TRANSFORMATIF RESILIENCE: EVALUATING THE CONTINUED RELEVANCE OF MADRASAH EDUCATION CURRICULUM IN THE FACE OF ARTIFICIAL INTELLIGENCE DISRUPTIONS

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Abstrak

This research investigates the adaptation of Madrasah education curriculum in response to artificial intelligence (AI) disruption. The literature review method is employed to analyze the evolution of Madrasah curriculum alongside AI technology integration. Through examination of academic literature and verified publications, this study highlights the historical changes and transformation in Madrasah education, particularly in adapting to technological advancements and new challenges arising from the AI era. In-depth analysis of educational literature, artificial intelligence, and technology implementation in the context of Islamic education provides insights into theoretical perspectives that either support or challenge AI integration within Madrasah curriculum. This aids in identifying pedagogical and philosophical principles that could serve as the foundation for changes or adjustments in the Madrasah curriculum. The research findings underscore patterns of change in Madrasah curriculum, explaining the extent of suitability and responsiveness to AI disruption. These findings offer profound insights into concrete steps needed to enhance Madrasah curriculum adaptation to artificial intelligence, providing a robust basis for policymakers and education practitioners to design curriculum strategies that are responsive to the evolving landscape of AI technology in the context of Madrasah education.

Keywords: Transformative, Artificial Intelligence, Madrasah, Disruption

Abstrak

Penelitian ini menyelidiki adaptasi kurikulum pendidikan Madrasah terhadap disrupsi kecerdasan buatan (AI). Metode penelitian pustaka digunakan untuk menganalisis evolusi kurikulum Madrasah seiring dengan integrasi teknologi AI. Melalui kajian literatur akademis dan publikasi terverifikasi, penelitian ini menyoroti perubahan sejarah dan transformasi pendidikan Madrasah, khususnya dalam menyesuaikan diri dengan perkembangan teknologi dan tantangan baru yang muncul dengan era AI. Analisis mendalam terhadap literatur pendidikan, kecerdasan buatan, dan implementasi teknologi dalam konteks pendidikan Islam memberikan wawasan mengenai perspektif-perspektif teoretis yang mendukung atau menantang integrasi AI dalam kurikulum Madrasah. Ini membantu dalam mengidentifikasi prinsip-prinsip pedagogis dan filosofis yang dapat menjadi dasar untuk perubahan atau penyesuaian dalam kurikulum Madrasah. Hasil penelitian menyoroti pola-pola perubahan dalam kurikulum Madrasah, menjelaskan sejauh mana kesesuaian dan respons terhadap disrupsi AI. Temuan ini memberikan pandangan yang mendalam tentang langkah-langkah konkret yang diperlukan untuk meningkatkan adaptasi kurikulum Madrasah terhadap kecerdasan buatan serta memberikan landasan kuat bagi para pengambil kebijakan dan praktisi pendidikan untuk merancang strategi kurikulum yang responsif terhadap perkembangan teknologi AI dalam konteks pendidikan Madrasah.

Kata kunci: Transformatif, Kecerdasan Buatan, Madrasah, Disrupsi

A. INTRODUCTION

In an era where artificial intelligence (AI) increasingly reshapes the technological landscape, Madrasah education curriculum has been highlighted regarding the implications brought about by AI disruption. Artificial intelligence has posed significant challenges for Madrasah curriculum, raising crucial questions about the adaptation of Islamic education to technological changes. As a fundamental pillar in the education system, the Madrasah curriculum faces pressure to maintain its relevance amid the evolving AI and its implications for future workforce needs. In facing this era, there is a need for new breakthroughs by educational institutions since education is seen as a means to advance the nation (Widiandari, 2022).

One of the main issues emerging is to what extent the integration of AI into the Madrasah curriculum can bring positive impacts or even raise concerns related to identity and traditional values. Some education experts believe that the use of this technology can enrich the teaching-learning process while preparing students for future challenges.

All education stakeholders must recognize both the opportunities and threats of technological disruption and collectively strive to find solutions to shape the anticipated golden generation (Wibowo, 2018). The era of artificial intelligence is inevitable,

undoubtedly, disruption will drive the massive and structured digitalization of the education system within the shortest possible time frame (Lasmawan, 2019).

Previous research has explored various aspects related to the evolution of Madrasah curriculum and technology integration in the context of Islamic education. Relevant references include the following five studies. Firstly, by Wibowo (2018), which examines educational development in the era of disruption. This study highlights strategies for developing education management as producers of knowledge and learning, developing supportive infrastructure for online-based learning and critical thinking, as well as empowering teacher-preneurship.

The second research by Hasanah (2022) investigates the "Merdeka" curriculum in Madrasah during the Society 5.0 era. This study focuses on guidelines for implementing the "Merdeka" curriculum in Madrasah, providing autonomy to innovate, creating human-centered educational services, and adapting to technological advancements.

Thirdly, Fajri's study (2024) examines the evolution of Islamic educational institutions in Indonesian history, highlighting their development through Indonesia's arduous struggle throughout its history.

The fourth research, by Lasmawan (2019), explores the era of disruption and its implications for repositioning the meaning and practice of education from a social eclecticism analysis perspective. It emphasizes efforts to create and foster new stigmas about education needed in the era of disruption.

Finally, Ratnasari's study (2021) investigates the management of Islamic educational institutions in developing human resources during the disruptive era. It highlights the responses, challenges, and opportunities faced by these institutions in human resource development during times of disruption.

In relation to these studies, there are knowledge gaps that require further research. While prior research has outlined the impacts and responses of Madrasah curricula to artificial intelligence, there hasn't been an in-depth analysis of the pedagogical and philosophical principles underlying such adaptation. Therefore, this research aims to fill this gap by providing detailed insights and exploring specific actions necessary to design a curriculum responsive to the advancements in AI technology within the context of Madrasah education.

Based on the foregoing, the specific objective of this article is to present a thorough analysis of the evolution of the Madrasah curriculum alongside artificial intelligence integration, highlighting the pedagogical and philosophical principles underpinning such adaptation. This aims to provide a strong foundation for policymakers and education practitioners in designing adaptive and responsive curriculum strategies amidst the technological revolution in Madrasah education.

B. LITERATURE REVIEW
1. Resilience

Reivich and Shatte (2002) define resilience as the ability to respond in a healthy and productive manner when faced with difficulties or trauma. Similarly, Siebert (2005) in "The Resiliency Advantage" describes resilience as the ability to adapt well to life changes

at a higher level, maintaining health under pressure, bouncing back from adversity, adjusting lifestyles when the old ways are no longer suitable, and facing problems without making mistakes.

This is also echoed by Fergus and Zimmerman (2005), stating that resilience is the process of overcoming negative effects of existing risks, successfully coping with traumatic experiences, and avoiding negative impacts associated with risks. Chen and George (2005) define resilience as a process, an individual's ability, or the outcome of successful adaptation despite facing threatening situations.

2. Transformation

Transformation, in general encyclopedias, is a term from the exact sciences later introduced into the social sciences and humanities, signifying a change in form, encompassing physical and non-physical alterations (shape, appearance, characteristics, etc.). Mezirow (as cited in Unwanullah, 2012) asserts that transformation occurs through a critical reflection process facilitated by open dialogue in a safe environment.

On the other hand, Agus Salim (2002) explains that transformation is the creation of something new resulting from science and technology. Transformation can also be understood as a gradual process of change leading to an ultimate stage. It involves responding to the influences of external and internal elements that guide change from a previously known form through a series of processes.

3. The Madrasah Education Curriculum

Madrasah represents the Islamic community's commitment in Indonesia towards education. Its existence is currently acknowledged as part of the National Education System, undistinguished from similar public educational institutions, as regulated by Articles 17 and 18 of Law Number 20 of 2003 on the National Education System. Madrasah, characterized by Islamic features and religious education, has become an integral part of the national education system.

Minister of Religious Affairs of the Republic of Indonesia's Decree Number 347 of 2022 on the Implementation Guidelines of the Independent Curriculum in Madrasah serves as a reference for madrasah and other stakeholders in the strategy for conducting learning activities across all subjects in madrasah. This guideline provides two options. Firstly, madrasah can adopt the 2013 Curriculum, with Content Standards, Core Competencies (KI), and Basic Competencies (KD) set by the government, allowing the madrasah to have the authority to innovate and develop operational curricula in each madrasah. The second option is the adoption of the Independent Curriculum with Content Standards and Learning Achievements determined by the government, providing the madrasah with the authority to innovate in developing operational curricula in each madrasah.

For madrasah implementing the 2013 Curriculum, the implementation includes: first, Content Standards, Core Competencies, and Basic Competencies for subjects other than Islamic Religious Education and Arabic Language based on regulations from the Ministry of Education, Culture, Research, and Technology. Second, Content Standards,

Core Competencies, and Basic Competencies for Islamic Religious Education and Arabic Language based on the Ministry of Religious Affairs Decree Number 183 of 2019. Third, the implementation of Raudhatul Athfal (RA) curriculum based on the Ministry of Religious Affairs Decree Number 729 of 2018. Fourth, the implementation of the Madrasah Ibtidaiyah (MI), Madrasah Tsanawiyah (MTs), Madrasah Aliyah (MA), and Vocational Madrasah Aliyah (MAK) curriculum based on the Ministry of Religious Affairs Decree Number 184 of 2019.

For Madrasah implementing the Independent Curriculum, the implementation guidelines for subjects other than Islamic Religious Education and Arabic Language adhere to regulations set by the Ministry of Education, Culture, Research, and Technology. Content Standards and Learning Achievements for Islamic Religious Education and Arabic Language follow the provisions set by the Ministry of Religious Affairs. The implementation of the Independent Curriculum will be phased in gradually in Madrasah starting from the Academic Year 2022/2023.

4. Disruption

Disruption is an innovation or threat that replaces an entire old system with a new way or system. Disruption replaces old physical technologies with digital technologies that create something entirely new, more efficient, and more beneficial (Kasali, 2017: 34). With the shift towards sophisticated technology systems, many services feel threatened in their positions, which are likely to be replaced by technology, especially if they don't develop their respective innovations and competencies.

Based on research by Sukartono (2017), education experiences significant disruption. The role of the teacher as the sole provider of knowledge has somewhat shifted away. In the future, the role and presence of teachers in the classroom will become more challenging and require very high levels of creativity. According to Tapscott (1997), the development of internet technology and digital technology advancements significantly impact the world of education, specifically how teachers' competencies should be oriented towards information and communication technology developments. A teacher must be tech-savvy to teach students how to properly navigate media literacy, not just operating a computer but also fostering moral values through media literacy.

5. Artificial Intelligence

According to Jogiyanto H. M (2005), artificial intelligence (AI) is defined as a smart machine or tool (usually a computer) capable of performing a task that, if done by a human, would require intelligence to accomplish. Artificial Intelligence, or AI, is a part of computer science that aims to enable machines (computers) to perform tasks similarly and as well as humans (Kusumadewi, 2002). According to Suparman (1991), artificial intelligence is a computer science subfield specifically aimed at creating software and hardware capable of completely mimicking some functions of the human brain.

C. RESEARCH METHOD

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The research utilized a qualitative method employing a literature-based approach that focused on analyzing descriptive data in the form of written words evident in accordance with the characteristics of the issues presented in this study as per relevant sources (Susyanto, 2022). Data were gathered from academic literature and verified publications. This study analyzed the historical changes and transformations in Madrasah education, particularly in adapting to technological advancements and emerging challenges in the AI era. A thorough analysis of educational literature, artificial intelligence, and technology implementation in the context of Islamic education provided insights into theoretical perspectives supporting or challenging the integration of AI in the Madrasah curriculum.

D. FINDING AND DISCUSSION
1. The Evolution of Madrasah

Most madrasahs in this country initially had private status, evolving from grassroots initiatives and traditionally managed through self-funding as a space for struggle and righteous deeds. Therefore, madrasahs bore the risk of not receiving government financial support. Even if there were funds, they were much smaller than those allocated to public schools. Most madrasahs are located in rural areas, and the majority of their students come from less privileged families. Indeed, one characteristic of madrasahs is their evolutionary development, starting from study groups in mosques or musallas, then growing into diniyah schools, and eventually becoming full-fledged madrasahs.

The evolution process of madrasahs varies—some progress well, while others remain stagnant, but very few cease to exist. All of this depends on the individuals involved. As Tobroni (as cited in Rusydi, 2014) described, Abdul Jalil, a former successful madrasah principal in Malang, once mentioned that advancing a madrasah is actually easier compared to regular schools. This is due to the religious fervor within the madrasah community and the support from parents, as well as education observers. For instance, to raise funds from the community, madrasahs could obtain support through zakat, infaq, sedekah, wakaf, thanksgiving donations, and other means.

In the 1990s, graduates from madrasahs were often undervalued, despite holding equal qualifications to graduates from regular schools. Graduates from madrasahs seemed to be less appreciated compared to their counterparts from regular schools. This stigma caused students from madrasahs to lack confidence when competing in the job market or other fields.

The Reform Era brought a breath of fresh air to the existence of madrasahs. The government's role and attention began to be felt. Overall, there was an improvement in the students' quality, indicated by the reasonably proud achievements in the national exams (UN) by madrasah students. While the average UN scores of madrasah students were lower than those of regular school students, the gap was relatively small. Madrasahs are no longer just Islamic schools attracting lower-middle-class communities; they are now sought after by students from upper-middle-class families as well. This shift is due to the

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emergence of elite Islamic schools or madrasahs that are on par with regular schools, such as the Development Madrasah of UIN Jakarta, Insan Cendekia Madrasah, among others.

Rahman Halim, in his dissertation on Policy and Community Participation (A Study on the Perspective of Private Madrasah Development in South Sulawesi), proposed a reformulation of madrasahs by solidifying the vision, mission, and objectives to achieve the desired quality standards: Islamic, populist, high-quality, and diverse education. Enhancing learning practices, equipping students with skills, knowledge, and attitudes for life, calls for a varied, dynamic, active, creative, effective, and enjoyable learning process. Meanwhile, the management should be directed towards a quality improvement model for madrasahs based on independence and participative partnerships, involving responsibilities from various parties including local governments, the Ministry of Religion, school committees, entrepreneurs, and the local community. Madrasah educational institutions also need to present new names, spirits, mottos, and performance. For instance, with new names like Independent Islamic Elementary School, Development Middle Madrasah, Noble Humanity High Madrasah, among others (Rusydi, 2014).

The onset of this disruptive era has shaken Islamic educational institutions, while some have managed to confront it calmly. Governance and services of Islamic educational institutions have transitioned from manual to digital, from traditional to modern, to make these institutions more adaptive, innovative, and transparent. Hence, there are both challenges and opportunities for these institutions. The disruptive Industrial Revolution presents both opportunities and challenges for the current generation. This is seen as an opportunity because advances in information technology provide the greatest opportunities for instant access to information, benefiting developments in knowledge, economics, and education. However, these advancements have both advantages and disadvantages. Therefore, high moral values are essential in addition to knowledge of information technology for common interests (Fitriana, 2019).

The realm of Islamic educational institutions must change to meet the demands of this disruptive era. Current Islamic education graduates face unresolved issues, requirements, and demands. Systems, governance, curricula, human resource skills, facilities, culture, work ethos, and related factors need to be smart and innovative. Islamic educational institutions will fall behind if they do not adapt. Therefore, specific actions need to be taken for these institutions to compete in this disruptive era. Participating in self-disruption is the first step toward a solution (Priatmoko, 2018).

The first step in self-disruption involves developing human resources by engaging all elements based on an analysis of the needs of educators and educational staff, in terms of both quantity and quality. The focus of human resource development lies in six basic capacities: educational, technological, global, future strategies, counseling, and spiritual capacities.

Based on Haris's research (2019), in implementing educational system changes in this industrial era, there is a need for a shift towards digital transformation in Islamic educational institutions. In addition to core competencies, educators are also required to possess supporting qualifications and competencies, including agility, innovation, creativity, anticipation, experimentation, open-mindedness, and networking.

Tony Wagner (2008) detailed the competencies necessary for success in the disruptive era and developed by educational institutions at all levels, namely the Seven Survival Skills for the 21st Century: 1) critical thinking and problem-solving, 2) collaboration across networks, 3) agility and adaptability, 4) initiative and entrepreneurship, 5) accessing and analyzing information, 6) effective oral and written communication, 7) curiosity and imagination.

2. Madrasah Curriculum

A foundation is necessary in designing the madrasah curriculum, encompassing philosophical, socio-cultural, scientific, technological, and artistic foundations, as well as the community's needs and societal development.

a. Philosophical Foundation: All desires held by society are a source of values that guide education. Therefore, the perspectives and insights present within society are also reflected in educational principles. It can be said that the philosophy alive within society forms the philosophical basis for education. (Mudjiono and Damiati, 2002). Madrasah Aliyah is a school based on the teachings of Islam, which heavily influence the behavior of its followers. Hence, the philosophical basis derived from societal philosophy is highly essential. Additionally, Indonesia's curriculum foundation is promptly established, namely the fundamental values constituting the complete human education philosophy, Pancasila.

b. Socio-Cultural-Religious Foundation: The social, cultural, and religious realities existing within society serve as the subject of curriculum development to be used as the basis for curriculum design. As currently referenced in National Education, the community as users of graduates is the primary source for curriculum design. This step is crucial since the community serves as input for the analysis and formulation of general learning objectives (Ariatmi and Prabawa, 2000). Social, cultural, and religious issues are intertwined with societal behavior, especially among the community surrounding the school, including guardians, community figures invested in education, and regional policymakers. This is particularly significant for Madrasah Aliyah, which is rooted in Islam, making religion the primary foundation.

c. Foundation of Science, Technology, and Arts: In facing the rapid developments of our time, educational practitioners must be equipped with components that can address future challenges. The future society is a global one in the era of globalization. Given that education is an effort to prepare students for increasingly rapid changes, including changes in science, technology, and the arts, curriculum design must be based on science, technology, and the arts (Mudjiono, 2022). By making science and technology the foundation, both will be utilized to address educational issues. This is due to cultural developments aligning with advancements in science and technology.

d. Community Needs Foundation. High school/Madrasah Aliyah is a continuation of junior high school. Since students have matured, their graduates should possess the necessary competencies required by the users. Furthermore, in the development of national education, there is a famous strategy called Link and Match (interconnection and harmony), as expressed by Wardiman Djojonegoro (Muhaimin, 2003). It is further

stated that a comprehensive understanding of Link and Match policy includes three perspectives: 1) place, connecting developmental needs based on local, regional, national, and global considerations; 2) time, addressing present challenges and proactively anticipating future demands in the context of rapidly occurring changes; and 3) the domain of education, indicating that this policy is not only related to knowledge and skills but also encompasses insights, values, attitudes, mentality, and behaviors necessary in the living environment. From this expression, it's evident that curriculum design cannot be separated from the environment (place and time) in which the school will be established.

e. The foundation of societal development: Scientific advancements continually progress and have implications on societal cultural developments. Curriculum design should consider these societal development factors as it involves synchronizing current societal needs with the implemented curriculum. Apart from reinforcing the religious field in Madrasah Aliyah, other flourishing and evolving fields of study should also be introduced, ensuring that Madrasah Aliyah graduates stay informed amid these rapid developments. Presently, we are in the era of the 4.0 industrial revolution, which emphasizes patterns like digital economy, artificial intelligence, big data, robotics, known as the phenomenon of disruptive innovation. This phenomenon impacts educational institutions, including Madrasah Aliyah. The focus is on how Madrasah Aliyah graduates can become qualified cadres or human resources, prepared with high competitiveness.

The scope of the guidelines for the independent curriculum in madrasah consists of ten items: graduation standards, subject standards (IS), curriculum structure, curriculum implementation in madrasah, teaching and assessment, reinforcement of the Pancasila student profile, operational madrasah curriculum, monitoring and evaluation of the independent curriculum implementation in madrasah, socialization, and mentoring in implementing the independent curriculum in madrasah, and learning outcomes (Pendis, 2022). The graduation standards refer to the provisions established by the Ministry of Education, Culture, Research, and Technology. As for the subjects of Islamic Education (PAI) and Arabic Language, they remain based on the decisions of the Ministry of Religious Affairs. Regarding students with special needs, flexibility principles should be considered while aligning without neglecting the mandates of the legislation concerning this matter.

Furthermore, specific standards for Islamic Education and Arabic Language are directed to be flexible with a differentiation principle towards students, developing to suit the learning progression at each level and type of education. In madrasah institutions, be it RA (Kindergarten), MI (Elementary), MTs (Junior High), MA (Senior High), or MAK (Vocational High) implementing the Independent Curriculum, the curriculum structure is divided into two: intracurricular learning and project-based learning simultaneously across subjects or aspects of child development to strengthen the Pancasila student character. The government allows free authority to allocate learning time based on students' learning needs in determining class hours and teaching models.

Learning in madrasah is conducted comprehensively in three stages: planning, implementation, and assessment. In the planning stage, educators outline the learning activity design in the lesson plan to effectively achieve objectives. This lesson plan is then applied in class, considering several learning principles, reinforcing religious learning patterns, nurturing Islamic values between students and educators, fostering an active learning environment, using engaging teaching media, considering various student types, and other factors that support sustainable learning and cognitive enhancement. The final stage is assessment, a process of evaluating to understand learning needs, development, and the academic achievements of students based on fair, objective, and educational principles (Hasanah, 2022).

In its implementation, legislation provides room for creativity and innovation in madrasahs applying the Independent Curriculum. However, this is carried out gradually based on the following provisions:

a. The Independent Curriculum is introduced in pilot madrasahs starting from the Academic Year 2022/2023 in a limited capacity, based on the Decree of the Director-General of Islamic Education.

b. For Kindergarten (RA), the Independent Curriculum is implemented in the first year for ages 4 to 5, while Elementary (MI) level applies it in grades 1 and 4. Meanwhile, Junior High (MTs) implements it in grades 7, and Senior High (MA)/Vocational High (MAK) in grade 10. Other than the mentioned grades, they still use the 2013 curriculum.

c. In the second year, RA can implement the Independent Curriculum for children aged 5 to 6, MI in grades 1, 2, 4, and 5, MTs in grades 7 and 8, and MA/MAK in grades 10 and 11. Other than the mentioned grades, they still use the 2013 curriculum.

d. In the third year, the Independent Curriculum can be applied to RA students aged 4 to 6, grades 1 to 6 in MI, grades 7 to 9 in MTs, and grades 10 to 12 in MA/MAK.

An essential aspect of the Independent Curriculum in madrasahs is the project-based extracurricular activities aimed at strengthening the Pancasila student profile and the "rahmatan lil alamin" student profile. These projects aim to shape students who embody the noble values of Pancasila, exhibit behavior in line with Islamic teachings, possess critical thinking skills, foster strong nationalism, promote moderation, uphold high tolerance to realize unity, and world peace. Aligning with the global principles of diversity in Indonesian society, it emphasizes acknowledging and tolerating diversity and differences without judgment, fostering mutual respect. This approach aims to promote personal resilience and well-being in students (Rusnaini et al., 2021).

In the learning process, the Independent Curriculum allocates 20% of the total weekly teaching hours for implementing these projects, whether separately or integrated with intracurricular learning flexibly in terms of content, activities, and timing. Moreover, the operational curriculum in a madrasah is given the authority and freedom in its development while adhering to guidelines set by the Director-General.

The socialization and mentoring for implementing the Independent Curriculum in madrasahs are conducted by the Ministry at the central level, involving the Directorate-

General, Research and Development Agency, Training Center, Provincial Offices of the Ministry of Religious Affairs, and District/City Offices of the Ministry of Religious Affairs. This is aimed at ensuring that all stakeholders grasp the conceptual and technical aspects, enabling them to implement it in their respective madrasahs. Lastly, the Monitoring and Evaluation phase, involving the Ministry, Research and Development Agency, and specific functional officials such as supervisors and educational technology developers, aims to ensure the optimal implementation of the Independent Curriculum in madrasahs as expected.

To achieve optimal implementation of independent learning in madrasahs, all aspects outlined in the implementation guidelines, especially the Pancasila and "rahmatan lil alamin" student profile projects, need to be executed. Character education plays a significant role in building students' personalities, realizing life values in a normative manner (Rahayu, 2021).

Based on this concept, a crucial aspect to strengthen initially is educators' comprehensive understanding of valid knowledge concepts. If educators don't thoroughly understand the essence, it would be impossible for students to apply theories, follow guidance, and build holistic paradigms through the curriculum instruction (Marisa, 2021).

3. Discussion
a. The Pedagogical Principles

The Pedagogical Principles relevant in the context of adapting the Madrasah curriculum to the advancements of Artificial Intelligence (AI) encompass several key aspects. First, educational inclusivity ensuring access and equality in AI learning for all students, regardless of their background or abilities. This involves a differentiated approach to ensure that the AI curriculum can be tailored to individual needs.

Secondly, collaborative learning becomes crucial, where students learn to work together, solve problems collectively, and develop social skills and critical thinking abilities through projects involving AI. This emphasizes the importance of student-centered learning, where teachers play the role of facilitators guiding the learning process.

Furthermore, adaptability in the curriculum becomes pivotal. Flexibility in the Madrasah curriculum is required to respond to the ever-evolving advancements in AI technology. In this regard, the curriculum needs regular updates in line with the developments in AI technology and student requirements. This aligns with the implementation of the Independent Curriculum, providing flexibility and creative space for Madrasahs to manage learning.

An area that requires emphasized attention is the significance of ethics and morality in the use of AI in the educational environment. Students should be trained to understand ethical values in using AI technology, including aspects of privacy, security, and potential social impacts.

These principles underscore the importance of integrating AI technology into the Madrasah curriculum while considering inclusivity, collaboration, adaptability, and ethical awareness to ensure holistic and relevant learning for students in the rapidly evolving digital era.

b. Philosophical Principles

In the context of adapting the Madrasah curriculum to the advancements of Artificial Intelligence (AI), the underlying philosophical principles encompass several vital aspects. Firstly, the Islamic epistemological concept emphasizes the importance of balanced knowledge, understanding, and application concerning technology. This includes the notion that AI technology should be seen as a tool to enhance students' understanding and experiences regarding religious and moral aspects.

Secondly, the philosophy of Islamic education underscores the concept of holistic education involving the spiritual, intellectual, emotional, and physical development of students. In this regard, the integration of AI in the Madrasah curriculum should encompass these aspects to ensure comprehensive and balanced education.

Furthermore, ethical principles within Islamic philosophy are crucial in the development of AI curriculum. Principles such as justice, social responsibility, and moderation should be integrated into the use and development of AI technology in the context of Madrasah education.

It is also important to consider philosophical principles that emphasize understanding the ultimate goals of education in Islam, encompassing moral, spiritual, and religious aspects. In this context, AI curriculum should align with these objectives and assist students in achieving them.

By considering these philosophical principles, the adaptation of AI technology in the Madrasah curriculum can be directed not only towards developing technical intelligence but also enriching the spiritual, moral, and intellectual intelligence of students in line with the values and high philosophical principles upheld in Islamic education.

E. CONCLUSION

Based on the principles of pedagogy and philosophy in the context of adapting the Madrasah curriculum to the advancements of Artificial Intelligence (AI), it highlights the importance of unifying technological success with the essence of holistic Islamic education.

Pedagogical principles emphasize the necessity of inclusivity, collaboration, adaptability, and ethical awareness in integrating AI technology into the Madrasah curriculum. This underscores the importance of ensuring that AI learning not only targets technical intelligence but also enriches students' social, critical, and ethical aspects, in line with the demands of the continuously evolving digital era.

On the other hand, philosophical principles highlight that the adaptation of AI in the Madrasah curriculum should be rooted in the values of Islamic epistemology, holistic education, Islamic ethics, and the ultimate goals of education in Islam. Thus, the use of AI is integrated as a means to deepen students' understanding of religious, moral, and spiritual aspects, aligned with the philosophical values embraced in Islamic education.

Overall, the integration of AI technology into the Madrasah curriculum is not solely about technical mastery but also about building awareness, understanding, and implementation of spiritual, moral, and intellectual values. This emphasizes that the adaptation of AI technology in Madrasah education should align with the comprehensive

essence of Islamic education, offering a bridge between advanced technology and a profound understanding of religious values.

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