb + object	As above.
9	تغفر الزلات	Jar–majrūr + iḍāfah	Identifies phrase as adverbial of condition.
10	في صلاتك	Conjunction + negation + verb	Functional identification without classical detail.
11	ولا تهمل	Jar–majrūr + iḍāfah	As above.
12	في عبادة ربك	Verb + maf‘ūl bih + iḍāfah	Correct functional parsing.

13	تقبل نصيحة ناصح	Conjunction coordinated noun + + iḍāfah	Identifies ma’ṭūf structure.
14	ومعلمك	Negation + verb + object	Functional but not deeply syntactic.
15	لا تجد أحدا	Huruf nafi + fiil mudhori + fail + maf’ ul bih	“Lā” negates the action, “tajid” is a present verb with an implied subject (anta), and “aḥadan” is the object (maf’ul bih).

Comparative Analysis of *Tarkīb* Output (Traditional vs. ChatGPT)

The comparison reveals clear differences in depth and precision. Traditional *tarkīb taḥlīlī* provides comprehensive syntactic insight, detailing classical grammatical categories, hierarchical relations, and nuanced structures such as delayed subjects and prefixed objects. Conversely, ChatGPT’s analysis is accurate at the surface level but lacks alignment with the finer distinctions used in advanced *nahwu* pedagogy.

These findings corroborate earlier research. Resti-Maulidiya et al. (2024) observe that ChatGPT can produce reasonably accurate basic *i’rāb* but does not reach expert-level precision. Sanaya and Sulaikho (2024) similarly note that ChatGPT’s explanation of *maf’ul bih* remains descriptive rather than analytical. ALSbou, Abdullah, and Deris (2024) further report that ChatGPT struggles with the complexities of classical Arabic, despite strong capabilities in general text processing.

Accordingly, this study contributes to the existing literature by offering a direct, systematic comparison between human-executed *tarkīb taḥlīlī* and AI-generated syntactic analysis for a classical Arabic text.

Table 3. Comparative Analysis of *Tarkīb* Output (Traditional vs. ChatGPT)

No.	Sentence	Traditional Nahwu Analysis	ChatGPT Analysis	Difference
1	نصيحة الأستاذ	Khabar–mubtada iḍāfah	Mudāf + mudāf ilayh	ChatGPT omits <i>khabar–mubtada</i> structure
2	لتلميذ	Jar–majrūr + iḍāfah	Jar–majrūr	ChatGPT omits <i>iḍāfah</i>
3	أرشدك الله	Fi’l māḍī + maf’ul bih muqaddam + fā’il mu’akhkhar	Fi’l māḍī + maf’ul bih + fā’il	ChatGPT does not identify <i>muqaddam–mu’akhkhar</i>
4	ووفقك لصالح الأعمال	Ḥarf ‘aṭf + fi’l + fā’il + maf’ul bih	Ḥarf ‘aṭf + fi’l + kāf maf’ul bih	ChatGPT omits <i>fā’il</i>
5	أن أراك	Ḥarf naṣb wa maṣdar + fi’l muḍāri’ + fā’il + maf’ul bih	Ḥarf naṣb + fi’l muḍāri’ mansūb + maf’ul bih	ChatGPT omits <i>fā’il</i>
6	قوي الإدراك	Ḥāl + ātif bayān + iḍāfah	Ma’tūf + iḍāfah	ChatGPT misses <i>ḥāl</i> function
7	تواسي الفقراء	Fi’l + fā’il + maf’ul bih	Fi’l muḍāri’ + maf’ul bih	ChatGPT omits <i>fā’il</i>

8	وتشفق على الضعفاء	Ḥarf ‘aṭf + fi’l + fā’il + jar- majrūr	Fi’l muḍāri’ mu’aṭaf + jar-majrūr	ChatGPT omits ḥarf ‘aṭf role
9	تغفر الزلات	Fi’l + fā’il + ma’ūl bih	Fi’l muḍāri’ + ma’ūl bih	ChatGPT omits fā’il
10	في صلاتك	Jar-majrūr + iḍāfah	Jar-majrūr	ChatGPT omits iḍāfah
11	ولا تحمل	Ḥarf ‘aṭf + nāfy + fi’l muḍāri’ + fā’il	Ḥarf ‘aṭf + ḥarf nāfy + fi’l muḍāri’	ChatGPT omits fā’il
12	في عبادة ربك	Jar-majrūr + iḍāfah	Jar-majrūr	ChatGPT omits iḍāfah
13	تقبل نصيحة ناصح	Fi’l muḍāri’ + fā’il + ma’ūl bih + iḍāfah	Fi’l muḍāri’ + ma’ūl bih + iḍāfah	ChatGPT omits fā’il
14	ومعلمك	Ḥarf ‘aṭf + ma’tūf + iḍāfah	Ḥarf ‘aṭf + ma’tūf	ChatGPT omits iḍāfah
15	لا تجد أحدا	Ḥarf nāfy + fi’l muḍāri’ + fā’il + ma’ūl bih	Ḥarf nāfy + fi’l muḍāri’ + ma’ūl bih	ChatGPT omits fā’il

A comparison between traditional nahwu analysis and ChatGPT’s syntactic interpretation shows both convergence and divergence in understanding Arabic sentence structure. Both approaches successfully identify core grammatical components—fi’l, fā’il, ma’ūl bih, jar-majrūr, and iḍāfah—and illustrate basic relational patterns in fi’liyah and ismiyyah constructions. In straightforward or repetitive syntactic environments, ChatGPT demonstrates a reasonably reliable ability to recognize surface-level grammatical structures.

However, the traditional nahwu method remains far more precise in detecting complex syntactic arrangements, such as ma’ūl bih muqaddam, fā’il mu’akhhkar, and intricate iḍāfah relationships. Traditional scholars also account for semantic nuance, rhetorical intent, and balāghī context—elements that current AI models cannot consistently interpret. ChatGPT tends to rely on formal grammatical cues and often overlooks deeper semantic associations or rhetorical subtleties embedded in classical Arabic texts.

Nevertheless, ChatGPT proves useful as an auxiliary analytical instrument, especially in preliminary syntactic mapping before expert validation. While it cannot substitute the interpretive depth of classical nahwu scholarship, it contributes meaningfully to digital-assisted linguistic analysis.

Recent scholarly discussions corroborate these findings. Studies report that AI can increasingly recognize syntactic patterns and simplify complex constructions but still struggles with semantic depth, stylistic nuance, and intertextual resonance characteristic of classical Arabic (Altammami, 2025; Farghal & Haider, 2024). Other research confirms that AI is most effective when positioned as a supportive tool requiring human oversight (Shormani & Alfahad, 2025). Collectively, these studies

affirm that while AI offers valuable syntactic assistance, it does not yet match the interpretive precision of traditional nahwu.

CONCLUSION

This study compared the grammatical analysis of *Waṣāyā al-Ābā' lil-Abnā'* conducted through the Traditional Nahwu Approach and ChatGPT's AI-driven method. Both approaches successfully identify essential syntactic elements such as *fi'l*, *fā'il*, *maf'ūl bih*, *jar-majrūr*, and *iḍāfah*. However, their levels of accuracy and analytical depth differ significantly. The Traditional Nahwu Approach remains superior in capturing subtle grammatical functions, intricate word-order variations, and context-sensitive interpretations fundamental to classical Arabic. By contrast, ChatGPT excels in rapid pattern recognition and consistent identification of basic structures, but it lacks the capacity to fully analyze advanced syntactic, semantic, and rhetorical features prominent in classical texts. Thus, traditional nahwu continues to provide authoritative analytical precision, while ChatGPT contributes efficiency and accessibility. An integrated AI-Assisted Nahwu Analysis (AINA) model is proposed as a future framework: combining the depth of classical grammar with the computational advantages of AI. Although ChatGPT cannot replace expert scholarship, it serves as a valuable complement for modern linguistic research and digital grammar pedagogy.

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