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Article

Developing the teaching Arabic rhetoric: A comparative analysis of artificial intelligence and traditional hermeneutical approaches

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Abstract: Arabic rhetoric has traditionally relied on ancient texts and human interpretation for teaching purposes. The study investigates ChatGPT's ability to analyze and interpret Arabic rhetorical devices, specifically examining its capacity to handle cultural and contextual elements in rhetorical analysis. Drawing on institutional implementation frameworks and recent educational technology research, this study examines policy considerations for Arabic rhetoric education in an AI-driven environment, with a particular focus on sustainable digital infrastructure development and systematic reforms needed to support AI integration. The study employed the comparative approach to analyze eight rhetorical examples, including metaphors ("Zaid is a lion"), similes ("Someone is a sea"), and metonymy ("A person full of ash"), then compare ChatGPT's interpretations with traditional explanations from classical Arabic rhetoric texts, particularly "Dala'il al-I'jaaz" by al-Jurjani. The results demonstrate that ChatGPT can provide basic interpretations of simple rhetorical devices, but it struggles with understanding cultural contexts and multiple layers of meaning inherent in Arabic rhetoric. The findings indicate that AI tools, despite their potential for modernizing rhetoric education, currently serve best as supplementary teaching aids rather than replacements for traditional interpretative methods in Arabic rhetoric instruction.

Keywords: artificial intelligence; Arabic rhetoric; ChatGPT; metaphor; simile; cultural context; natural language processing; educational technology; comparative analysis

1. Introduction

The field of education has received much interest from researchers due to the rapid advancement of artificial intelligence (AI) technology (Ismail, 2024). AI has been used in various aspects of life, such as education and many other literary fields. Many educational institutions started using technology extensively in their academic settings (Dawoud et al., 2023). Among these settings, Arabic language writing has emerged as particularly important because it uses rhetorical devices such as metaphor, metonymy, and simile. AI relies on natural language processing (NLP) techniques based on large databases and advanced language models to analyze texts and provide interpretations (Alqahtani et al., 2023). However, analyzing Arabic rhetoric poses a significant challenge for AI due to the complexity of rhetorical devices and their connection to cultural and historical contexts, which would be challenging for algorithms to comprehend (Al-Kaabi et al., 2024). Nevertheless, AI has the potential to transform Arabic rhetoric education through personalized learning approaches, data-driven information, and systematic analysis tools (Naseer et al., 2024; Wang et al., 2024)

The explicit metaphor form, where qualities of one thing are given to another without directly stating their connection, remains challenging for technology systems

to understand and process (Ghazinoory and Aghaei, 2024). As an illustration, in the phrase "Zayd is a lion," the attribute of bravery is transferred from the lion to Zayd. Al-Jurjani (1980) argues that metaphor is not merely a means of conveying meaning but rather an "aesthetic claim" aimed at presenting the vehicle as the tenor in its entirety so that the person becomes a metaphorical entity representing the lion with all its attributes of bravery, majesty, and strength. In contrast, when ChatGPT analyzes the exact phrase, it provides an interpretation based on the superficial level of meaning, linking the lion to bravery in a superficial way. Although this interpretation is linguistically correct, it lacks the psychological and cultural dimensions emphasized by Al-Jurjani (1980).

Based on the short review above, this study examines how well ChatGPT understands and analyzes classical Arabic rhetoric compared to traditional scholarly interpretations. The study explores the gap in understanding how AI systems process complex Arabic language features in teaching environments. This study contributes to the field of translation by linking AI interpretations of rhetorical devices with traditional interpretations by Arab rhetoricians, and this is an original contribution that combines modern linguistic processing with traditional cultural analysis. The significance of this study lies in showing how technology could improve Arabic rhetoric teaching while keeping important traditional methods.

The integration of AI in education requires comprehensive policy frameworks that address infrastructure, governance, and pedagogical dimensions (Alqahtani & Wafula, 2024; Chugh et al., 2023). Recent studies highlight that successful AI implementation in higher education depends on developing clear guidelines for academic integrity, data privacy, and ethical use, and it influences teachers' pedagogical strategies, mentoring approaches, and the content of education (Adewale et al., 2024; Chan, 2023). Furthermore, institutions must consider both the transformative potential and risks associated with AI integration to move beyond viewing AI solely as a tool for workforce development (Schiff, 2022).

Thus, the present study aims to answer the following question:

(1) What are ChatGPT's capabilities and limitations in understanding classical Arabic rhetoric compared to traditional methods with a specific focus on cultural and contextual elements?

The study analyzes eight examples of metaphors, similes, and metonymy and then compares how ChatGPT and classical Arabic scholars interpret them. This study advances both education technology and Arabic language research by showing clear evidence of what AI can and cannot do when processing complex language and cultural meanings.

2. Literature review

This section highlights studies that addressed Arabic rhetoric analysis and AI applications. We also provide a theoretical foundation for comparison with our current research. Previous studies have explored various aspects of Arabic rhetoric analysis and AI applications in linguistics. Some of these studies offered different approaches to computational linguistics, while others focused on rhetorical models without exploring the deep cultural contexts that characterize Arabic rhetorical studies.

Research on morphological and syntactic processing has a long tradition. Early work by Mesfar (2008) studied the morphological and syntactic processing of Arabic texts using digital tools like the "El-DicAr" morphological dictionary. The study addressed challenges related to Arabic morphology without exploring the rhetorical analysis. This foundational work established important methodological approaches for computational analysis of Arabic texts. Silberztein (2015), in his book on language formalization using NooJ software, discussed the importance of formalization in natural language processing. Silberztein's research explored computational linguistics elements such as grammar, semantics, and morphology. However, their study did not focus on rhetoric which differs from our study's examination of AI in Arabic rhetoric analysis. Basha's (2020) research "Metaphor Translation Between Opinions and Theories" studied how translators handle this rhetorical form across different cultures. The research showed key methods that help understand indirect meanings. The study concluded with strategies for preserving metaphorical expressions during translation while maintaining their cultural significance across languages.

Research shows that AI systems can understand and explain basic rhetoric patterns and simple language features. Smith's (2022) research found that ChatGPT successfully analyzed basic comparisons and identified relationships between compared elements. However, AI does not carry the ability to analyze complex language features like metaphors that need cultural understanding beyond basic meanings. Smith confirms that AI tools are helpful for quick analysis and require substantial development to understand complex rhetoric that depends on cultural knowledge.

Al-Jurjani states in "Dala'il al-I'jaz" that rhetoric involves more than the beauty of the language. Al-Jurjani's (1980) work shows that readers must understand hidden meanings and possible interpretations which requires knowledge of both context and emotional elements within the text. This is what AI currently lacks, as it relies on analyzing linguistic patterns without delving into the psychological and social depths of texts.

Recent research emphasizes the importance of structured approaches to AI implementation in higher education. Chugh et al. (2023) identified five critical dimensions for successful AI integration: technology characteristics, stakeholder perceptions, academic discipline considerations, success metrics, and theoretical frameworks. Their study of 46 empirical cases demonstrated that effective AI implementation requires addressing both technical infrastructure needs and pedagogical practices. Educational technology implementations face various challenges, including stakeholder acceptance, infrastructure readiness, and policy alignment (Chugh et al., 2023). This is to say that the integration of AI into Arabic rhetoric education requires meticulous examination of institutional frameworks and capabilities as these factors interplay between technological infrastructure and pedagogical requirements. This relationship demands an analysis of organizational readiness and resource allocation to ensure effective implementation strategies (Alaqlobi et al., 2024; Anwar and Ahyarudin, 2023).

Higher education institutions undergo rapid transformation driven by emerging technologies; thus, the development of sustainable digital infrastructure becomes important for these educational institutions (Chugh et al., 2023). Recent studies

emphasize that successful AI integration requires both technical capacity to implement hardware/software solutions and appropriate administrative structures to support new pedagogical practices. Implementation research highlights several critical factors: stakeholder acceptance, environmental readiness, and clear strategies that facilitate long-term sustainability (Chan, 2023).

To this end, AI technology remains valuable for teaching rhetoric in several ways and its capabilities continue to expand with new developments in NLP. Ismail and Aloshi (2025) helps teachers and students analyze texts quickly and get immediate feedback which enables more efficient classroom practices across multiple disciplines. Al-Ghamdi (2021) added that AI tools like ChatGPT provide useful basic interpretations which makes them effective supporting tools in education.

3. Methodology

Abuhamda et al. (2021) stated, "Quantitative and qualitative methods are the engine behind evidence-based outcomes." Thus, we adopted the qualitative approach to respond the study's question and achive the aims. We employed a comparative analytical methodology that begins by selecting a set of rhetorical devices from classical Arabic texts, such as metaphors, similes, and metonymy. These examples are inputted into ChatGPT to observe how the AI processes and interprets them. The results are then compared to the interpretations provided by traditional scholars, such as those found in the works of al-Jurjani. The differences between the interpretations are then analyzed to highlight AI's capabilities and limitations in dealing with these complex linguistic phenomena. The study also examined institutional readiness for AI integration, such as technical infrastructure, faculty training needs, and policy frameworks.

We selected rhetorical examples that reflect Arabic stylistics' depth and cultural diversity. The selection process of examples was based on three criteria as follows:

1) The diversity of rhetorical devices (metaphors, similes, and metonymies).

2) Examples of historical significance in Arabic literature are those cited by traditional rhetoricians such as Abdul-Qahir Al-Jurjani.

3) Examples that carry complex semantic and cultural dimensions to test AI's capability to analyze rhetorical aspects within their traditional context.

Upon identifying the examples, they were input into ChatGPT to analyze its interpretation of each, and subsequently, its results were compared with the interpretations provided by classical scholars.

The study analyzed the eight rhetorical examples:

1) Metaphor: "Zayd is a lion."

2) Metonymy: "A random/unknown person is full of ash."

3) Simile: "Zayd is like the sea."

4) Loose metaphor: "Flowing Rivers."

5) Arabic poetry: "And when death sinks its claws *** You find all amulets ineffective."

6) Metonymy: "She is a late morning sleeper" and "He has a long sword-strap."

7) Arabic poem: "He is the sea, from which side did you come to it."

8) Abstraction: "The moon became between us."

4. Results

Analyzing complex rhetorical devices in Arabic using AI significantly tests this technology's ability to comprehend the Arabic rhetorical heritage. This is because Arabic rhetoric requires a deep understanding of the cultural and historical contexts surrounding rhetorical examples. In this section, we compare ChatGPT's results with the hermeneutics of traditions of great rhetoric scholars such as Al-Jurjani, Ibn Athir, and Al Skaki to clarify AI's capabilities and analytical limitations.

4.1. Metaphor analysis—Analysis of metaphor: The example of "Zayd is a lion"

The hermeneutics of tradition: Al-Jurjani views explicit metaphor as one of the most complex rhetorical techniques, where the attributes of a tenor are attributed to a vehicle without explicitly stating the relationship. In his interpretation of the phrase "Zayd is a lion", Al-Jurjani asserts that the meaning goes beyond merely transferring the attributes of a lion (bravery and strength) to Zayd. Rather, the metaphor expresses a psychological and aesthetic experience that claims the person being compared has become part of the metaphorical image represented by the lion (Al-Jurjani, 1980). Therefore, metaphor represents a state of psychological identification between the person being compared and the metaphorical image.

AI analysis (ChatGPT): when this phrase was inputted into ChatGPT, the AI provided a straightforward interpretation that focused on the superficial level of meaning, connecting the lion to bravery and strength. While this interpretation is linguistically correct, it failed to address the psychological and aesthetic dimensions raised by Al-Jurjani, making the AI's interpretation limited in understanding the artistic depth of the metaphor.

4.2. Metonymy analysis—Analysis of metonymy: The example of "a random/unknown person is full of ash"

Hermeneutics of tradition: Metonymy is a rhetorical device that relies on alluding to a quality without explicitly stating it. Athir (1990) explains in "Al-Mathal Al-Sair" that the metonymy in the phrase "A random/unknown person is full of ash" indicates generosity, as ash is associated in traditional Arab contexts with frequently lighting fires to prepare food for guests. The metonymy here focuses on the relationship between the cultural connotation of ash and generosity, which requires understanding the social context in which this phrase emerged.

AI analysis (ChatGPT): ChatGPT provided a straightforward interpretation suggesting that "full of ash" could indicate activity or a lot of work, an interpretation that deviates from the precise understanding of rhetorical metonymy. This reveals the AI's deficiency in understanding the cultural and social symbols associated with metonymy, emphasizing the need to enhance AI's ability to handle these cultural dimensions.

4.3. Simile analysis—Analysis of simile: The example of "Zayd is like the sea"

Simile also represents a rhetorical device that faces challenges when analyzed using AI. In the phrase "Zayd is like the sea", Al-Jurjani (1980) explains that the sea not only refers to generosity but also symbolizes mystery, depth, and stability. A closer look at this explanation shows that the simile carries deeper psychological and intellectual connotations than a mere superficial comparison. On the other hand, ChatGPT provides an interpretation that focuses on the superficial meaning of generosity without addressing the actual meaning, which includes mystery and stability. Thus, it can be understood that AI shows a limitation in understanding the complexities of rhetorical devices.

Hermeneutics of tradition: Simile is one of Arabic rhetoric's most common rhetorical devices and often carries deeper connotations than its surface meanings. Al-Jurjani (1980), in "Dala'il al-I'jaz", argues that the simile "Zayd is like the sea" is not limited to comparing generosity but carries multiple other meanings like mystery, depth, and stability. In this context, the sea represents not only the vastness of giving but also the power and status that the person being compared may possess.

AI analysis (ChatGPT): ChatGPT provided an interpretation based on the common meaning of generosity and giving, but it did not address the other dimensions associated with the sea, such as depth and mystery. This demonstrates that AI relies on the surface meanings it has been trained on, making it unable to grasp the cultural and semantic depth of the simile.

4.4. Loose metaphor analysis—Analysis of the loose metaphor: Example "flowing rivers"

Hermeneutics of tradition: The loose metaphor is a rhetorical device that relies on a relationship other than similarity between meanings. The phrase "flowing rivers" can denote abundance or the continuous flow of life or goodness. Al-Skaki (1992), in "Miftah al-Ulum", argues that loose metaphor relies on relationships such as causality, spatiality, or temporality, making it a style that depends on context to determine the true meaning behind the phrase.

AI analysis (ChatGPT): When analyzing this phrase, ChatGPT provided a simple interpretation indicating that rivers refer to the actual flow of water, ignoring the metaphorical connotations the phrase may carry. This shows that AI often lacks the ability to distinguish between literal and figurative meanings, especially when the semantic relationships are complex.

4.5. Poetic analysis—Analysis of Arabic poetry: The verse "And when death sinks its claws *** You find all amulets ineffective"

Traditional interpretation**:** This poetic verse serves as an example of metaphorical personification (Al-Isti'ārah Al-Makniyyah), which Al-Sakkaki terms "metaphor by metonymy" (al-isti'ārah bil-kināyah). This occurs "when you mention the subject of comparison while intending the object of comparison, indicating this through established context. This involves attributing to it something from the necessary characteristics of the object being compared to, such as comparing death to a predator,

then singling it out by mentioning it while attributing to it, through imaginative metaphor, characteristics that can only belong to the object of comparison, to serve as evidence of the intended meaning, as in saying: 'death's claws seized someone,' while omitting mention of the object being compared to, which is 'like a predator'" (Al-Sakkaki, 1987).

Qasim and Deeb (2003) attempt to clarify this statement by noting that Al-Sakkaki's example is taken from the poet's verse:

"And when death sinks its claws *** You find all amulets ineffective."

Here, the poet compares death to a predator. The borrowed element (the predator) is omitted but implied through one of its characteristics or necessary attributes (the claws), while the borrowing element (death) is explicitly mentioned. The contextual evidence is "the claws," and the common factor between them is the act of seizing prey (Qasim and Deeb, 2003).

Thus, the traditional interpretation focused on identifying the elements of the simile and the location of the metonymy within it, combining them in the form of metaphorical personification (al-isti'ārah al-makniyyah). This includes mentioning the subject of comparison (or borrowed element), omitting the object of comparison (or source element), and referring to it through one of its necessary characteristics or attributes.

The traditional interpretation by Al-Sakkaki and his commentators did not address the aesthetic value of this metaphor, nor did they deeply examine the strong connection between the two elements of comparison beyond stating that "seizing prey" is the common factor between them.

AI analysis (ChatGPT): ChatGPT provided a convincing and direct interpretation, with greater detail, across two consecutive instances. First, when asked about the meaning of the first hemistich, and second, when presented with the complete verse. It explained that the poetic verse employs metonymy and simile to convey the inevitability of death and the futility of all means to prevent it. After providing this concise meaning, it proceeded to analyze both hemistiches of the verse.

The verse "And when death sinks its claws" is analyzed as "portraying death as a predatory being, sinking its claws into humans when their time comes, suggesting death's power and intensity."

As for "You find all amulets ineffective," it explains that "when death arrives, one finds that all protective amulets or means used to avoid harm and danger become useless, as they cannot prevent or delay death."

It concludes with what it terms the "general meaning": the poet indicates that when death comes, it becomes inevitable, and no means, regardless of their power, can repel or distance it, confirming the idea that death is an inescapable end, and reliance on worldly protective measures will not change this fact.

4.6. Complex metonymy analysis—Analysis of metonymy: Example: "She is a late morning sleeper" and similarly: "He has a long sword-strap"

Traditional interpretation: The detailed discussion of this example comes with the definition of metonymy, which Al-Sakkaki (1987) described as "leaving direct

mention of something to mention what necessitates it, to move from the mentioned to the omitted, as in saying: 'someone has a long sword-strap,' to move from it to its necessity, which is tall stature, and as in saying: 'she is a late morning sleeper,' to move from it to what it necessitates, which is being served, not needing to attend to tasks herself, for the morning time is when Arab women busy themselves with livelihood matters and securing necessities, preparing consumables and managing their preparation, so none of their women sleeps at this time except those who have servants attending to these tasks for them." Here, Al-Sakkaki detailed the explanation of this metonymy in general, and specifically metonymy of attribute. Al-Sakkaki connected the example to the reality of Arab life in his time, or as he knew it then.

AI analysis (ChatGPT): ChatGPT provided a clear and direct interpretation, indicating that "late morning sleeper" is "a metonymy for luxury, comfort, and peace of mind, used to describe a woman living a comfortable and stable life, such that she sleeps in the late morning (after sunrise by some time) without needing to wake up early." It further analyzed that: "this expression indicates that the person described lives in prosperity and comfort, and has no burdens forcing her to wake up early."

The same was true when asked about the expression "he has a long sword strap", which it explained is used in Arabic to refer to a person of tall stature. The sword strap is the sword's scabbard. If someone has a long sword strap, this means their sword's scabbard is long due to their tall stature. Thus, it demonstrates knowledge of Arab culture and employs logic as well, although it does not mention here the precise rhetorical term "metonymy," sufficient to indicate its significance.

4.7. Analysis of the Arabic poem—The verse "He is the sea, from which side did you come to it"

Hermeneutics of tradition: In this verse, the poet compares the person he is praising to the sea, symbolizing greatness and inexhaustible generosity. Al-Skaki (1992), in "Miftah al-Ulum", explains that the sea in this context represents the vastness and continuity of giving. The simile in this verse relies on the connotations of grandeur and majesty, in addition to generosity, which strengthens the psychological image of the praised person.

AI analysis (ChatGPT): ChatGPT provided an interpretation focusing on the aspect of generosity and wealth, but it overlooked the connotations of grandeur and majesty that the sea carries in this context. This shortcoming shows that AI needs to improve its ability to analyze poetic texts that rely on multiple meanings and symbols.

4.8. Analysis of abstraction—The example of "The moon became between us"

Hermeneutics of tradition: Abstraction is a rhetorical device that involves transferring attributes from one thing to another. In the phrase "The moon became between us," the moon might symbolize beauty or splendour. Al-Jurjani (1980) explains that abstraction relies on removing explicit comparison and transforming the attribute into a tangible thing that is attributed to the simile. In this phrase, the moon becomes the embodiment of the simile, expressing the beauty of the person being compared.

AI analysis (ChatGPT): ChatGPT provided a superficial interpretation. It suggested that the moon might symbolize beauty, but it did not delve deep into analyzing the relationship between the simile and the thing being compared, making its interpretation limited compared to hermeneutics of traditions.

4.9. General comparison of interpretations

Analyzing these examples shows that AI can provide initial interpretations of rhetorical models, but it remains limited in its ability to grasp the psychological and cultural depth provided by the hermeneutics of traditions. Rhetorical devices such as metaphor, metonymy, and simile rely on cultural accumulations and psychological connotations that make it difficult for AI to interpret accurately.

Traditional rhetoricians like Al-Jurjani, Ibn al-Athir, and Al Skaki focus on the symbolism and psychological experience carried by rhetorical devices. However, AI relies on analyzing linguistic patterns in their apparent meanings, which is evident in its superficial interpretation without delving into multiple interpretations.

This comparison emphasizes the importance of developing AI techniques to be more compatible with Arabic cultural and rhetorical heritage. AI capabilities should be enhanced to understand the historical and social contexts of texts so that they can be used as an effective assistive tool while preserving the role of humans in deep interpretation that requires a comprehensive understanding of literary texts.

Thus, AI demonstrates here a significant capacity for analysis and the ability to generalize findings in similar contexts. It appears to have been supplied with numerous examples and extensive information, through which it can handle similar or parallel cases whenever they appear in comparable cultural or life contexts.

5. Discussion

With the increasing reliance on AI in education, it has become possible to integrate this technology into specialized fields, such as teaching Arabic rhetoric to non-native speakers. Arabic rhetoric is considered one of the most complex literary fields due to its diverse styles and reliance on cultural and social context to convey the meaning of rhetorical expressions. AI techniques such as NLP enable new models in teaching rhetoric by providing instant explanations of complex rhetorical examples. This helps non-native speakers understand concepts more quickly and easily.

The findings align with recent research that successful AI integration requires a multi-dimensional approach addressing pedagogical, governance, and operational aspects (Chan, 2023). Like other institutions implementing educational technology, universities must develop clear frameworks that balance innovation with academic integrity while ensuring equitable access and appropriate infrastructure support (Chugh et al., 2023).

5.1. Opportunities and strengths

AI offers significant potential for improving the teaching of rhetoric, especially for non-native Arabic speakers. One of the most prominent opportunities is the ability to provide instant and simplified explanations of complex rhetorical texts. According to a study by Smith (2022), AI models can be used to provide rhetorical explanations

in English, making it easier for students to connect rhetorical concepts in Arabic to their equivalents in their native language.

Additionally, these tools provide the ability to analyze literary texts in interactive ways. Students can ask direct questions to AI models like ChatGPT and receive multiple interpretations of rhetorical devices such as metaphors, similes, and metonymies. This interactive approach enhances the learning experience and encourages students to explore literary texts more deeply. Al-Ghamdi's (2021) study shows that AI can improve the educational process by providing quick and comprehensive analysis of texts, which facilitates understanding of rhetorical techniques.

Furthermore, AI can be used to create interactive educational applications tailored for non-native speakers. These applications are used to train them to analyze rhetorical texts. Jones (2020) indicates that using AI in such educational applications helps improve students' levels by providing practical and interactive examples that make rhetorical concepts clearer and easier to understand.

5.2. Challenges and limitations

Despite the significant opportunities offered by artificial intelligence in teaching rhetoric, this technology may face a number of challenges when dealing with non-native Arabic speakers. One of the main challenges is that rhetorical devices rely heavily on cultural and social contexts, aspects that are difficult for AI to understand. Arabic rhetoric relies on intricate methods of simile, metaphor, and metonymy that require a deep knowledge of Arab history and society, which hinders the process of analyzing them accurately.

Additionally, Margolis (2019) points out that AI relies on limited data models on which it is trained. The limited data often leads to superficial interpretations when it comes to complex rhetorical examples. This challenge becomes more acute when AI attempts to interpret poetic texts that include figures of speech and metaphors that rely on a culture rooted in Arab history (Margolis, 2019).

Another challenge is that non-native Arabic speakers may struggle to understand explanations provided by AI if they are not detailed enough to clarify the nuances between different rhetorical devices. Rhetorical devices such as metaphor, simile, and metonymy require multi-layered explanations to be fully understood by non-native speakers.

Nevertheless, experts caution against relying solely on these tools, as a deep understanding of rhetorical structures requires human intervention to interpret and understand cultural and social contexts.

It can be understood that AI represents a promising tool in teaching Arabic rhetoric, but significant improvements are still needed to handle the cultural and linguistic complexities required by rhetoric. These tools should be used as an aid in the educational process without replacing deep human analysis. Improving NLP techniques to be more compatible with cultural contexts can enhance the ability of AI to handle rhetorical texts more accurately and effectively.

5.3. Areas for improvement

It is important to enhance AI's ability to handle complex rhetorical devices by training it on larger datasets that include rhetorical texts from multiple contexts. Additionally, interactive learning tools that combine AI and human analysis should be developed to provide accurate and comprehensive explanations to learners. Jones (2020) suggests that technology should be integrated with the hermeneutics of rhetoricians' traditions to offer a comprehensive learning experience that encompasses all linguistic and cultural aspects of literary texts.

AI is a powerful educational tool, but it faces significant challenges when applied to the field of Arabic rhetoric, as Arabic analysis is primarily based on cultural and historical context. For this technology to be more effective in teaching rhetoric, improvements must be made in language models, NLP, and understanding of cultural contexts. These improvements can enhance AI's ability to interpret rhetorical devices more accurately and provide deeper explanations for students, both native and non-native Arabic speakers.

5.3.1. Improving language models and NLP

AI relies heavily on language models that are trained on massive databases of written text. However, these models cannot handle the complex Arabic rhetoric that relies on symbolic interpretations and implied meanings. Improving these models requires training them on rhetorical texts that include traditional explanations of devices such as metaphor, simile, and metonymy.

According to Jones (2020), improving natural language processing in AI requires expanding the scope of data that models are trained on to include literary and rhetorical texts that vary in their styles and tools. Traditional explanations by rhetoricians such as Al-Jurjani and Al-Sakaki should also be included to provide AI with deeper contexts that enable it to provide more accurate interpretations of rhetorical models (Jones, 2020).

5.3.2. Improving the ability to understand cultural and historical contexts

The ability to understand cultural and historical contexts is a fundamental part of understanding rhetorical devices in Arabic. Many metaphors and metonymies rely on specific cultural or historical situations. This makes it difficult for AI to interpret these devices without awareness of these contexts. For example, allusions in Arabic often rely on indirect references to social matters, such as "A random/ unknown person is full of ash," to indicate generosity.

Improving AI in this area requires the introduction of cultural and historical databases that help interpret rhetorical devices. Margolis (2019) recommends the need to input data related to Arab social and cultural contexts into the training of AI models, which will enable them to grasp the cultural links associated with allusions, metaphors, and similes.

5.3.3. Enhancing the ability for multi-dimensional interpretation

One major challenge AI faces is the ability to interpret literary texts in a multi-dimensional manner. Rhetorical devices such as metaphor and metonymy rely on multiple interpretations, as a single word can carry different meanings depending on

the context. Currently, AI relies on a single interpretation or a limited number of interpretations based on the most common patterns.

To enhance AI's ability to provide multiple interpretations, algorithms must be improved to analyze rhetorical texts in multiple ways and produce a range of possible interpretations. Al-Ghamdi (2021) suggests that developing techniques based on deep neural networks can help enhance AI's ability to provide in-depth and multi-dimensional explanations of rhetorical texts.

5.3.4. Designing interactive educational applications based on AI

To maximize the benefits of AI in teaching rhetoric, educational applications based on this technology must be developed that allow students to interact with rhetorical texts interactively. AI-based applications can help train students to analyze rhetorical texts and use rhetorical devices in their own writing. These applications provide students with an opportunity to interact with rhetoric in interactive ways, where they can ask questions and get instant answers.

According to Smith (2022), interactive applications based on AI can effectively train students to analyze rhetorical texts by providing explained examples and multiple interpretations of rhetorical models, thus enhancing their ability to grasp Arabic rhetoric more deeply.

There are several areas in which AI can be improved to be more suitable for serving Arabic rhetoric education. These areas include improving language models and NLP to enhance AI's ability to handle rhetorical devices, introducing cultural and historical contexts into model training, and enhancing the ability to provide multi-dimensional interpretations of literary texts.

It is also important to develop interactive educational applications based on AI. These applications provide students with an opportunity to learn rhetoric through interaction with texts and receiving instant explanations. Improving these aspects will make AI more effective in providing strong educational support for students in the field of Arabic rhetoric.

5.4. Policy implications and infrastructure requirements

The integration of AI in Arabic rhetoric education requires systematic institutional reforms and robust digital infrastructure. Based on our findings and recent implementation frameworks (Chugh et al., 2023), universities should develop clear policies for AI use in teaching and assessment and create sustainable technical infrastructure to support AI tools. Additionally, universities need to develop professional development programs for faculty. Similarly, to ensure its success, universities are required to implement quality assurance measures for AI-enhanced teaching and equal access to AI resources across departments.

5.5. Summary of the findings

1) Effectiveness of AI in providing surface-level interpretations: AI, such as ChatGPT, has demonstrated its ability to provide interpretations of basic rhetorical models, especially in cases that rely on direct meanings, such as simple similes.

2) Shortcomings in comprehending cultural dimensions: Despite its ability to provide linguistic explanations, AI lacks a deep understanding of rhetorical devices

linked to the cultural and social heritage of Arabic, such as allusions and metaphors that rely on cultural and historical symbolism.

3) Challenges in providing multi-dimensional interpretations: AI struggles with analyzing rhetorical texts that require multiple interpretations, often limiting itself to a single interpretation or a few interpretations based on the most common patterns.

4) Potential for improving teaching for non-native speakers: AI offers significant potential for improving the teaching of rhetoric for non-native speakers by providing instant interpretations and interactive explanations that help simplify complex concepts."

6. Conclusion

This study examines the adequacy of AI applications in teaching Arabic rhetoric. The study focuses on its current capabilities and challenges in analyzing complex rhetorical devices such as metaphor, metonymy, and simile. By comparing AI interpretations with hermeneutics of traditions by rhetoricians such as Al-Jurjani and Ibn Al-Athir, it becomes clear that AI can provide initial and direct interpretations. However, it remains limited in comprehending the deep cultural, psychological, and semantic dimensions that characterize Arabic rhetoric. Despite the challenges faced by AI in teaching rhetoric to non-native speakers, it represents a huge opportunity to simplify learning and facilitate access to complex rhetorical concepts. AI can play a significant role in providing instant and interactive explanations that help students grasp rhetorical devices through educational applications and interactive websites. However, improving the effectiveness of AI requires developing algorithms that are more capable of understanding the cultural and social contexts associated with rhetorical examples.

The study concludes that AI is a powerful tool that can be employed in the field of teaching Arabic rhetoric, especially for non-native speakers. However, there are still many challenges facing this technology in terms of understanding the cultural and social contexts associated with rhetorical devices. To make the most of AI in this field, improvements must be made in linguistic processing and training algorithms on traditional rhetorical texts while taking into account cultural dimensions. In addition, developing interactive educational applications will contribute to providing a comprehensive educational experience that enhances students' understanding of Arabic rhetorical devices, making artificial intelligence a powerful aid in this field.

7. Recommendations

1) Expand the scope of linguistic training: AI should be trained on broader rhetorical texts that include heritage explanations of rhetorical devices such as metaphors and metonymies to improve the accuracy of its interpretations and expand its understanding of cultural and semantic contexts.

2) Introduce cultural and historical data: AI algorithms should be improved to include cultural and social contexts associated with Arabic rhetoric. This will help it provide deeper and more accurate explanations of rhetorical devices associated with heritage.

3) Enhancing the ability to provide multiple interpretations: To improve the ability of artificial intelligence to provide comprehensive explanations of rhetorical texts, the algorithms used must be enhanced to produce multi-dimensional interpretations commensurate with the complexity of rhetorical tools.

4) Developing interactive educational applications: Work must be done to develop educational applications based on artificial intelligence that allow non-Arabic speaking students the opportunity to interact with rhetorical texts in an interactive manner, which helps simplify the learning process and deepen understanding.

5) Integrating artificial intelligence with traditional interpretations: It is important to integrate modern technology with traditional rhetorical interpretations so that students can combine technological and literary understanding of Arabic rhetoric, which enhances the learning experience.

6) Universities should reform assessment policies to integrate AI while preserving traditional analysis. They also need to develop institutional frameworks for AI-enhanced Arabic language teaching and to create quality assurance mechanisms for AI-supported learning. Also, the universities need to establish clear guidelines for AI use in Arabic education.

7) Develop sustainable funding models for AI infrastructure and training.

8) Create regular assessment cycles for AI tools and policies.

9) Establish partnerships with technology providers and Arabic language experts.

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