Self-Directed Learning in Pesantren: A Comparative Insight from Montessori Education and Ibn Ṭufail's Ḥayy ibn Yaqẓān

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Abstract

Twenty-first century education requires an approach that encourages students to be independent and actively participate in the learning process. Self-Directed Learning (SDL) is a relevant pedagogical approach for addressing these challenges. This study aims to analyze and compare the pedagogical values of the SDL approach from two perspectives: the Montessori method from the western educational tradition and the *Mulāzamat al-Fikr wa al-Nafs* approach from the classical Islamic educational tradition, as presented in the story of Ḥayy ibn Yaqẓān by Ibn Ṭufail. This study employs a qualitative approach with a literature review. Data were collected from primary sources, such as the original works of Maria Montessori and the classical text Ḥayy ibn Yaqẓān by Ibn Ṭufail, as well as secondary sources, such as relevant scientific articles and reference books. Content analysis was used to identify and classify text content, uncovering the core principles of SDL according to Montessori and Ibn Ṭufail, comparing them within the context of modern education particularly pesantren (Islamic boarding school), and synthesizing the findings to contribute conceptually to Islamic educational development. The study's results are presented in comparative tables and diagrams that visualize the intersections and differences in the two approaches' pedagogical values. The findings demonstrate that both approaches prioritize students as active participants, emphasize the significance of direct experience and environmental exploration, promote the cultivation of independence, reflective thinking, and spiritual awareness. Integrating Montessori's structured principles with Ḥayy ibn Yaqẓān's philosophical-spiritual approach offers potential as a foundation for holistic-spiritual Islamic education models addressing contemporary pesantren needs.

Keywords: *Self-Directed Learning, Montessori, Ḥayy ibn Yaqẓān, Ibn Ṭufail, Pesantren, Islamic Education*

INTRODUCTION

In the 21st century, education is characterized by technological advances and dynamic change, which present significant challenges to active student participation and independence in learning.[1] In the context of the current shift in educational paradigms, *Self-Directed Learning* (SDL) has emerged as an approach that can foster active engagement and autonomy among students.[2]

Although the concept of SDL has existed since the 1800s, it has only emerged as a major area of research in the last 50 years.[3] In Indonesia, the Merdeka Curriculum is the only one that has widely adopted this approach. It was established in 2020 with the goal of providing students with the opportunity to become active and independent learners. It also aims to enhance their creativity and critical thinking skills.[4] This approach, which emphasizes individual freedom, is considered significant in enhancing adaptability and mastery of 21st-century skills such as independence, problem solving, and curiosity in order to tackle the challenges of the dynamic digital age.[5]

One method that considers efforts to develop children's independence through Self-Directed and practical learning is Montessori.[6] The approach, developed by Maria Montessori in the early 20th century, has grown in popularity. It is based on the idea that children learn best by exploring their environment freely.[7] Research shows that the Montessori method can foster a more harmonious environment for developing learning independence and student engagement through independence training, ultimately leading to academic and non-academic achievements.[8]

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[1] Riki Wahyudi et al., "The Impact of Self-Directed Learning on Student Motivation and Creativity in Electronics Education : A Correlational Study" 2, no. 3 (2024): 245–61, https://doi.org/https://doi.org/10.58536/j-hytel.v2i3.138.

[2] Donald N.Donald N. Roberson et al., "Self Directed Learning: A Longstanding Tool for Uncertain Times," Creative Education 12, no. 05 (2021): 1011–26, https://doi.org/10.4236/ce.2021.125074.

[3] W. Christopher Brandt, "Measuring Student Success Skills: A Review of the Literature on Self-Directed Learning," Center For Assessment, no. November (2020): 31, https://www.nciea.org/library/measuring-student-success-skills-a-review-of-the-literature-on-self-directed-learning/.

[4] Jaka Warsihna et al., "Tantangan Dan Strategi Implementasi Kurikulum Merdeka Pada Jenjang SD: Sebuah Temuan Multi-Perspektif," *Kwangsan: Jurnal Teknologi Pendidikan* 11, no. 1 (2023): 296, https://doi.org/http://doi.org/10.31800/jtp.kw.v11n1.p296--311.

[5] Charlene Du Toit-Brits, "A Focus on Self-Directed Learning: The Role That Educators' Expectations Play in the Enhancement of Students' Self-Directedness," South African Journal of Education 39, no. 2 (2019): 1–11, https://doi.org/10.15700/saje.v39n2a1645; Henry Khiat, "Measuring Self-Directed Learning: A Diagnostic Tool for Adult Learners," Journal of University Teaching and Learning Practice 12, no. 2 (2015), https://doi.org/10.53761/1.12.2.2.

[6] Muammar Qadafi et al., "Fostering Independent Learning in Early Childhood : A Case Study on Montessori Pedagogy at PAUD Montessori Futura Indonesia" 8, no. September (2023): 109–20, https://doi.org/https://doi.org/10.14421/jga.2023.83-01.

[7] Philippine Courtier et al., "Effects of Montessori Education on the Academic , Cognitive , and Social Development of Disadvantaged Preschoolers : A Randomized Controlled Study in the French Public-School System" 92, no. 5 (2021): 2069–88, https://doi.org/10.1111/cdev.13575.

[8] Russel R. Pate et al., "Montessori and Traditional Preschools" 84, no. 11 (2015): 716–21, https://doi.org/10.1111/josh.12207.; Qadafi et al., "Fostering Independent Learning in Early Childhood : A Case Study on Montessori Pedagogy at PAUD Montessori Futura Indonesia."

Meanwhile, the concept of independent learning already existed in the classical Islamic tradition as seen in the story of Ḥayy ibn Yaqẓān by the Muslim philosopher Ibn Ṭufail. Written between 1177 and 1182 CE, the story follows Hayy, a man who develops his knowledge independently through observation, reflection, and direct experience.[9] This story serves as a model for SDL within an Islamic educational perspective that integrates moral, spiritual, and intellectual aspects. It showcases a holistic intellectual and spiritual journey in which learning encompasses not only the cognitive but also the recognition of God's existence and existential understanding.[10]

Research on SDL, the Montessori method, and Ibn Ṭufail's novel Ḥayy ibn Yaqẓān has been conducted several times. Topics examined in these studies include the SDL approach in the Montessori method, the role of the Montessori method in developing independence and life skills, modifying the Montessori method with Islamic values, independent learning in the novel Ḥayy ibn Yaqẓān, and the holistic stages of learning from the story of Hayy ibn Yaqẓān.[11]

These studies conclude that research on the Montessori method and Ibn Ṭufail's work in the novel Hayy ibn Yaqẓān has been conducted several times. However, research comparing the Montessori method and the novel in the context of self-directed learning is lacking. Thus, this study attempts to address this gap by examining SDL pedagogy from the perspectives of Montessori and Ibn Ṭufail's Ḥayy ibn Yaqẓān.

A comparative study of independent learning in the Montessori approach and the novel Ḥayy ibn Yaqẓān is highly relevant in the modern era because it can provide a multidimensional perspective in designing educational models that not only develop cognitive and social skills but also shape character and spiritual awareness.[12] However, the rediscovery of self-directed learning pedagogy from these two traditions is expected to make a significant contribution. This is particularly true in addressing the increasingly complex and dynamic challenges of 21st-century education. It is

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[9] Yazida Ichsan et al., "Hayy Ibnu Yaqdzhan: The Concept of Knowledge Development from Ibn Tufail's Perspective and His Contribution to Islamic Education," AL-WIJDĀN Journal of Islamic Education Studies 8, no. 1 (2023): 41–53, https://doi.org/10.58788/alwijdn.v8i1.1916; Sebastian Guenther, Ibn Tufayl's Philosophical Novel Hayy Ibn Yaqzan and the Quest for Enlightenment in Classical Islam (Indiana University Press, 2014).

[10] Mesfer Alhayyani, "Ibn Tufayl's Hayy Ibn Yaqzan: The Natural Progression of the Mind and Intellectual Elitism" 104, no. 4 (2023): 1–12, https://doi.org/https://doi.org/10.46222/pharosjot.104.421; Ichsan et al., "Hayy Ibnu Yaqdzhan: The Concept of Knowledge Development from Ibn Tufail's Perspective and His Contribution to Islamic Education."

[11] Mira Debs, "Montessori in India: Adapted, Competing, and Contested Framings, 1915–2021," History of Education Quarterly 62, no. 4 (2022): 387–417, https://doi.org/10.1017/heq.2022.25; Intan Nadiastuti, Novita Pancaningrum, and Nida Suroya, "Implementasi Metode Montessori Dalam Mengembangkan Kemampuan Life Skill Pada Area Exercise Practical Life" 5, no. 1 (2024): 1074–85, https://doi.org/10.37985/murhum.v5i1.434; Avner Ben-Zaken, Reading Hayy Ibn-Yaqzan: A Cross-Cultural History of Autodidacticism (Johns Hopkins University Press, 2011), https://doi.org/10.1017/s0007087414000223; Mihajlo Bozovic, "The Process of Civilization in Ibn Tufayl's Hayy Ibn Yaqzan," Kom: Casopis Za Religijske Nauke 6, no. 3 (2017): 77–90, https://doi.org/10.5937/kom1702077b; Zuhri Fahruddin and Mochammad Marjuki, "Maintaining Islamic Values within the Montessori Educational Institution," Al-Hayat: Journal of Islamic Education 9, no. 1 (2025): 44–58, https://doi.org/10.35723/ajie.v9i1.40.

[12] Guenther, Ibn Tufayl's Philosophical Novel Hayy Ibn Yaqzan and the Quest for Enlightenment in Classical Islam.

especially relevant in the development of Islamic education such as Pesantren which emphasizes the formation of independent, creative, and truth-seeking human character.[13] Therefore, this study aims to analyze and compare the pedagogical principles of SDL in Montessori education and Ibn Ṭufail's Ḥayy ibn Yaqẓān, and to explore their relevance for pesantren education.[14]

METHOD

This study employs a qualitative approach with a library research focus to gain an in-depth understanding of the comparison between the SDL concept in the Montessori method and Ibn Ṭufail's thoughts, as reflected in his monumental work, Ḥayy ibn Yaqẓān.[15]

The research data was obtained through a review of relevant literature from both primary and secondary sources.[16] Primary sources include the original texts of Maria Montessori and the novel Ḥayy ibn Yaqẓān by Ibn Ṭufail. Secondary sources include scientific articles and journals that examine SDL in the Montessori method and the novel Ḥayy ibn Yaqẓān. Literature searches were conducted systematically, through several leading databases, such as Google Scholar and ResearchGate, as well as journals indexed by Scopus and Sinta, to ensure the quality and relevance of the sources used.[17]

Data collection techniques involved identifying, collecting, and reviewing written documents, including classical literature, philosophical works, and related scientific publications. The collected data included concepts, definitions, philosophical arguments, and the practical relevance of SDL concepts in the Montessori method to Ibn Ṭufail's thinking in the novel Ḥayy ibn Yaqẓān. Next, a critical content analysis was performed on the data. This process involved identifying and classifying text content to determine the primary principles of the SDL approach according to the Montessori perspective and Ibn Ṭufail's philosophy. Comparisons were made in the context of modern education, and the study results were synthesized to contribute to educational development.

The data collected from the literature review was presented in a structured manner using tables and diagrams to facilitate understanding and analysis. Tables organized important information concisely and in detail. For example, they showed

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[13] Agus Budiman et al., "Constructing the Body of Knowledge of Pesantren Education : A Philosophical , Historical , and Curricular Inquiry," *At-Ta'dib* 20, no. 1 (2025): 1–18, https://doi.org/https://doi.org/10.21111/attadib.v20i1.14723 Available.

[14] Nurul Salis Alamin, Haninah Az-Zahra, and Erva Dewi Arqomi Puspita, "Character Education in Islamic View: The Case of Ibn Tufail's Hay Ibn Yaqzhan Story" 8, no. 2 (2023), https://doi.org/https://doi.org/10.24269/ijpi.v8i2.7732; Cahyono Cahyono et al., "Pesantren Education as Indonesia's Indigenous Heritage: Nurturing Moral Education in the Digital Era," *At-Ta'dib* 19, no. 1 (2024): 177–193, https://doi.org/10.21111/attadib.v19i1.11899.

[15] John W Creswell and J David Creswell, Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (Sage publications, 2017).

[16] Sugiyono, Metode Penelitian Kuantitatif, Kualitatif, Dan R&D (Bandung: Alfabeta, 2019).

[17] Tim Weißer et al., "A Clustering Approach for Topic Filtering within Systematic Literature Reviews," MethodsX 7 (2020): 100831, https://doi.org/https://doi.org/10.1016/j.mex.2020.100831.

the similarities and differences in SDL pedagogy between the Montessori method and Ibn Ṭufail's thoughts in the novel Ḥayy ibn Yaqẓān. Diagrams visualized the comparison and integration of the two concepts by showing the relationship and synchronization of the self-directed learning principles that contribute to developing a more holistic educational model. Finally this method is expected to produce a thorough and relevant study that contributes to educational studies, particularly Islamic education such as pesantren.[18]

RESULT AND DISCUSSION

Biography of Maria Montessori and an Overview of the Montessori Method

Maria Montessori is known as one of the educators who was dedicated to developing educational methods that radically challenged conventional patterns.[19] In the global world of education, Maria Montessori contributed her insights, scientific training, and three decades of experience to develop an educational system that fosters children's independence.[20] She was born on August 31, 1870, in Chiaravalle, a mountain town in the province of Ancona, Italy.[21]

She began her elementary education at Via di San Nicolò da Tolentino, where teaching was based on memorizing textbooks, repetition, and dictation. At that time, Italian schools used a single textbook combining all subjects that focused on repetition and memorization. While this method was considered sufficient for providing basic literacy and mathematical skills, it hindered creativity and often punished children's spontaneity.[22] Maria Montessori did not demonstrate any exceptional talent during her elementary school years due to health issues. However, as she grew older, she began to show a special interest in scientific topics.[23]

She became the first woman admitted to the University of Rome's Faculty of Medicine after completing her engineering studies at the Regio Istituto Tecnico Leonardo da Vinci.[24] At this medical faculty, she learned scientific methods and the importance of clinical observation. Montessori applied these observations to early childhood education, seeking to understand how and when children learn.[25] Her

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[18] Sugiyono, Metode Penelitian Kuantitatif, Kualitatif, Dan R&D.

[19] Maria Montessori, The Montessori Method (Dover Publications, 1912).

[20] Debs, "Montessori in India: Adapted, Competing, and Contested Framings, 1915–2021."

[21] Gerald Lee Gutek, The Montessori Method: The Origins of an Educational Innovation: Including an Abridged and Annotated Edition of Maria Montessori's The Montessori Method, Proceedings of the National Academy of Sciences, vol. 3 (Rowman & Littlefield Publishers, Inc, 2004).

[22] Gutek.

[23] Marco Cascella, "Maria Montessori (1870-1952). Women's Emancipation, Pedagogy and Extra Verbal Communication," Revista Medica de Chile 143, no. 5 (2015): 658–62, https://doi.org/10.4067/S0034-98872015000500014.

[24] Gutek, The Montessori Method: The Origins of an Educational Innovation: Including an Abridged and Annotated Edition of Maria Montessori's The Montessori Method.

[25] Septi Gumiandari, Ilman Nafi'a, and Dindin Jamaluddin, "Criticizing Montessori'S Method of Early Childhood Education Using Islamic Psychology Perspective," Jurnal Pendidikan Islam 5, no. 2 (2019): 133–48, https://doi.org/10.15575/jpi.v5i2.5835.

achievements in education and medicine made her a prominent figure in Italy and influenced the European women's movement by advocating for women's educational rights.[26]

Maria Montessori was one of the figures who proposed reforms to provide inclusive education for children with special needs.[27] Based on her medical training, Maria Montessori concluded that methods used to train children with intellectual disabilities could be applied to typically developing children.[28] She developed a unique educational philosophy based on *Self-Directed Learning* that views children as naturally inclined to learn and develop. The Montessori method has three main elements—environment, teacher, and child—with learning applications tailored to each child's stage of development.[29]

Montessori education has become an alternative educational method that has experienced continuous growth for over 100 years with the aim of making a significant contribution to the world of education.[30] The uniqueness of the Montessori method lies in several key aspects. First, there is a systematically designed learning environment. This environment supports children's freedom. Second, the role of the teacher is not only as an instructor. It is also as an observer. The teacher plans learning activities according to the individual development of each child. Third, there are efforts to avoid interventions that may disrupt concentration. This allows children to learn independently and purposefully.[31]

Accordingly, the Montessori method places significant emphasis on the use of the SDL approach, whereby children are granted the autonomy to explore and learn in a meticulously prepared environment that fosters natural development.[32]

Biography of Ibn Ṭufail and Overview of the Novel Ḥayy ibn Yaqẓān

Abu Bakr Muhammad ibn Abdul Malik ibn Muhammad Ibn Ṭufail al-Qaysi, or Ibn Ṭufail, was a Muslim philosopher born in 1110 CE in Guadix, Andalusia, during the Almohad dynasty (1147–1269 CE).[33] His mastery of various fields of knowledge led him to serve as governor's secretary, court physician, advisor, and discussion partner

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[26] Gutek, The Montessori Method: The Origins of an Educational Innovation: Including an Abdridged and Annotated Edition of Maria Montessori's The Montessori Method.

[27] Rita Kramer, Maria Montessori: A Biography (Diversion Books, 2017).

[28] Gutek, The Montessori Method: The Origins of an Educational Innovation: Including an Abdridged and Annotated Edition of Maria Montessori's The Montessori Method.

[29] Justus J. Randolph et al., "Montessori Education's Impact on Academic and Nonacademic Outcomes: A Systematic Review," Campbell Systematic Reviews 19, no. 3 (2023), https://doi.org/10.1002/cl2.1330.

[30] Keith Whitescarver and Jacqueline Cossentino, "Montessori and the Mainstream: A Century of Reform on the Margins," Teachers College Record 110, no. 12 (November 1, 2008): 2571–2600, https://doi.org/10.1177/016146810811001202.

[31] Lillard, Angeline S, and Virginia McHugh, "Authentic Montessori: The Dotteressa's View at the End of Her Life Part II," Journal of Montessori Research 5, no. 1 (2019): 19–34, https://doi.org/10.17161/jomr.v5i1.9753.

[32] Zehra Çakır and Sema Altun Yalçın, "The Effect of Montessori Approach-Based STEM Education on Pre-Service Pre-School Teachers' Self-Directed Learning," E-International Journal of Educational Research 13 (2022): 142–62, https://doi.org/10.19160/e-ijer.1038793.

[33] Guenther, Ibn Tufayl's Philosophical Novel Hayy Ibn Yaqzan and the Quest for Enlightenment in Classical Islam.

to Sultan Abu Yaqub Yusuf (1163–1184 CE).[34] Ibn Ṭufail is known as one of the key figures in the development of Islamic philosophy in the West, striving to reconcile religion and philosophy and placing great emphasis on revelation, not only at the literal level but also at a deeper level.[35]

Ibn Ṭufail spent time in Seville and Granada studying the philosophy of Ibn Bajjah, referred to as the father of Andalusian philosophy.[36] His philosophical ideas were also influenced by the views of other philosophers, including Ibn Sina (980-1037), Al-Farabi (872-950), and Al-Ghazali (1058-1111). While appreciating these philosophers' views, Ibn Ṭufail also criticized their limitations, advocating a more comprehensive view that combined rational inquiry and spiritual contemplation.[37]

Ibn Ṭufail introduced an educational model that emphasized the importance of rationality, intuition, and direct experience through the metaphorical story of a child who studied independently on a remote island in his literary work entitled Ḥayy ibn Yaqẓān: Fi Asrar Al-Hikmah Al-Masyriqiyyah. He believed that, from the beginning of their development, humans have always been curious to understand nature, identity, and truth.[38] The work describes a personal, scientific, discovery-based, inquiry-driven learning process. In Ibn Ṭufail's thought, the acquisition of knowledge can be achieved through stages that individuals go through, which are characterized by specific stages of learning and development.[39]

Ibn Ṭufail's monumental work, Hayy ibn Yaqzan, is an allegorical novel with philosophical and mystical nuances that are prominent in the classical Islamic intellectual tradition. The title reflects the essence of Ibn Ṭufail's vision, which posits that intellectual growth and the search for the essence of God can be achieved through rational contemplation.[40] Ibn Ṭufail sought to convey the idea that humans can attain true knowledge independently, without external assistance. He emphasized the importance of direct experience and rational reflection in seeking truth.[41] In the novel, he illustrates how the senses and reason, when employed in *Self-Directed Learning* without the influence of cultural and social constructs, can guide individuals toward

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[34] Abu Bakr Muhammad ibn Tufayl and Abu'l Walid Muhammad ibn Rushd, Two Andalusian Philosophers, ed. John Colville (London: Routledge, 1999), https://doi.org/https://doi.org/10.4324/9781315030012.

[35] Lenn Evan Goodman, Ibn Tufayl's Hayy Ibn Yaqẓān: A Philosophical Tale, Journal of the American Oriental Society, vol. 93 (University of Chicago Press, 2003), https://doi.org/10.2307/599479.

[36] Ichsan et al., "Hayy Ibnu Yaqdzhan: The Concept of Knowledge Development from Ibn Tufail's Perspective and His Contribution to Islamic Education."

[37] Alhayyani, "Ibn Tufayl ' s Hayy Ibn Yaqzan : The Natural Progression of the Mind and Intellectual Elitism."

[38] Mukhlis Lathif, "Ibnu Thufail and His Contributions in the Field of Islamic Philosophy: Thoughts and Developments," Adabiyah 11, no. 1 (2023): 1–14, https://doi.org/10.24252/jad.v23i1a1.

[39] Alamin, Az-Zahra, and Puspita, "Character Education in Islamic View: The Case of Ibn Tufail's Hay Ibn Yaqzhan Story."

[40] Guenther, Ibn Tufayl's Philosophical Novel Hayy Ibn Yaqzan and the Quest for Enlightenment in Classical Islam.

[41] Alhayyani, "Ibn Tufayl ' s Hayy Ibn Yaqzan : The Natural Progression of the Mind and Intellectual Elitism."

the intellectual and spiritual dimensions of true knowledge, or *haqiqatul ula*, concerning the existence of God.[42]

In addition to writing Ḥayy ibn Yaqẓān, Ibn Ṭufail is believed to have produced works in the fields of philosophy and medicine. However, only Ḥayy ibn Yaqẓān has survived to the present day.[43] bn Tufail passed away in Marrakesh in 581 AH/1185 CE, and an invaluable intellectual legacy was left behind for both the Islamic and Western worlds.[44]

The Self-Directed Learning Approach in the Montessori Method

Self-directed learning (SDL) is a theory developed by Dr. Garrison in 1997, which is based on Malcolm Knowles's theory of andragogy. In modern education, SDL emphasizes that learners take the initiative to identify what they need to learn.[45] SDL is central to the Montessori philosophy and is the primary foundation for creating an effective learning environment that fosters children's development. In the Montessori method, the prepared environment is designed to allow children to choose their activities, their learning partners, and how long they spend on a particular activity, all under the teacher's guidance.[46]

The role of the teacher in the Montessori method is very different from conventional education. Rather than engaging in traditional teaching methods that dominate the learning process, a Montessori teacher is required to observe, assist, inspire, suggest, guide, correct, and facilitate the learning process.[47] The teacher's role is to guide children's learning without interfering with the process. Although Montessori teachers do not force activities on children, they clearly follow the basic rules of Montessori principles that govern the school. Montessori teachers diagnose each child's educational needs by noting their physical development, previous learning, readiness for new learning experiences, interests, and special needs. Teachers ensure that the learning environment sparks the child's desire for independence and learning.[48]

Guided freedom is another distinctive feature of the Montessori method. Children are given the freedom to choose activities, determine when to complete them, and decide whom to do them with, all within clear boundaries and under the supervision

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[42] Ichsan et al., "Hayy Ibnu Yaqdzhan: The Concept of Knowledge Development from Ibn Tufail's Perspective and His Contribution to Islamic Education."

[43] Guenther, Ibn Tufayl's Philosophical Novel Hayy Ibn Yaqzan and the Quest for Enlightenment in Classical Islam.

[44] Goodman, Ibn Tufayl's Hayy Ibn Yaqẓān: A Philosophical Tale.

[45] Jasmine Aulakh et al., "Self-Directed Learning versus Traditional Didactic Learning in Undergraduate Medical Education: A Systemic Review and Meta-Analysis," BMC Medical Education 25, no. 1 (2025), https://doi.org/10.1186/s12909-024-06449-0.

[46] Chloë Marshall, "Montessori Education: A Review of the Evidence Base," Npj Science of Learning 2, no. 1 (2017): 1–9, https://doi.org/10.1038/s41539-017-0012-7.

[47] Montessori, The Montessori Method.

[48] Gutek, The Montessori Method: The Origins of an Educational Innovation: Including an Abdridged and Annotated Edition of Maria Montessori's The Montessori Method.

of experienced teachers[49] In a Montessori classroom, children can pursue their current interests rather than learning what the teacher has chosen for them. Research shows that children perform better academically, have higher self-esteem, demonstrate better self-regulation, and are more creative when they have more autonomy.[50] The Montessori method emphasizes self-directed learning to foster intrinsic motivation, encouraging children to become long life learners.[51]

One unique feature of the Montessori method is its use of self-correcting learning materials. Children can choose any constructive materials they wish to use while in the classroom, provided they complete all materials.[52] Montessori method uses a collection of specialized materials that have been carefully developed over many years to support various aspects of child development. These materials include solid cylinders, sound boxes, and geometry cabinets because they clearly indicate to children when an error has occurred.[53]

The SDL approach in Montessori focuses on enabling children to interact freely and participate effectively in diverse social groups while developing problem-solving skills and emotional regulation.[54] Teachers and the Montessori environment provide sufficient support while still emphasizing the importance of children taking responsibility for their learning and growth.[55]

Independence principles are implemented in various daily activities in the Montessori classroom.[56] These activities are designed to stimulate and strengthen life or daily living skills. For example, children are encouraged to perform routines such as organizing equipment, washing, preparing their own lunch, and caring for plants.[57] The Montessori method consistently fosters independence, self-confidence, and problem-solving skills in children through authentic and meaningful learning experiences.[58]

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[49] Marshall, "Montessori Education: A Review of the Evidence Base."

[50] Diana I. Cordova and Mark R. Lepper, "Intrinsic Motivation and the Process of Learning: Beneficial Effects of Contextualization, Personalization, and Choice," Journal of Educational Psychology 88, no. 4 (1996): 715–30, https://doi.org/10.1037/0022-0663.88.4.715.

[51] Randolph et al., "Montessori Education's Impact on Academic and Nonacademic Outcomes: A Systematic Review."

[52] Randolph et al.

[53] Lillard, Angeline S, and Virginia McHugh, "Authentic Montessori: The Dotteressa's View at the End of Her Life Part I," Journal of Montessori Research 5, no. 1 (2019): 19–34, https://doi.org/10.17161/jomr.v5i1.9753.

[54] Lillard, S, and McHugh, "Authentic Montessori: The Dotteressa's View at the End of Her Life Part II."

[55] Gutek, The Montessori Method: The Origins of an Educational Innovation: Including an Abdridged and Annotated Edition of Maria Montessori's The Montessori Method.

[56] Elena Gambella et al., "The Silver Agri Age Project in Italy : A Montessori-Inspired Social Intervention with Older Adults with Mild Cognitive Impairment . Single-Group Pre-Post Pilot Study Protocol," no. May (2025): 1–11, https://doi.org/10.3389/fpubh.2025.1561263.

[57] Qadafi et al., "Fostering Independent Learning in Early Childhood : A Case Study on Montessori Pedagogy at PAUD Montessori Futura Indonesia."

[58] Muammar Qadafi, "Metode Montessori: Implikasi Student-Centred Learning Terhadap Pekembangan Anak Di PAUD," Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini 7, no. 3 (2023): 2961–76, https://doi.org/10.31004/obsesi.v7i3.3323.

The Self-Directed Learning Approach According to Ibn Ṭufail in the Novel Ḥayy ibn Yaqẓān

The Self-Directed Learning Approach in Islamic tradition is illustrated through the story of Ḥayy ibn Yaqẓān by Ibn Ṭufail about a child named Hayy who was stranded on a remote uninhabited island without social interaction, relying solely on intuition and reason to attain knowledge and truth about knowledge and the existence of the Creator.[59] From infancy, Hayy was raised by a deer and survived through instinct, sensory experience, and exploration. Hayy's intellectual development, which spanned several stages, relied on a profound search for existential meaning through observation of his surroundings.[60]

Hayy's intellectual development unfolds through several systematic stages.[61] In the early stage, he relies solely on the doe; then, he becomes self-reliant by crafting clothing and weapons for self-protection. Subsequently, he develops a more complex spiritual and intellectual dimension by witnessing and reflecting on the death of a female deer. At age 21, Hayy began posing philosophical questions and seeking answers about life. As he matures, he contemplates arguments about the existence of God and ultimately achieves the highest level of truth, or haqiqatul ula, regarding the existence of the Creator.[62]

The natural environment and direct experience are Hayy's main teachers. Hayy does not merely observe but also experiments and draws conclusions from direct interaction with nature, making his learning process active, reflective, and contextual. Through stages of environmental observation leading to intellectual reflection, Hayy's story highlights humanity's potential for deep understanding and connection with reality through self-directed learning activities. However, the central idea in Ibn Ṭufail's work is how Hayy's Self-Directed Learning and interactions with the environment lead him to realize the existence of the cause of all things (the Creator).[63]

Learning process in the work of Hayy ibn Yaqẓān is distinctive in its holistic approach, involving intellectual, spiritual, and existential aspects. Hayy's journey involves acquiring rational and empirical knowledge and contemplating the meaning of life and its connection to God. This approach demonstrates that self-directed learning integrated with direct experience can shape the perfect human being (insan kamil), who possesses intellectual, spiritual, and moral qualities.[64]

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[59] Ben Hardman, "The Mahdi and the Autodidact: Ibn Tufayl's Hayy Ibn Yaqzan as a Challenge to Almohad Doctrine," The International Journal of Critical Cultural Studies, no. June 2016 (2021), https://doi.org/10.18848/2327-0055/CGP/v14i02/33-45.

[60] AlHayyani, "Ibn Tufayl's Hayy Ibn Yaqzan : The Natural Progression of the Mind and Intellectual Elitism."

[61] Ichsan et al., "Hayy Ibnu Yaqdzhan: The Concept of Knowledge Development from Ibn Tufail's Perspective and His Contribution to Islamic Education."

[62] AlHayyani, "Ibn Tufayl's Hayy Ibn Yaqzan : The Natural Progression of the Mind and Intellectual Elitism."

[63] Ichsan et al., "Hayy Ibnu Yaqdzhan: The Concept of Knowledge Development from Ibn Tufail's Perspective and His Contribution to Islamic Education."

[64] Moh In'ami, Bambang, and Ismail Suardi Wekke, "Contextualising Adab in Islamic Education from the Perspective of Al-Attas Moh," Journal of Al-Tamadun 20, no. 1 (2025): 145–58, https://doi.org/https://doi.org/10.22452/JAT.vol20no1.11.

Similarities Between the Montessori Method and Hayy ibn Yaqẓān

Both the Montessori method and the story of Hayy ibn Yaqzhan view the learner as an active participant in the learning process. In the Montessori method, children are given the opportunity to develop their full potential and freely choose activities without adult intervention.[65] Similarly, Hayy learns independently on a remote island in the story through instinct, sensory experience, and exploration without the help of other humans. Both the Montessori method and the story of Hayy ibn Yaqzhan emphasize the importance of the individual's active role in acquiring knowledge through direct experience, rejecting conventional, one-way instruction.[66]

The Montessori method and the story of Ḥayy ibn Yaqẓān both emphasize the importance of the active role of individuals in acquiring knowledge based on direct experience and reject conventional, one-way instructional methods of education because they can hinder the great potential that children possess.[67]

Additionally, both emphasize exploration of the environment and experience as sources of learning. In the Montessori method, the learning environment is specially designed so that children can freely choose their activities, their learning partners, and how long they spend on a particular activity.[68] Meanwhile, in the story of Hayy, he observes the natural phenomena occurring around him. He learns to survive in the wild and significantly increases his knowledge through observation, experimentation, and analogical reasoning from his surroundings.[69]

The development of independence is central to the self-directed learning approach in both the Montessori method and the story of Hayy ibn Yaqẓān. In the Montessori method, self-directed learning is realized through an environment that gives children the freedom to choose activities and learning rhythms according to their interests and needs.[70] Additionally, the Montessori method is characterized by non-intervention, so the teacher's as a facilitator. This is reflected in Hayy's self-taught journey on a remote island in the story of Hayy ibn Yaqẓān. Hayy developed independence from an early age. This involved not only practical learning processes, but also intellectual and spiritual growth. Ultimately, it led him to achieve philosophical enlightenment.[71]

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[65] Gumiandari, Nafi'a, and Jamaluddin, "Criticizing Montessori'S Method of Early Childhood Education Using Islamic Psychology Perspective."

[66] Alhayyani, "Ibn Tufayl ' s Hayy Ibn Yaqzan : The Natural Progression of the Mind and Intellectual Elitism."

[67] Krisna Wijaya et al., "Thematic Learning in the Independent Curriculum in Elementary Schools Based on the Islamic Montessori Method for Multiple Intelligence," Indonesian Journal of Educational Research and Review 7, no. 1 (2024): 85–97, https://doi.org/10.23887/ijerr.v7i1.66794; Ichsan et al., "Hayy Ibnu Yaqdzhan: The Concept of Knowledge Development from Ibn Tufail's Perspective and His Contribution to Islamic Education."

[68] Marshall, "Montessori Education: A Review of the Evidence Base."

[69] Goodman, Ibn Tufayl's Hayy Ibn Yaqẓān: A Philosophical Tale.

[70] Marshall, "Montessori Education: A Review of the Evidence Base."

[71] Guenther, Ibn Tufayl's Philosophical Novel Hayy Ibn Yaqzan and the Quest for Enlightenment in Classical Islam.

The Differences between The Montessori Method and Ḥayy Ibn Yaqẓān

The Montessori method and the story of Hayy ibn Yaqzan show fundamental differences in philosophy and learning practices. The main difference lies in their respective sources and learning environments. The Montessori method relies on a structured environment specifically designed to facilitate children's exploration and learning.[72] This prepared environment is one of the hallmarks of the Montessori method because it supports the development of independence through specific pedagogical objectives.[73] In contrast, Hayy in the story acquires knowledge spontaneously through his experiences in the open natural environment, without any deliberate instruments or structures. He makes nature his primary "teacher" in his cognitive process and search for existence, observing, experimenting, and reflecting on the natural phenomena around him.[74]

A second difference between the Montessori method and the story of Hayy ibn Yaqẓān is the role of the educator. In the Montessori method, the teacher acts as a diagnostician of each individual's educational profile.[75] Although not the center of knowledge authority, the teacher in Montessori plays an important role as a facilitator and observer who provides support during the child's learning process. In the story of Hayy ibn Yaqẓān, meanwhile, Hayy learns independently, without any intervention. His cognitive development, skills, and understanding of life are achieved individually and experimentally.[76]

The Montessori educational method is also known for its approach to developing children's potential in a holistic way, addressing their intellectual, physical, emotional, and social aspects.[77] Generally, the Montessori method takes a secular or neutral stance on introducing religion to children.[78] Montessori places greater emphasis on fostering active and independent learning abilities than on the spiritual dimensions of religion.[79] In contrast, in the story of Hayy ibn Yaqẓān, the spiritual dimension becomes a central and integral part of Hayy's self-directed learning process. Hayy ibn Yaqẓān's learning is inseparable from his profound spiritual experiences. This makes the pursuit of knowledge and truth a complete and holistic spiritual journey. The goal of this journey is spiritual enlightenment and divine reality.[80]

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[72] Lillard, S, and McHugh, "Authentic Montessori: The Dotteressa's View at the End of Her Life Part II."

[73] Marshall, "Montessori Education: A Review of the Evidence Base."

[74] Goodman, Ibn Tufayl's Hayy Ibn Yaqzān: A Philosophical Tale.

[75] Gutek, The Montessori Method: The Origins of an Educational Innovation: Including an Abdridged and Annotated Edition of Maria Montessori's The Montessori Method.

[76] Ichsan et al., "Hayy Ibnu Yaqdzhan: The Concept of Knowledge Development from Ibn Tufail's Perspective and His Contribution to Islamic Education."

[77] Marshall, "Montessori Education: A Review of the Evidence Base."

[78] Fahruddin and Marjuki, "Maintaining Islamic Values within the Montessori Educational Institution."

[79] Courtier et al., "Effects of Montessori Education on the Academic , Cognitive , and Social Development of Disadvantaged Preschoolers : A Randomized Controlled Study in the French Public-School System."

[80] Lathif, "Ibnu Thufail and His Contributions in the Field of Islamic Philosophy: Thoughts and Developments."

Montessori integrates spirituality through moral development, ethics, and a harmonious connection with nature.[81] Meanwhile, Hayy ibn Yaqẓān considers spiritual experiences in discovering divine reality to be the pinnacle of education. These differences are influenced by the two's different cultural and philosophical contexts. The Montessori method originated from Western educational traditions that emphasize scientific, humanistic, and individualistic approaches.[82] Meanwhile, Ḥayy ibn Yaqẓān emerged from Islamic philosophical traditions that emphasize the concept of the 'unity of truth,' where religious truth can be reconciled with rational human truth.[83]

Comparison of Montessori Method and Ḥayy ibn Yaqẓān

Table 1: Comparison of Montessori Method and Ḥayy ibn Yaqẓān

Aspect	Montessori Method	Hayy ibn Yaqzhan
Learner	Active Subject	Active Subject
Method	Freedom of expression and potential development	Freedom of expression and potential development
Learning Sources	Nature and environment	Nature and environment
Learning Setting	Structured (classroom designed according to the child's developmental stage)	Free (open nature and unstructured conditions)
Role of Teacher	Facilitator	Self-taught without a teacher
Educational Goals	Holistic development: independence, self-confidence, and self-directed learner	Recognition of God and metaphysical realities through inner experience
Succes Indicators	Ability to learn independently and demonstrate responsibility	Achievement of spiritual peak and ultimate knowledge through contempelation and reasoning
Educational Values	Independence, freedom of responsibility, self-development	Spirituality, natural philosophy, pursuit of truth, and relationship with God

The essential distinctions between the Montessori method and Ḥayy ibn Yaqẓān suggest the potential for an integrated paradigm that utilizes the strengths of both traditions, called holistic-spiritual education which encourages critical-creative

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[81] Gutek, The Montessori Method: The Origins of an Educational Innovation: Including an Abdridged and Annotated Edition of Maria Montessori's The Montessori Method.

[82] Fahruddin and Marjuki, "Maintaining Islamic Values within the Montessori Educational Institution"; Montessori, The Montessori Method.

[83] Alhayyani, "Ibn Tufayl ' s Hayy Ibn Yaqzan : The Natural Progression of the Mind and Intellectual Elitism."

interaction between students and their environment, while developing metaphysical curiosity through contemplation, existential questions, and the search for transcendent truth.[84] This paradigm aligns with Said Nursi's holistic education concept, which integrates knowledge, morals, and spirituality, so that education not only produces academically intelligent individuals, but also has strong character and spiritual abilities.[85]

This approach aims to integrate the Montessori focus on independence, sensory exploration, and developmental suitability[86] with Ḥayy ibn Yaqẓān's reflective spiritual journey grounded in contemplation, existential inquiry, and the quest for transcendent truth.[87] Holistic-spiritual education bridges the distinction between secular and religious instruction by equally prioritizing the cultivation of the mind, body, and spirit. It encourages learners to interact critically and creatively with their surroundings, be they structured or natural, while simultaneously fostering their inner life and metaphysical inquisitiveness. This integrative paradigm presents a persuasive picture of education that prepares individuals with practical skills while simultaneously guiding them towards meaning, purpose, and spiritual enlightenment. This synthesis may be particularly pertinent in modern educational settings that aim to harmonize scientific rigor with ethical profundity and existential understanding.

Implications for Modern Education

Integrating the self-directed learning approach into the Montessori and Hayy ibn Yaqzan methods has the potential to create an integral educational model centered not only on the intellectual realm, but also on the spiritual and moral.[88] The Montessori method offers a structured learning environment, self-correcting learning materials, and teachers who are ready to help and aware of each child's interests and special needs.[89] However, it is considered to lack space for existential inquiry and spiritual depth. Conversely, Hayy ibn Yaqẓān provides an example of self-directed learning that emphasizes contemplation and the search for existential meaning. Hayy uses the environment as a source of reflection on the verses of creation, which leads him to recognize God.[90]

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[84] Firda Inayah, "Integrated Boarding Systems University: An Effective Formula for Creating a Good Man," *At-Ta'dib* 19, no. 2 (2024): 312–328, https://doi.org/10.21111/attadib.v19i2.13449; Mustafa Banister, "22 On Learning and the Character of Knowledge in Ibn Ṭufayl's Ḥayy b. Yaqẓān" (Leiden, The Netherlands: Brill, 2024), 602–25, https://doi.org/10.1163/9789004682504_031.

[85] Rasmuin Rasmuin, "Pemikiran Pendidikan Holistik Said Nursi: Integrasi Antara Ilmu, Akhlak, Dan Spiritualitas Dalam Pengembangan Pendidikan Islam," *An-Nuha : Jurnal Kajian Islam, Pendidikan, Budaya Dan Sosial* 9, no. 2 (2022): 293–306, https://doi.org/10.36835/annuha.v9i2.500.

[86] Montessori, The Montessori Method.

[87] Ibn Tufail, Hayy Ibn Yaqzhan (Hindawi Foundation for Education and Culture, 2016).

[88] Fahruddin and Marjuki, "Maintaining Islamic Values within the Montessori Educational Institution."

[89] Gutek, The Montessori Method: The Origins of an Educational Innovation: Including an Abdridged and Annotated Edition of Maria Montessori's The Montessori Method.

[90] Ichsan et al., "Hayy Ibnu Yaqdzhan: The Concept of Knowledge Development from Ibn Tufail's Perspective and His Contribution to Islamic Education."

The Montessori method is similar to other Western ideas that believe in truth only as what we can see and feel, and what we can prove. But in the Islamic story of Ḥayy ibn Yaqẓān, it is explained that there is a deeper truth that we can understand with our minds, along with the truths that we can see and feel. [91] Hayy uses three methods of knowledge to achieve this ultimate truth, which leads to the knowledge of God's existence. These methods are based on reason (analysis, deduction, and comparison), the senses (observation and research), and intuition (interpretation of the essence and wisdom of religious teachings).[92]

In the 21st-century education era, the relevance of the SDL approach from the Montessori method and Ḥayy ibn Yaqẓān is increasingly important amid the challenges of dynamic adaptation in the digital age. The need for independence, problem-solving skills, and spirituality presents new challenges for 21st-century education. The Montessori method fosters children's independence, self-confidence, and problem-solving abilities.[93] The *Self-Directed Learning* approach of Hayy ibn Yaqzan can complement this by emphasizing reflective journeys, contemplation, and the integration of spiritual dimensions. Hayy's story provides a framework for self-directed learning from an Islamic educational perspective that emphasizes holistic integration. In this approach, learning includes an understanding of God's existence and existential comprehension.[94]

Integrating the Montessori method and Hayy ibn Yaqẓān has the potential to strengthen students' ability to become independent, reflective, and creative individuals with high moral and spiritual sensitivity. In practice, Montessori's structured, environment-based principles provide freedom of learning as well as guidance that allows children to explore freely.[95] Incorporating Hayy-style reflective and contemplative activities enriches this principle, making the learning model more holistic and in line with Islamic educational values based on divine concepts.[96]

Montessori's systematic structure provides a framework that effectively conveys the fundamentals of religion, helping students discover and explore spiritual truths.[97] Integrating the three main aspects of Montessori—the teacher, the environment, and the child—with aspects such as faith, moral values, and worship practices from the novel Hayy ibn Yaqẓān can strengthen children's understanding of religious teachings

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[91] Dina Julita, "Islamic Montessori Curriculum Reconstruction" 6, no. 1 (2021): 1–17.

[92] Ichsan et al., "Hayy Ibnu Yaqdzhan: The Concept of Knowledge Development from Ibn Tufail's Perspective and His Contribution to Islamic Education."

[93] Qadafi et al., "Fostering Independent Learning in Early Childhood : A Case Study on Montessori Pedagogy at PAUD Montessori Futura Indonesia."

[94] Alhayyani, "Ibn Tufayl ' s Hayy Ibn Yaqzan : The Natural Progression of the Mind and Intellectual Elitism."

[95] Montessori, The Montessori Method.

[96] Fahruddin and Marjuki, "Maintaining Islamic Values within the Montessori Educational Institution."

[97] Fahruddin and Marjuki.

and help them build harmonious relationships with others and the universe.[98] The integration of the Montessori method and Ḥayy ibn Yaqẓān facilitates the deepening of the meaning of learning and spiritual awareness in a directed and safe manner, while minimizing the risk of losing direction that may arise if philosophical reflection is conducted without guided pedagogical direction.[99]

The Montessori approach and the Ḥayy ibn Yaqẓān approach are in line with the ethos of pesantren education. Pesantren are Islamic educational institutions that emphasize character building, spiritual development, and harmonious relationships between teachers and students in independent and collective learning environments.[100] Integrating the systematic, experience-based Montessori framework with the reflective, metaphysical insights of Hayy ibn Yaqẓān can strengthen students learning independence, critical thinking skills, and spiritual awareness.[101] This supports a holistic-spiritual Islamic education responsive to contemporary challenges. This synthesis enables Islamic boarding schools to cultivate individuals who are intellectually competent, morally upright, and spiritually aware, equipping them to navigate the complexities of the modern world.

Picture 1: Integration of Montessori Method and Ḥayy ibn Yaqẓān
for an Advanced Educational Model
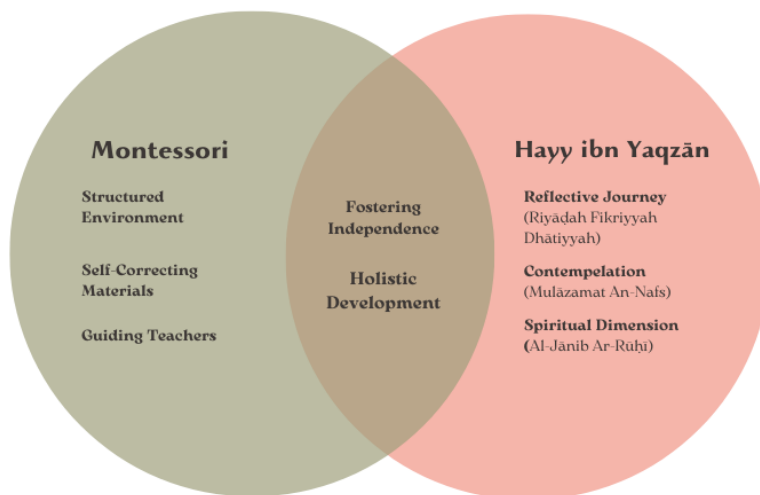
[98] Randolph et al., "Montessori Education's Impact on Academic and Nonacademic Outcomes: A Systematic Review."

[99] Julita, "Islamic Montessori Curriculum Reconstruction."

[100] Jusubaidi et al., "A Model of Transformative Religious Education: Teaching and Learning Islam in Pondok Modern Darussalam Gontor, Indonesia," *Millah: Journal of Religious Studies* 23, no. 1 (2024): 171–212, https://doi.org/10.20885/millah.vol23.iss1.art6; Ilham Kamaruddin et al., "Analyzing the Impact of Physical Education on Character Development in Elementary School Students," *At-Ta'dib* 18, no. 1 (2023): 10–17, https://doi.org/10.21111/attadib.v18i1.9749; Raden Rizky Fahrial Ahmad et al., "Ta'dib: Character Foundations in the Perspective of Syed Muhammad Naquib Al-Attas," *At-Ta'dib* 18, no. 1 (2023): 70–80, https://doi.org/10.21111/attadib.v18i1.8320.

[101] Montessori, The Montessori Method; Tufail, Hayy Ibn Yaqzhan.

CONCLUSION

The self-directed learning (SDL) approach, which was developed in two different traditions, namely the Montessori method from modern Western culture and the allegorical story of Ḥayy ibn Yaqẓān by Ibn Ṭufail from classical Islamic heritage, represents a complementary pedagogical synthesis. Both emphasize the learner as an active participant in the learning process. They prioritize direct experience and the environment as primary sources of knowledge and foster independent, reflective, and spiritual character. The Montessori method provides a structured framework with a planned learning environment and a teacher acting as a facilitator. In contrast, Ḥayy ibn Yaqẓān offers an intuitive, philosophical, and existential representation of SDL.

Integrating these two approaches creates a holistic-spiritual education that emphasizes cognitive competencies for 21st-century skills, such as creativity, problem-solving, and the development of spiritual awareness, as well as Islamic moral values. In the context of Islamic education, this synthesis is significant because it combines modern learning structures with a *tawhidic* orientation, as well as the pursuit of the ultimate truth about the existence of God and humanity's role as *khalifatullah* on Earth. The result is a transformative Islamic education system rooted in spiritual and humanistic values. This integration has the potential to enhance formal education strategies and strengthen Islamic educational institutions, such as Pesantren (Islamic Boarding School), which prioritize character building, spiritual strengthening, and student independence in a collective and reflective learning environment.

However, this study has limitations due to its nature as a literature and comparative study without empirical field data. Therefore, further empirical research is needed to test the effectiveness of integrating the Montessori and Ḥayy ibn Yaqẓān approaches into contemporary educational practices. Additionally, developing cross-cultural and interdisciplinary studies is an important step in expanding the scope of self-directed learning pedagogy across various social and institutional contexts. Therefore, future studies are expected to make stronger theoretical and practical contributions to developing comprehensive, sustainable, contextualized education.

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