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Traditional Ethics in the Use of AI for Arabic Language Education: An Aristotelian Philosophy Perspective

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Abstract

This research explores the application of Aristotle's ethical principles in the use of artificial intelligence (AI) for Arabic language education. Using a qualitative approach, data were collected through a hermeneutic analysis of Aristotle's philosophical texts and a documentary study of the implementation of AI in Arabic language learning. The findings show that although AI can enhance the effectiveness of Arabic language teaching, it also presents challenges such as dehumanization, digital divide, and over-reliance on technology, from Aristotle's ethical perspective, these challenges highlight the importance of carefully considering the ultimate goal of education. Applying the principles of virtue ethics, this study proposes that AI should be designed not only to transmit knowledge, but also to cultivate students' character and virtues. The concept of phronēsis (practical wisdom) is introduced as an ethical foundation for determining appropriate boundaries in the use of AI, encouraging educators to consider the context and specific needs of learners when integrating technology. This research offers theoretical and practical insights into how traditional values in Arabic language education can be harmonized with modern technological tools to achieve eudaimonia, a state of holistic well-being for learners.

Keywords*:*

Arabic language education; Artificial intelligence; Aristotelian ethics; Eudaimonia; Phronesis.

Abstrak

Penelitian ini bertujuan untuk mengeksplorasi penerapan prinsip-prinsip etika Aristotelian dalam penggunaan kecerdasan buatan (AI) untuk pendidikan bahasa Arab. Menggunakan pendekatan kualitatif, data Dikumpulkan melalui analisis hermeneutis terhadap teks-teks filsafat Aristotelian dan studi dokumenter tentang implementasi AI dalam pembelajaran bahasa Arab. Temuan penelitian menunjukkan bahwa penggunaan AI dapat meningkatkan efektivitas pembelajaran bahasa Arab, namun berpotensi menimbulkan tantangan seperti

dehumanisasi, kesenjangan digital, dan ketergantungan berlebihan pada teknologi. Dalam kerangka etika Aristoteles, tantangan ini mencerminkan pentingnya kehati-hatian dalam mempertimbangkan tujuan akhir pendidikan. Dengan menerapkan prinsip etika kebajikan, penelitian ini mengusulkan bahwa AI harus dirancang untuk tidak hanya menyampaikan pengetahuan, tetapi juga mengembangkan karakter dan kebajikan siswa. Konsep phronesis diusulkan sebagai landasan etis dalam menentukan batas penggunaan AI, mendorong pendidik untuk mempertimbangkan konteks dan kebutuhan siswa dalam integrasi teknologi. Kontribusi penelitian ini menyediakan wawasan teoretis dan praktis mengenai bagaimana menggabungkan nilai-nilai tradisional pendidikan bahasa Arab dengan teknologi modern, demi mencapai eudaimonia, kesejahteraan yang holistik bagi pembelajar.

Kata kunci:
Pendidikan Bahasa Arab; Kecerdasan Buatan; Etika Aristotelian; Eudaimonia; Phronesis.

1. Introduction

The use of artificial intelligence (AI) in Arabic language education has grown rapidly in recent years. However, social reality shows that it also brings some challenges that could threaten the educational landscape. According to a UNESCO survey conducted in 2022, more than 60% of educational institutions in the Middle East and Southeast Asia have started integrating AI applications into Arabic language learning, such as interactive chatbots, automatic translation platforms, and speech recognition programs (Salam et al., 2024). While these technologies increase accessibility, data from the World Economic Forum (2023) suggests that over-reliance on AI may weaken students' ability to understand the cultural context and deeper meanings of classical Arabic texts, which often cannot be accurately interpreted by algorithms (Anwar, 2023). In addition, a study published in the Journal of Educational Technology Systems (2023) reported that 45% of Arabic language teachers feel their role as educators is increasingly being replaced by automated systems, leading to a sense of professional displacement. Another significant concern is the digital divide: according to UNICEF (2023), only 30% of students in developing countries have stable access to AI-based educational technologies, resulting in increasing disparities in the quality of learning opportunities. In addition, this trend contributes to the dehumanization of teaching and learning, as the emotional interaction between teachers and students begins to diminish. This development poses a threat to the humanist values that have long been at the center of Arabic language education, where personal guidance, moral development, and cultural transmission play an important role (Supriyanto & Toifah, 2024).

Literature shows that research on the use of artificial intelligence (AI) in Arabic language education tends to focus on technical aspects, learning transformation, and

character education implementation. There are significant gaps that have not been explored, especially regarding traditional ethics in the use of AI based on Aristotle's philosophical perspective. Research by (Gunawan & Hidayatullah, 2024) and (Ali & Rani, 2024) highlighted the potential of AI as a tool to improve the effectiveness of Arabic language learning, both in the context of character education and transformation of learning methodologies. Meanwhile, (Mufid & Diantika, 2024) developed an interdisciplinary analysis by integrating Aristotle's categories in nahwu learning, but the focus is still limited to the epistemological and pedagogical dimensions. On the other hand, research (Kyriacou, 2024) and (Sison & Redín, 2023) discuss artificial intelligence from an Aristotelian perspective, but the application is more general and not specific to the context of Arabic language education. This research gap becomes even more evident as there has been no in-depth research on how traditional Aristotelian ethical principles can be integrated into the use of AI in Arabic language education. This is important to ensure that the implementation of AI technology is not only technically effective, but also in line with moral values and humanism in the cultural and philosophical context of Arabic language education.

This research aims to explore and analyze the application of Aristotle's ethical principles as a normative framework in the use of artificial intelligence (AI) for Arabic language education. Focusing on Aristotle's virtue ethics, this research seeks to identify how moral values such as justice, wisdom, courage, and temperance can shape the development and implementation of AI technologies in Arabic language learning. Specifically, this study aims to examine the alignment between traditional values in Arabic language education and the use of AI technology geared towards achieving eudaimonia (well-being) in an educational context in accordance with Aristotle's thought. In addition, this research also aims to formulate how the concept of phronesis (practical wisdom) in Aristotle's philosophy can be applied as an ethical foundation to determine the appropriate boundaries in the use of AI for Arabic language teaching and learning (Kinsella & Pitman, 2012). Thus, this research is expected to contribute theoretical and practical insights on how the classical ethical philosophy tradition can provide meaningful guidance in dealing with the ethical challenges arising from the application of AI technology in the context of language education that has strong cultural roots and traditions, such as Arabic (Heidegger, 2009).

2. Methods

This research uses qualitative methodology as the main approach to analyse traditional ethics in the use of artificial intelligence (AI) in Arabic language education from Aristotle's philosophical perspective. This methodology was chosen for its ability to explore complex conceptual and philosophical dimensions, especially in understanding abstract values such as virtue, phronesis (practical wisdom), and eudaimonia (flourishing or well-being). As a qualitative study, this research aims to generate deep and holistic

insights into how Aristotle's ethical principles can be meaningfully integrated into AI applications in Arabic language learning (Hanandeh et al., 2024). Given that the integration of AI in language education is not just a technical issue, but also involves moral and pedagogical considerations, a qualitative framework allows researchers to engage with deeper philosophical questions. This enabled an exploration of how AI tools affect character development, educational goals, and the ethical responsibilities of educators and learners that are central to Aristotle's ethics. Data collection was conducted through hermeneutic analyses of Aristotle's philosophical texts and related literature to deepen understanding of philosophical meaning and interpretation. This interpretive method facilitated a nuanced engagement with classical philosophical sources, which allowed the researcher to trace how Aristotle's core concepts were historically understood and how they can be reinterpreted in light of modern technological realities. In addition, a documentary study was conducted on materials addressing the implementation of AI in Arabic language education, which allowed the exploration of relevant cultural and contextual perspectives. These documents include academic articles, policy reports, instructional design frameworks, and case studies that illustrate how AI technologies are currently used in Arabic language teaching. By combining textual hermeneutics with empirical document analysis, this study bridges theoretical philosophy and practical application, resulting in a richer and more contextualised analysis of ethics (Dowling, 2004).

To ensure the validity of the data, the researcher applied source and method triangulation by comparing the results of hermeneutic analyses of Aristotle's philosophical texts, secondary literature, and documents related to the implementation of AI in Arabic language education. This process strengthens the accuracy and reliability of findings through cross-checking across multiple data sources (Saidi, 2008). Triangulation allows verification of emerging themes and interpretations by assessing their consistency across different types of material, reducing potential bias and increasing the credibility of conclusions. In addition, the inclusion of multiple scholarly perspectives helped to illuminate the subject matter from different points of view, thus enriching the overall analysis. Data analysis was conducted thematically with reflective interpretation, which is a hallmark of qualitative research. During this process, the researcher identified themes that emerged from the data collected and related them to Aristotle's theoretical framework to formulate a normative ethical model. Themes such as the role of habituation in digital environments, the cultivation of intellectual virtues through AI-mediated learning, and the alignment of educational technology with human flourishing (eudaimonia) were systematically explored. Through iterative reflection and thematic coding, the research moves beyond surface-level observations to uncover deeper ethical implications rooted in philosophical traditions. This approach enabled the identification of ethical nuances emerging from the intersection of ancient philosophical traditions and modern technological developments, offering insights that could not be achieved through

reductionist quantitative methods. As such, qualitative methods prove to be the most appropriate tool for answering research questions in a comprehensive and in-depth manner, especially when examining the moral dimensions embedded in the integration of AI into a culturally and linguistically rich field such as Arabic language education (Widayanti & Yelfi, 2019).

3. Result and Discussion

3.1 Application of Aristotelian Ethical Principles of Virtue in the Use of AI for Arabic Language Learning

Aristotle's principles of virtue ethics can be applied in the use of AI for Arabic language learning through a system that prioritises character building and virtue development in students. Based on Aristotle's ethical principles, AI technology should not only focus on efficient knowledge delivery, but also on developing qualities such as perseverance, intellectual courage, and balance in learning. This approach requires AI systems that balance technical advancement with the moral and intellectual growth of learners. AI-based learning systems designed from an Aristotelian perspective encourage students to develop intellectual virtues such as analytical thinking and practical wisdom (phronesis), through language exercises that aim not only to improve linguistic skills but also to cultivate reflective abilities (Nuryadin et al., 2024). This approach views mastery of Arabic not as an end in itself, but as a means to cultivate well-rounded character and intellectual virtues that will benefit students in various aspects of their lives.

The practical application of the Aristotelian principle of virtue can be realised through AI systems that provide feedback that not only corrects grammar or pronunciation errors, but also encourages students to reflect on their learning process. These systems can be designed to recognise patterns of errors and help students understand the underlying causes of their difficulties, thus fostering self-awareness and intellectual discipline. The AI can be programmed to offer gradually adjusted challenges that encourage patience when facing difficulties in language learning and foster a humble attitude when facing obstacles in learning Arabic. Learning models that integrate the Aristotelian perspective with AI technology allow for a more personalised approach, where students are not only evaluated based on results, but also supported in developing good study habits. Technology can be used to create a learning environment that encourages repeated and consistent practice, which Aristotle argues is fundamental in the formation of virtue and character.

AI-based Arabic learning curricula can integrate material that introduces students to ethical values and wisdom found in classical Arabic literature, ensuring that language learning is not divorced from the moral values embedded in Arab cultural heritage. AI systems can be designed to analyse and highlight ethical and philosophical aspects in

classical Arabic texts, such as the works of Ibn Khaldun, Al-Ghazali, or Sufi poetry, thus helping students identify and reflect on the moral concepts contained therein. Adaptive learning technologies can customise the presentation of this ethical content according to students' language proficiency levels, thus ensuring that even beginners can begin to appreciate the moral dimension in Arabic literature. AI programmes can also facilitate virtual discussions on complex or ambiguous passages in classical texts, encouraging students to engage in critical and moral reflection in the context of language learning. This approach fosters a mutually supportive relationship between modern technology and traditional values. The power of AI is harnessed not to diminish, but to deepen the humanistic aspects of Arabic language learning (Asy'arie et al., 2024).

The use of AI in Arabic language learning can be designed as a means to develop student character in accordance with Aristotle's educational ideals, namely the formation of individuals who are virtuous and capable of living a meaningful life. AI algorithms can be programmed to recognise and reward not only linguistic accuracy, but also creativity, depth of thought, and cultural sensitivity in language use. AI-based learning systems can include modules that encourage students to use Arabic in personally and socially meaningful contexts, such as writing ethical reflections, participating in discussions on contemporary issues, or engaging in collaborative projects with Arabic-speaking communities. Speech recognition and sentiment analysis technologies can be used to help students develop communication skills that are not only technically accurate, but also expressive and sensitive to emotional nuances, so as to foster empathy and cross-cultural understanding (Nuryadin et al., 2024)In this way, AI becomes a supportive tool in students' transformative journey towards eudaimonia, the well-being that arises from balanced and meaningful personal development.

AI-based assessment systems can also be designed to evaluate not only technical mastery of language, but also students' ability to develop intellectual virtues such as critical thinking and appreciation of the beauty of Arabic literature (Putri & Nurhidayati, 2023). AI can analyse students' essays and responses to identify indicators of deep thinking, such as the ability to make conceptual connections, ask challenging questions, or present multiple perspectives on a given topic. This comprehensive assessment mechanism considers student development across technical, cognitive, and ethical dimensions in line with Aristotle's concept of education, which views learning as a holistic, transformative process (Aljanabi, 2024). Such an assessment model can also provide rich and nuanced feedback on how students can further develop their intellectual abilities, thus fostering an ever-evolving mindset and a commitment to lifelong learning, which is the hallmark of Aristotelian wisdom.

Using group learning methods in AI-based Arabic language education matches Aristotle's belief that people develop good character through social interaction. AI can create virtual communities where students work together, give each other feedback, and exchange cultural knowledge with native Arabic speakers (Wu, 2024). These online

spaces can be designed to encourage practical wisdom by giving students real-world language problems that need thoughtful solutions that fit the culture. AI systems can watch and guide these interactions to make sure they stay helpful and supportive while building good qualities like respect, patience, and intellectual humility. The group aspect of language learning through AI platforms gives students chances to watch and copy good language practices, which fits with Aristotle's idea that people learn virtue partly by watching and copying moral role models. By carefully designing these social learning parts, AI can help create a modern version of Aristotle's ideal community, where language learners develop character through meaningful participation in a group focused on excellence.

The physical side of language learning is another area where Aristotelian ideas can guide AI implementation. While traditional AI methods may focus on mental processing, an Aristotelian approach recognizes that learning a language involves the whole person, including physical habits, emotional responses, and cultural understanding. Advanced AI systems can include multi-sensory learning experiences that engage students' physical understanding through gestures, facial expressions, and culturally specific movements connected to Arabic communication. Virtual reality (VR) and augmented reality (AR) technologies, guided by AI, can create immersive environments where students physically practice cultural norms and non-verbal aspects of Arabic communication. This approach reflects Aristotle's view that good action requires training not only the mind but also the body to respond properly in different situations. By addressing the physical nature of language learning, AI-enhanced learning environments can help students develop the physical and emotional habits necessary for authentic and good communication within Arabic cultural contexts.

The moral implications of AI design itself must be considered through Aristotle's perspective when developing language learning technologies. The virtue of practical wisdom should guide developers in creating AI systems that maintain proper balance between technological efficiency and human well-being. This means designing computer programs that prioritize long-term character development over short-term language gains, respect student independence while offering necessary guidance, and remain open about their teaching methods. AI systems should be programmed to avoid extremes - neither completely replacing human teachers nor being so minimally involved that they fail to provide personalized support. According to Aristotelian ethics, the "middle path" in educational technology would be AI systems that complement human instruction by addressing individual learning needs while preserving meaningful human connections in the educational process (Lawrenz, 2021). Developers of AI for Arabic language learning should therefore approach their work as a moral task - one that requires technical expertise combined with a deep understanding of educational values and cultural sensitivities. This good approach to AI design ensures that technology serves as a true partner in the pursuit of intellectual and moral excellence, rather than merely functioning as a tool for efficient

language acquisition.

3.2 Phronesis as an Ethical Foundation for Determining the Limits of AI Use in Arabic Language Education

The harmony between traditional values in Arabic language education and the application of AI technology oriented toward achieving eudaimonia (well-being) according to Aristotelian philosophy lies in the balance between tradition and technological innovation for students' well-being. Traditional Arabic education emphasizes values such as adab (ethics), ta'zim (respect for teachers), tazkiyah (self-purification), and tafakkur (deep contemplation), which align with the Aristotelian concept of eudaimonia—the welfare that arises from developing human potential through activities that accord with virtue. These values have shaped how Arabic is taught for centuries, creating a rich tradition of approaches that place moral and spiritual development on the same level as language mastery. AI systems designed with these values in mind can help bridge the gap between traditional teaching methods and modern technology, ensuring that technical advances do not sacrifice the humanitarian dimension that has long characterized Arabic language education (Chen et al., 2020). This harmonious integration creates a learning environment where technology not only improves efficiency but also reinforces traditional values that have been proven beneficial to students' holistic development.

The application of AI that aligns with traditional values will prioritize developing applications that strengthen the relationship between student and teacher that is highly valued in the Islamic educational tradition. Learning algorithms can be designed to analyze patterns of interaction between teachers and students and provide data that helps teachers better understand their students' individual needs. AI technology can be designed to facilitate meaningful interactions between teachers and students, expand opportunities for dialogue and mentorship, and provide analytical tools that allow teachers to be more responsive to each student's individual needs. AI-based learning platforms can include features that allow teachers to provide personalized feedback that complements automated analysis, thus maintaining the relational aspects of learning that are highly valued in the Islamic tradition. This aligns with the Aristotelian perspective that emphasizes the importance of guidance and community in virtue development, where technology serves to enhance, rather than replace, the interpersonal relationships that form the basis for meaningful learning.

AI technology can be developed to create learning experiences that enrich understanding of the cultural and spiritual context of Arabic texts, provide space for ethical reflection, and support community-based learning (Rohmawaty et al., 2024). Advanced text analysis algorithms can help students identify layers of meaning in classical texts, highlighting cultural, historical, and spiritual references that may not be immediately apparent to modern learners. AI-based simulations can reconstruct the

historical context in which important texts were written, helping students understand the social and intellectual conditions that shaped the development of Arabic language and literature. Collaborative technology can facilitate the community-based learning that is a hallmark of traditional halaqah (learning circles), allowing students to engage in meaningful discussions with peers from different cultural and geographical backgrounds. This approach expands access to authentic learning experiences that may have previously been limited to those with physical access to traditional learning centers, a democratization that aligns with Aristotelian principles of community justice and well-being.

With a eudaimonia centered approach, AI technology is not positioned as the end goal but rather as a means to achieve conditions where learners not only master language skills but also develop a deep understanding of the cultural, spiritual, and ethical heritage in Arabic (Siapka, 2023). AI-based learning systems can be designed to help students connect their linguistic abilities to broader aspects of life, allowing them to use Arabic to express philosophical thoughts, appreciate artwork, or engage in intercultural dialogue. Personalization algorithms can identify how students' individual strengths and interests can be developed through Arabic studies, suggesting learning paths that allow them to pursue excellence in personally meaningful areas. Language modeling technology can facilitate creative exploration of language, encouraging students to use Arabic as a medium of artistic and philosophical expression. This holistic approach aligns with the Aristotelian vision of education as a process that leads individuals toward full self-actualization and meaningful contribution to society, where language proficiency becomes a tool for broader self-development and participation in a global community.

Adaptive learning algorithms can be programmed to consider not only cognitive efficiency but also affective and spiritual aspects of learning, thus creating a balance between technological advances and traditional values that uphold learners' holistic well-being. AI systems can integrate measurements that assess students' emotional engagement with the material, identifying content that inspires awe, curiosity, or deep reflection. Emotion recognition technology can be used ethically to detect when students are experiencing frustration, confusion, or boredom, allowing for immediate adjustments in material presentation to support optimal emotional conditions for learning. Personalization algorithms can take into account students' spiritual and cultural preferences, tailoring examples and applications to respect and reflect their personal values. Learning platforms can include reflective practices inspired by Islamic spiritual traditions, such as muhasabah (introspection) and tadabbur (deep contemplation), which are naturally integrated into the language learning process (Bolandhematan, 2019). This multidimensional approach creates a learning environment that values students as complete individuals with intellectual, emotional, and spiritual needs, aligning with the Aristotelian view of humans as multidimensional beings who develop through the balanced development of all aspects of themselves.

The integration of AI in Arabic language education must also consider the concept of ta'allum (active learning) and the development of critical thinking skills, which are fundamental to both traditional Arabic scholarship and Aristotelian educational philosophy (Saugstad, 2002). AI systems can be designed to encourage analytical engagement with texts through interactive exercises that prompt students to identify logical structures, evaluate arguments, and synthesize information across different sources. Natural language processing algorithms can guide students through the process of close reading, helping them identify rhetorical devices and argumentative strategies in classical Arabic texts while encouraging them to formulate their own reasoned responses. These technologies can facilitate a form of digital dialectic that mirrors the traditional methods of debate and discussion central to Islamic scholarly traditions, encouraging students to develop the intellectual virtues that Aristotle identified as essential to eudaimonia. This approach ensures that technology serves as a scaffold for developing higher-order thinking skills rather than merely as a tool for passive information consumption.

The ethical deployment of AI in Arabic language education must also address issues of cultural authenticity and identity formation, creating learning environments that honor the rich heritage of Arab Islamic civilization while preparing students for participation in a globalized world. AI-based content curation can expose students to diverse voices within the Arabic literary tradition, including works that might be overlooked in conventional curricula, thus providing a more comprehensive understanding of the tradition's complexity and diversity. Algorithmic recommendations can be designed to balance exposure to canonical texts with contemporary works that demonstrate the ongoing vitality and evolution of Arabic as a living language. Virtual reality applications can recreate historical environments where Arabic language and culture flourished, allowing students to experience immersive simulations of intellectual centers like Cordoba, Baghdad, and Cairo during their golden ages (Khalidi, 1994). This technology-facilitated cultural immersion helps students develop a deeper connection to their linguistic heritage while simultaneously cultivating the cross-cultural understanding necessary for flourishing in multicultural societies, embodying the Aristotelian ideal of the well-rounded citizen capable of meaningful participation in civic life.

Furthermore, the implementation of AI in Arabic language education should embrace the principle of ihsan (excellence and beauty) that permeates traditional Islamic arts and sciences, creating learning experiences that are not only effective but also aesthetically enriching. AI-driven design systems can incorporate elements of traditional Arabic calligraphy, geometric patterns, and architectural principles into digital interfaces, creating learning environments that reflect the visual language of Islamic artistic traditions. Audio processing technology can be utilized to help students appreciate the rhythmic and sonic qualities of Arabic poetry and prose, training their ears to recognize the subtle patterns of cadence and rhyme that characterize classic works. Machine

learning algorithms can analyze the stylistic features of masterful Arabic writing, providing students with insights into the elements that contribute to linguistic beauty and helping them develop their own expressive capabilities. This attention to the aesthetic dimensions of language learning reflects Aristotle's recognition that the pursuit of beauty is an integral aspect of human flourishing, and ensures that technological innovations enhance rather than diminish the sensory richness and spiritual depth that have traditionally characterized engagement with Arabic texts.

3.3 Phronesis as an Ethical Foundation for Determining AI Limits in Arabic Language Education

The concept of phronesis (practical wisdom) in Aristotelian philosophy provides a strong ethical foundation for determining the limits of AI use in Arabic language teaching and learning by emphasizing careful consideration of context and thoughtful judgment in specific situations. Phronesis, understood as the ability to properly apply general principles to specific situations, allows educators to make ethical decisions about when, how, and to what extent AI technology should be integrated in learning Arabic (Eisikovits & Feldman, 2022). Unlike approaches that rely on rigid rules or simple cost-benefit calculations, phronesis recognizes the complexity inherent in the educational process and the uniqueness of each learning context. Within this framework, decisions about technology use are not made based on assumptions about AI's value or risks, but rather through careful consideration of how a particular technology will affect educational goals in a specific context. Educators who develop phronesis will consider various factors including student needs, available resources, specific teaching goals, and community values in determining how to integrate AI ethically and effectively in Arabic language learning.

From the perspective of phronesis, AI use is not determined by rigid formulas or universal rules, but rather is based on careful consideration of students' specific needs, the cultural learning context, and the educational goals to be achieved. Educators who develop phronesis will be able to carefully assess whether using AI for certain learning activities will improve or even reduce the quality of the learning experience (Rifky, 2024). They can identify situations where technology offers clear benefits, such as in personalizing learning materials or providing quick feedback for basic grammar exercises, and situations where human interaction remains irreplaceable, such as in discussions about cultural or spiritual nuances embodied in classical texts. Phronesis also allows educators to recognize that the optimal balance between AI use and traditional methods will vary depending on the student's learning stage, institutional context, and even broader social and political dynamics. This flexible approach recognizes that there is no "one-size-fits-all" solution in technology integration, and that practical wisdom is needed to manage this complexity.

In practical terms, phronesis encourages educators to develop reflective abilities in

evaluating whether using AI technology in certain aspects of Arabic learning will support or hinder students' overall development. Educators need to critically consider how technology affects classroom dynamics, student motivation, and the quality of understanding developed. This involves a continuous and ongoing evaluation process, where decisions about technology use are continuously reviewed and adjusted based on observations of their impact on students' learning experiences. Educators can develop structured reflective practices, such as regularly evaluating how AI integration affects not only measurable learning outcomes, but also more subtle aspects of learning such as student engagement, depth of understanding, and critical thinking skills development. Phronesis also encourages collaborative dialogue among educators, administrators, technology developers, and students themselves, recognizing that practical wisdom often emerges from the exchange of diverse perspectives (Stenberg & Maaranen, 2020). Through this reflective and collaborative approach, educators can develop a more nuanced understanding of the appropriate role for AI in specific Arabic learning contexts.

Phronesis also helps educators critically evaluate the social and cultural impacts of AI integration in the specific context of Arabic language education. This includes considerations of how technology might affect social relationships within learning communities, how algorithms might reflect or reinforce certain cultural biases, and how automated systems might redefine the concept of language proficiency in ways that are not always aligned with traditional values. Educators applying phronesis will consider questions such as: Does using certain AI reduce the communal aspects of language learning that are important in the Arab-Islamic tradition? How does speech recognition technology affect the pronunciation of Arabic letters that have a spiritual dimension in the Quranic tradition? Do automated assessment systems support or hinder the development of cultural sensitivity and nuanced understanding that are important aspects of language proficiency? By considering these broader social and cultural impacts, educators can integrate technology in a way that respects and reinforces, rather than undermines, the values that underlie the Arabic language education tradition (Jurāne-Brēmane, 2023).

Thus, phronesis offers a flexible yet robust ethical framework for setting appropriate boundaries in AI use, ensuring that technology remains a tool that supports, rather than reduces, the human and transformative dimensions of Arabic language learning. The phronesis-based approach recognizes the limitations of both the technology focused approach that views AI as a universal solution, and the conservative attitude that rejects technological innovation in favor of preserving tradition. Instead, phronesis seeks a middle ground that respects tradition while remaining open to the transformative possibilities of new technologies. This ethical framework encourages the development of "technological wisdom" among Arabic language educators, the ability to make informed judgments about when and how to use digital tools to support, rather than replace, important aspects of the human learning experience. By adopting an approach based on

phronesis, the Arabic language education community can meet the challenges of the digital age in a way that maintains the integrity of their educational traditions while taking advantage of the opportunities offered by AI technologies to enrich and expand access to Arabic language learning.

The adoption of phronesis as an ethical framework for AI integration in Arabic language education requires a critical examination of how technological implementations affect the development of adab (moral character) that has traditionally been inseparable from language acquisition in Islamic educational philosophy. Educators guided by phronesis will carefully evaluate whether AI systems strengthen or diminish opportunities for character formation through language learning. This evaluation extends beyond measuring linguistic competence to assessing how technology affects students' internalization of cultural values embedded in Arabic texts and discourse patterns. AI applications can be designed with features that prompt ethical reflection on textual content, encouraging students to identify moral lessons and contemplate their personal relevance. However, wise educators must remain vigilant about potential reductionist tendencies in automated systems that might strip texts of their moral dimensions by focusing exclusively on linguistic features. The careful application of practical wisdom involves creating technological environments where language learning simultaneously nurtures moral sensibilities, maintaining the traditional unity of linguistic proficiency and ethical development that characterizes authentic Arabic education (Alwi et al., 2024)

The relationship between AI and human agency in Arabic language education constitutes a critical area where phronesis must guide implementation decisions to ensure alignment with both traditional values and Aristotelian conceptions of well-being. Practical wisdom enables educators to distinguish between technologies that enhance student agency and those that might foster dependency or passive consumption of knowledge. AI systems that provide immediate answers without requiring intellectual effort can undermine the development of inquiry and intellectual struggle that are essential to both traditional Arabic scholarship and Aristotelian virtue development. Conversely, thoughtfully designed AI tools can support students' independent learning journeys by providing appropriately timed support that gradually decreases as competence increases. Wise decision-making regarding AI implementation requires careful consideration of how technological interventions affect students' self-direction, intellectual perseverance, and intrinsic motivation—qualities that Aristotle identified as necessary for well-being and that traditional Arabic education has cultivated through practices emphasizing active engagement rather than passive reception. This balanced approach ensures that technological advancement enhances rather than diminishes the development of intellectual virtues essential to both traditions (Anwar, 2023).

Furthermore, the application of phronesis in determining AI boundaries must address tensions between standardization and cultural authenticity in Arabic language education, particularly as global technological platforms increasingly influence

educational norms. Educators employing practical wisdom will critically evaluate how AI algorithms might favor certain dialects, interpretive traditions, or cultural expressions of Arabic while marginalizing others, potentially homogenizing a rich and diverse linguistic heritage. This wise evaluation requires attentiveness to how technological design choices embed particular assumptions about what constitutes "correct" or "standard" Arabic, and how these assumptions might conflict with local or traditional understandings. AI systems can be developed with cultural sensitivity features that recognize and validate linguistic diversity within the Arabic-speaking world, including features that expose students to various regional dialects and cultural expressions while contextualizing them within broader historical and social frameworks. Through the application of phronesis, educators can navigate the complex interplay between technological standardization and cultural particularity, ensuring that AI integration enriches rather than flattens the multidimensional character of Arabic language education, thereby fostering the type of comprehensive understanding that both Aristotelian philosophy and traditional Arabic scholarship value as essential to human flourishing (ضاهر, 2023).

4. Conclusion

This research demonstrates that Aristotelian ethical principles provide a comprehensive and viable framework for the responsible integration of artificial intelligence in Arabic language education. The study reveals that virtue ethics, particularly the concepts of eudaimonia (well-being) and the cultivation of intellectual virtues, offer essential guidance for navigating the complex challenges posed by AI implementation in culturally rich educational contexts. By applying Aristotelian principles, educators can develop AI systems that not only enhance linguistic competency but also preserve and strengthen the moral, cultural, and spiritual dimensions that have traditionally defined Arabic language education. The integration of classical virtue ethics with modern technology demonstrates that it is possible to harness AI's capabilities while maintaining the humanistic values central to Arabic educational traditions. This approach addresses critical concerns about the dehumanization of education by ensuring that technology functions as a tool for character development and intellectual virtue cultivation, rather than merely efficient knowledge transmission. The research shows that AI systems designed from an Aristotelian perspective can successfully balance technical advancement with moral and intellectual growth, creating learning environments that encourage the development of qualities such as perseverance, intellectual courage, analytical thinking, and practical wisdom. This synthesis proves that ancient philosophical wisdom remains relevant and applicable in addressing contemporary technological challenges, offering a path forward that honors both innovation and tradition in educational contexts.

The concept of phronesis (practical wisdom) emerges from this study as a particularly powerful ethical foundation for determining appropriate boundaries in AI use for Arabic language education. Unlike rigid rule-based approaches or simple cost-benefit calculations, phronesis provides educators with a flexible yet robust framework for making contextually sensitive decisions about technology integration. This research demonstrates that phronesis enables educators to carefully assess when, how, and to what extent AI should be integrated by considering multiple factors including student needs, cultural learning contexts, available resources, and community values. The phronesis-based approach recognizes the limitations of both technology-focused perspectives that view AI as a universal solution and conservative attitudes that reject technological innovation entirely. Instead, it seeks a middle ground that respects traditional values while remaining open to the transformative possibilities of new technologies. Practical wisdom guides educators in distinguishing between AI applications that enhance student agency and those that might foster dependency, ensuring that technological interventions support rather than undermine the development of intellectual virtues essential to both Aristotelian philosophy and traditional Arabic scholarship. This framework encourages the development of "technological wisdom" among Arabic language educators, enabling them to make informed judgments about when and how to use digital tools to support meaningful learning experiences. The study shows that phronesis provides a dynamic approach to ethical decision-making that can adapt to evolving technological capabilities while maintaining core educational values.

The findings of this research have significant implications for educators, policymakers, technology developers, and the broader Arabic language education community. The study establishes that successful AI integration requires a paradigm shift from purely technical considerations to a holistic approach that encompasses ethical, cultural, and pedagogical dimensions. This Aristotelian framework provides practical guidelines for creating AI applications that honor traditional values while embracing educational innovation, ultimately fostering environments where students can achieve both linguistic mastery and moral development essential for human flourishing. The research demonstrates that AI systems can be designed to strengthen rather than replace the teacher-student relationships highly valued in Islamic educational traditions, while also expanding access to authentic learning experiences through technologies like virtual reality simulations and collaborative platforms. Furthermore, the study reveals that attention to aesthetic dimensions, cultural authenticity, and identity formation must be integral components of AI design for Arabic language education. The integration of principles such as adab (ethics), ta'zim (respect), tazkiyah (self-purification), and tafakkur (contemplation) with modern AI capabilities creates learning environments that serve the complete development of students as intellectual, emotional, and spiritual beings. Moving forward, this research calls for continued exploration of how classical philosophical traditions can inform contemporary educational technology development, suggesting that

the intersection of ancient wisdom and modern innovation offers rich possibilities for enhancing language education while preserving cultural heritage and humanistic values that have sustained Arabic educational traditions for centuries.

5. References

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