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FESBOOK BETA: DEVELOPMENT OF TAWHEED-MOTIF SCIENCE E-BOOK FOR EARLY CHILDHOOD AS A FORM OF LITERACY AND SCIENCE EDUCATION TRANSFORMATION IN PAUD

Lina Amelia[1], Sherina Wifda[2], Zuhra Risnandar[3], Aida Fitri[4]
[1,2,3,4] Universitas Islam Negeri Ar-Raniry Banda Aceh, Indonesia
Email: *lina@ar-raniry.ac.id*

Abstrak

Penelitian ini bertujuan untuk mengembangkan dan menguji kelayakan FESBOOK Beta (File Elektronik Sains Book Bermotif Tauhid) untuk anak usia dini usia 4-6 tahun. E-book ini mengintegrasikan tiga komponen utama: pembelajaran sains, pengenalan tauhid, dan keterampilan literasi baca. Penelitian menggunakan model pengembangan ADDIE (Analysis, Design, Develop, Implement, Evaluate) dengan subjek terdiri dari 45 anak usia dini dan 24 guru PAUD di Banda Aceh. Pengumpulan data dilakukan melalui validasi ahli (ahli materi, media, dan bahasa), uji coba kelompok kecil, dan uji coba lapangan. Hasil penelitian menunjukkan bahwa FESBOOK Beta dinyatakan valid oleh para ahli dengan rata-rata skor validasi 85,62% (kategori valid). Hasil uji coba lapangan menunjukkan bahwa buku layak digunakan dengan rata-rata skor 4,51 (kategori layak dengan sedikit revisi). Respon anak terhadap e-book menunjukkan tingkat antusiasme dan pemahaman yang tinggi terhadap materi yang disajikan. E-book ini dapat dijadikan alternatif media pembelajaran inovatif yang mengintegrasikan sains, tauhid, dan literasi untuk anak usia dini di era digital.
Kata Kunci: Anak Usia Dini, E-book, Literasi, Sains, Tauhid

Abstract

This research aims to develop and test the feasibility of FESBOOK Beta (Tawheed-Motif Science Electronic File Book) for early childhood aged 4-6 years. This e-book integrates three main components: science learning, an introduction to tawheed, and reading literacy skills. The research employs the ADDIE development model (Analysis, Design, Development, Implementation, Evaluation) with 45 early childhood children and 24 PAUD teachers in Banda Aceh. Data were collected through expert validation (material, media, and language experts), small-group trials, and field trials. Research results indicate that FESBOOK Beta has been validated by experts, with an average validation score of 85.62% (valid category). Field trial results suggest that the book is feasible for use, with an average score of 4.51 (in the "possible with minor revisions" category). Children's responses to the e-book demonstrate a high level of enthusiasm and understanding of the material presented. This e-book can be used as an innovative alternative learning medium that integrates science, tawheed, and literacy for early childhood in the digital era.
Keywords: E-book, Tawheed, Science, Literacy, Early Childhood

Corresponding author :
Email Address: lina@ar-raniry.ac.id
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A. INTRODUCTION

Early childhood is a critical period for foundational learning, particularly in religious and scientific understanding. In contemporary Indonesia, early childhood education faces a significant challenge: the proliferation of digital technology has created a pedagogical gap where existing learning materials inadequately address the integration of Islamic values, particularly tawhid, with scientific literacy and reading skills. Current digital learning resources predominantly focus on single aspects—religious instruction, scientific concepts, or literacy development—rarely achieving meaningful integration across all three domains.

This gap becomes particularly concerning when examined through the lens of the Merdeka Curriculum's learning achievement elements, which explicitly mandate holistic integration across Religious and Moral Values, Identity Formation, and Literacy/STEAM competencies. The curriculum requires that children aged 5-6 years "recognize the concept of God Almighty, recognize religious worship practices, and appreciate themselves, others, and nature as expressions of gratitude to God Almighty". [1]However, a systematic review of available digital learning media reveals that most products treat these elements as separate domains rather than interconnected learning experiences. Products currently circulating in online marketplaces either present tawhid instruction through traditional memorization approaches without contextual application or offer science materials devoid of spiritual dimensions, failing to help children understand the Creator through His creation.

Contemporary societal shifts amplify the urgency of addressing this gap. Research by Marpaung et al. demonstrates that advances in science

[1] Kemenristek RI, 'Platform Merdeka Mengajar/CP & ATP', 2024 <https://guru.kemdikbud.go.id/kurikulum/referensi-penerapan/capaian-pembelajaran/paud/>.

and technology have fundamentally altered societal thought patterns, with advanced societies increasingly relying on scientific findings as guidelines for life.[2] In contrast, religious roles in guiding daily life have diminished. This phenomenon poses particular risks for early childhood, the generation that will inherit this increasingly secularized worldview. Maulidi emphasizes that modern education must maximize positive technological impacts while proactively preventing negative consequences.[3] Yurnalis further emphasizes that individuals must urgently strengthen their religious knowledge, a process that should begin in early childhood.[4]

Within Islamic education, tawhid—the doctrine of Allah's absolute oneness—constitutes the foundational pillar and should be introduced at the earliest opportunity. As stated in Surah Al-Luqman verse 13: "And (remember) when Luqman said to his son while advising him: 'O my son, do not associate anything with Allah. Indeed, associating others with Allah is a tremendous injustice.'" This Quranic exemplar demonstrates the criticality of early tawhid education. Research by Lia establishes that tawhid serves as the foundation for children's subsequent life journey, comparable to a house's foundation.[5] Without a solid grounding, the structure cannot withstand external pressures. Aulia further emphasizes that the introduction of early tawhid is akin to planting seeds that require daily nurturing for optimal growth and development.[6]

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[2] Taupik Prihatin Marpaung and others, 'Urgensi Guru PAI Dalam Membentengi Akhlak Peserta Didik Di Era Disrupsi (Studi Kasus Pada Siswa SD Islam Uwais Al Qarni Pekanbaru)', *Journal on Education*, 5.3 (2023), 9756–9765.

[3] A R Maulidi and A Shalilah, 'Pendidikan Anak Di Zaman Modern: Upaya Menghadapi Perkembangan Teknologi', *TILA: Jurnal Pendidikan Islam Anak Usia Dini*, 1.2 (2021), 6–7 <https://jurnal.stain-madina.ac.id/index.php/tila/article/view/537>.

[4] Roken Yurnalis, 'Urgensi Pendidikan Agama Islam Di Era Digital', *Jurnal Pendidikan Profesi Guru Agama Islam*, 2.9 (2022), 31–36 <https://doi.org/10.37087/jtb.v4i1.82>.

[5] Naila Fikrina Afrih Lia and Dina Salimatul Khotimah, 'Integrative Learning Based on Tauhid for Early Childhood', *Jurnal Lentera Anak*, 01.01 (2020), 63–80.

[6] Diajeng Aulia and Fatika Mujahidah, 'Pengembangan Tauhid Anak Usia Dini Di Era Digital', *Hamalatul Qur'an : Jurnal Ilmu Ilmu Alqur'an*, 2.1 (2021), 13–19 <https://doi.org/10.37985/hq.v2i1.17>.

However, introducing tawhid to early childhood requires pedagogically sound strategies aligned with their developmental characteristics. Children aged 4-6 years function within Piaget's preoperational concrete stage, necessitating tangible, experiential learning approaches rather than abstract theological discourse. Khotimah explains that cognitive development at this stage relates to intelligence—the capacity to learn new information and skills, including memory utilization and simple problem-solving.[7] Therefore, the introduction to tawhid must be adapted to early childhood cognitive development patterns, employing concrete examples from their observable environment.

This research addresses the identified gap by synthesizing two significant intellectual frameworks: Said Nursi's concept of integrating religious and scientific knowledge. [8] Harun Yahya's approach to teaching tawhid through scientific disciplines. [9] Both scholars argue that understanding Allah's creation through scientific observation strengthens, rather than contradicts, religious faith. Building on this foundation, FESBOOK Beta presents an innovative solution that simultaneously addresses three critical learning domains—science, literacy, and tawhid—within a single, cohesive digital learning tool designed for early childhood developmental needs.

The innovation presented in FESBOOK Beta extends beyond its integrative content to include multiple access modalities supporting independent learning. The e-book features audio recordings of letter sounds and word articulation for each material, supporting early literacy

[7] Khusnul Khotimah and Agustini Agustini, 'Implementasi Teori Perkembangan Kognitif Jean Piaget Pada Anak Usia Dini', *Al Tahdzib: Jurnal Pendidikan Islam Anak Usia Dini*, 2.1 (2023), 11–20 <https://doi.org/10.54150/altahdzib.v2i1.196>.

[8] Himmawan Ayathurrahman and Sadam Fajar Shodiq, 'Integrasi Ilmu Agama-Sains Badiuzzaman Said Nursi Dan Relevansinya Dengan Pendidikan Agama Islam Era Digital Di Indonesia', *Bulletin of Indonesian Islamic Studies*, 2.1 (2023), 1–18 <https://doi.org/10.51214/biis.v2i1.512>.

[9] Siti Yumnah, 'Konsep Pendidikan Tauhid Perspektif Harun Yahya Dan Implikasinya Terhadap Pembinaan Keimanan', *Jurnal Al-Makrifat*, 5.1 (2020).

development. Video demonstrations of scientific activities allow children to understand procedural knowledge through multiple representations—videos, written instructions, and illustrated workflow diagrams. Most significantly, the material consciously integrates tawhid concepts throughout scientific content, helping children recognize Allah as Creator through systematic observation of His creation, specifically plants (vegetables, fruits, ornamental plants, and medicinal plants).

This research aims to provide: (1) a comprehensive description of FESBOOK Beta's development process, and (2) empirical evidence of the e-book's validity and feasibility for early childhood education in Banda Aceh. The theoretical foundation draws from Surah Al-Ikhlas, which young children commonly memorize, and Surah Al-Luqman verse 13, synthesizing these Islamic teachings with contemporary pedagogical approaches to create an evidence-based, developmentally appropriate learning tool for the digital generation.

B. RESEARCH METHOD

This research employs the Research and Development (R&D) method, utilizing the ADDIE development model (Analysis, Design, Development, Implementation, Evaluation). The ADDIE model is a procedural development model that provides a systematic description of the sequence of steps from beginning to end of the defined activities.[10]

This research was conducted at three kindergartens in the Banda Aceh area: RA Perwanida (for the FGD stage with teachers), PAUD Qurrata Ainainy, and RA Fathun Qarib (Product Trial). The rationale for selecting the research location is that schools in Banda Aceh have begun implementing learning programs that incorporate tawheed values. The research was conducted for 9 months (January-September 2024).

The research subjects were children aged 5-6 years and four

[10] Hari Rayanto Rudi and Sugianti, *Penelitian Pengembangan Model ADDIE Dan R2D2: Teori Dan Praktek* (Pasuruan,Iindonesia: Lembaga Academic & Research institute, 2020).

validators (book language validator, material validator, media validator, and teachers, parents, and academics regarding product practicality). The subject determination technique used was Quota Sampling. In this research, for RA Perwanida, the FGD participants were six teachers and one principal (7 people). In PAUD Qurrata Ainainy, the small-group trials included seven children. In RA Fathun Qarib's large-scale field trials, the research subjects comprised 38 children and eight teachers. So, the total number of subjects was 24 teachers and 45 early childhood children.

The research instruments consisted of: (1) Expert validation sheets (material expert, language expert, media expert, and product practicality expert); (2) Assessment sheets for children's understanding of science material, tawheed, and literacy contained in FESBOOK Beta. The instruments were developed based on indicators derived from learning achievements in the Merdeka curriculum and quality standards for PAUD books.[11]

For expert validation and teacher assessment, four structured questionnaires were developed:

1. Material Expert Validation Instrument (15 items): Assessing content accuracy, developmental appropriateness, tawhid integration quality, scientific concept clarity, and alignment with Merdeka Curriculum achievement standards.
2. Language Expert Validation Instrument (7 items): Evaluating linguistic appropriateness for early childhood, sentence structure clarity, vocabulary suitability, and pronunciation guide effectiveness.
3. Media Expert Validation Instrument (18 items): Examining visual design quality, navigation ease, multimedia integration effectiveness, technical functionality, and

[11] Rifa'i Abubakar, *Pengantar Metodologi Penelitian* (Yogyakarta: Suka Press, 2021).

interface ergonomics for young users.

4. Teacher Practicality Assessment Instrument (Various items): Measuring implementation feasibility, child engagement, learning effectiveness, and practical classroom utility.

Data were analyzed descriptively to examine expert test results, observations of learning implementation, and children's mastery of the material. For the interpretation of material feasibility results from teaching materials by experts, it can be interpreted according to the following criteria:[12]

Score Range	**Category**
76-100	Valid
51-75	Quite Valid
26-50	Less Valid
0-25	Invalid

For book feasibility assessment from field trial results, the following criteria are used:

Average Score	**Category**
3.26-4.00	Feasible with minor revisions
2.51-3.25	Feasible with revisions
1.76-2.50	Feasible with many revisions
1.00-1.75	Not feasible

C. RESULTS AND DISCUSSION

The development of FESBOOK Beta followed the ADDIE research stages. Details of the steps in this research, based on the ADDIE model, are as follows:

1. Analysis Stage

Broadly speaking, there were three activities carried out in this analysis stage: *first*, a literature review of theories that form the basis for developing this model in depth, both regarding science learning, tawheed, reading literacy for early childhood, Merdeka curriculum regarding literacy, science, and tawheed, and integration of science and tawheed in early childhood learning. *Second*, an analysis of similar product conditions in society to identify needs for digitally based products suited to the characteristics of early childhood. *Third*: analysis of

[12] Achmad Noor Fatirul and Djoko Adi Walujo, *Metode Penelitian Pengembangan Bidang Pembelajaran (Edisi Khusus Mahasiswa Pendidikan Dan Pendidik)* (Tanggerang selatan: Pascal Books, 2021).

product needs to be developed in the form of a scope of material to be created, identification of assessment standards for literacy abilities, mastery of science and tawheed for early childhood, analysis of assessment standards for good book materials, book design standards, and book language assessment standards, as well as book feasibility and practicality.

The literature review found that the Merdeka Curriculum indeed requires children to understand the concept of God as defined by their respective religions. This is derived from the aim of cultivating religious values and character, namely, that children believe in God Almighty and begin to understand and practice the central teachings of their religion.[13]. Meanwhile, in literacy and science, it focuses on foundational concepts.

The introduction to tawheed is based on Ismail Raji Al-Faruqi's "About Tawheed, Science, and Art."[14] And the Concept of Tawheed Education from Harun Yahya's Perspective and Its Implications for Faith Building. The research concludes that tawheed, as the essence of knowledge, comprises three principles: rejection of that which is unrelated to reality; rejection of fundamental contradictions, including those between reason and revelation; and openness to new and/or contradictory evidence. The concept of tawheed education articulated by Harun Yahya aims to guide the intellect and the heart to know and to unify Allah according to the rules of science. The goal is to develop human fitrah by contemplating, studying, and understanding phenomena in the universe, thereby becoming individuals who believe in and fear Allah SWT.

An analysis of similar products circulating in society identified several early childhood e-books that focused on a single aspect (science, literacy, or tawheed). Some products that integrate science and religion are not targeted for early childhood but for students and lecturers. Even if the concept is the same as that in science and religion, it is

[13] Kemenristek RI.

[14] Umma Farida, 'Pemikiran Ismail Raji Al-Faruqi Tentang Tauhid, Sains, Dan Seni', *Fikrah*, 2.2 (2014).

limited to ideas that are not yet in a productive, interactive form for children.

2. Design Stage

At this stage, several things were designed: (1) Initial product design (e-book cover, book writing style); (2) Research instrument grid design for five assessment formats; (3) Selecting and choosing pictures to be included in the book; (4) Selecting and choosing science material videos suitable for children; (5) Material design for children's reading literacy needs according to their science material and audio dubbing techniques for children's reading literacy needs.

The initial e-book cover featured a colorful design with images of mosques, children, and various plants (vegetables, fruits, ornamental plants). The cover was designed to be appealing to early childhood audiences, featuring bright colors and clear images.

3. Develop Stage

At this stage, several activities were carried out: (1) Development of assessment instruments; (2) Creating book cover; (3) Writing book material (uniting pictures, videos and writing into one meaningful and easy-to-understand material unit for children); (4) Performing voice dubbing/inserting audio for each material aimed at children's reading literacy; (5) Conducting FGD with PAUD teachers about book feasibility.

FGD results with teachers at RA Perwanida obtained several inputs including: (a) book cover that was too busy with pictures; (b) Surah Al-Ikhlas should not be in calligraphy form so children know the general writing of Al-Ikhlas; (c) book material was still very shallow for types of fruit in terms of pictures (each material was only represented by 3-4 types). Based on this input, improvements were made before continuing to the expert trial stage.

4. Implement Stage

At the implementation stage, several activities were carried out to obtain input on the products that had been produced:

a. Expert Trial

Expert validation involved six experts: 2 material experts, two media

experts, and two language experts. The validation results are as follows:

Type of Validation	Number of Experts	Average Percentage	Validity Category	Average Score	Remarks
Material Expert	2 experts	94.2%	Valid	3.77	Feasible with revision
Media Expert	2 experts	81.94%	Valid	3.28	Feasible with revision
Language Expert	2 experts	85.71%	Valid	3.43	Feasible with revision

b. Group Trial

Small-group trials were conducted at PAUD Qurrata Ainainy, involving seven children and nine teachers. Teacher assessment (9 teachers) yielded an overall score of 86.28% (valid category) with a mean rating of 3.45 (feasible with minor revisions). Feedback collected via Google Form (https://forms.gle/ZWGCmV1r1j1UzrWZ6) identified:

1. Absence of book introduction
2. Small display size in the mobile application
3. Insufficient color vibrancy for young children
4. Excessive text density per page causes confusion
5. Inadequate lighting in researcher-presented videos

Revisions implemented:

1. Created video-format introduction targeting child audience [Figure: E-book Introduction]
2. Enhanced visual elements and integrated animated videos using Canva
3. Retained text quantity as intentional literacy scaffolding at the pre-reading stage, training children in word-within-sentence recognition
4. Mobile display size constraint remains unresolved due to application limitations; future iterations will explore alternative platforms with superior flexibility

Several inputs from the group trial included: (a) Need for book introduction; (b) Small book size in applications and appearance on mobile

phones; (c) Need for more colorful content for children; (d) Don't have too many words on one page.

c. Field Trial

Field trials were conducted at RA Fathun Qarib involving 38 children and eight teachers. The field trial stages were: (1) Viewing children's initial abilities about Allah's plant creations; (2) Introducing books while observing children's reactions and ability to understand material; (3) Final stage, seeing children's responses to the learning that has been done.

Field trial results showed that, overall, the book was valid (validity score of 90.2%) and that, for book feasibility, the average score was 4.51 in the feasible with minor revisions category. Children's responses to the e-book demonstrated high enthusiasm, as nearly all children raised their hands when asked whether they were happy and enjoyed learning with it.

5. Evaluate Stage

The evaluation stage is the final step in the ADDIE model. At this stage, the learning program is evaluated to assess its effectiveness in achieving the set learning objectives. The evaluation results inform the improvement and further development of the learning program. The evaluation stage of this research comprises analyzing product deficiencies identified during the development process, providing an overview of children's understanding of e-book material, and presenting children's and teachers' responses to products based on field trial results.

FESBOOK Beta is an innovative e-book that integrates three main components: an introduction to tawheed, science learning, and early childhood reading literacy. This integration is based on the idea that religious education, especially tawheed, is the most critical foundation to introduce to children from an early age. [15] In Islam, the teaching of tawheed is exemplified in Surah Luqman, verse 13, which emphasizes the importance

[15] Devvi Natasha, Destia Amelia, and Rizki Amrillah, 'Pentingnya Penanaman Pendidikan Tauhid Pada Anak Usia Dini', *Jurnal Pendidikan Tambusai*, 8.1 (2024), 15783–89 <https://jptam.org/index.php/jptam/article/view/14657>.

of not associating partners with Allah as the first message that Luqman gave to his child.

The integration of science and tawheed in this e-book draws on Said Nursi's view of the integration of religious knowledge and science, in which modern scientific development must be grounded in faith, conscience, and morals derived from the Qur'an and hadith. [16] This is reinforced by Harun Yahya's concept, which deliberately integrates science as the primary means of religious instruction and affirms creative activities, supported by evidence from the verses of the holy Qur'an.

The literacy component in FESBOOK Beta is delivered through writing, with audio recordings that support children in learning to read the text. This aligns with the learning achievement elements in the Merdeka curriculum: children recognize and understand various information, communicate feelings and thoughts orally, in writing, or through multiple media, and engage in conversation.[17] The presence of this literacy component makes the e-book not only a science learning tool but also a tool for training children's pre-reading skills.

Tawhid introduction for early childhood constitutes a core element of the Merdeka Curriculum's Religious and Moral Values achievement, specifically: "Children recognize the concept of God Almighty, recognize religious worship practices, and appreciate themselves, others, and nature as expressions of gratitude to God Almighty.[18] Islamic pedagogy emphasizes this priority through Luqman's exemplar in Surah Luqman verse 13: "O my son, do not associate anything with Allah. Indeed, associating others with Allah is tremendous injustice."

Contemporary challenges amplify this urgency. Marpaung documents how advances in science and technology have reshaped societal worldviews, with populations in developed nations increasingly trusting scientific findings as guides to life while religion's role in directing daily life diminishes. This

[16] Ayathurrahman and Shodiq.
[17] Kemenristek RI.
[18] Kemenristek RI.

pattern threatens to produce generations that view technology as autonomous rather than recognizing divine creation manifest in natural laws.[19] Yurnalis emphasizes the imperative for individuals to fortify themselves with religious knowledge from early childhood.[20]

However, effective tawhid pedagogy requires alignment with developmental stages. Khotimah explains that cognition relates to intelligence—the capacity to learn new information and to use memory for simple problem-solving. Children aged 4-6 years function within Piaget's preoperational concrete stage, necessitating tangible, experiential approaches rather than abstract theological discourse. Aulia warns that, without early, well-grounded tawhid Education, children may develop personalities lacking character and a moral foundation. [21] Islamic teachings position tawhid as comprehensive life guidance grounded in sharia principles; early planting prevents the development of shirk (polytheism), deviation from Islamic truth, and the external religious appearance masking internal disbelief.[22]

The objectives of tawhid Education: teaching children to love Allah above all, to believe only that He deserves fear, to worship Him exclusively, and to express gratitude for His blessings. [23] These objectives require pedagogical strategies bridging abstract theological concepts with children's concrete cognitive capacities.

FESBOOK Beta addresses this pedagogical challenge through systematic integration rather than compartmentalization. Building on Said Nursi's intellectual framework, which advocates the integration of religious and scientific knowledge.[24] Harun Yahya's approach to teaching tawhid through science, the e-book presents plants as Allah's creation across four thematic categories: vegetables, fruits, ornamental plants, and medicinal plants. Each topic begins with an animated video introduction to Surah Al-Ikhlas, followed by a

[19] Marpaung and others.
[20] Yurnalis.
[21] Aulia and Mujahidah.
[22] Aulia and Mujahidah.
[23] Natasha, Amelia, and Amrillah.
[24] Ayathurrahman and Shodiq.

conceptual foundation on "Who is Allah?" and then moves to scientific content. Integrated audio pronunciation supports literacy development, while embedded videos demonstrate scientific processes and procedures across multiple modalities (visual, verbal, and illustrated).

The pedagogical effectiveness of FESBOOK Beta's science integration aligns with established principles of early childhood scientific process skills. Rahmi identifies the core components of basic science process skills as observing, comparing, classifying, measuring, and communicating—activities integrated through investigative play that explores natural objects and phenomena.[25] FESBOOK Beta operationalizes these components by enabling children to observe plant varieties (vegetables, fruits, ornamental, and medicinal plants), compare their characteristics, classify them by type, and communicate their understanding through verbal responses during e-book interaction. This approach transforms abstract concepts into concrete investigative experiences appropriate for preoperational concrete stage learners.

Furthermore, the integration of Islamic Education within FESBOOK Beta responds to the fundamental mandate articulated by Sukatin: Islamic Education for children is an essential activity for Muslim parents seeking righteous offspring and a primary objective for Islamic Education scholars. Islamic Education must be grounded in Al-Qur'an and Hadith, serving as lifelong Education that guides human development from early childhood until death.[26] By introducing tawhid concepts through scientific observation of Allah's creation, FESBOOK Beta establishes foundational Islamic understanding during the critical early years, positioning religious knowledge not as separate from but integrated with scientific literacy—a synthesis essential

[25] Putri Rahmi, 'Pengenalan Sains Anak Melalui Permainan Berbasis Keterampilan Proses Sains Dasar', *Bunayya: Jurnal Pendidikan Anak*, 5.2 (2019), 43–55.

[26] Sukatin and others, 'Pendidikan Anak Dalam Islam', *Bunayya : Jurnal Pendidikan Anak*, 6.2 (2020), 185–205 <https://doi.org/https://doi.org/10.22373/bunayya.v6i2.7345>.

for developing Muslim learners who recognize divine wisdom manifest in natural phenomena.

Field-testing validation confirms that this integrative approach effectively bridges abstract theological concepts with concrete scientific observations appropriate for early childhood development. The validity score of 90.2% and the feasibility rating of 4.51/5.0 from practitioner assessment demonstrate that triad integration (Science-Tawhid-Literacy) in a digital format successfully addresses the identified pedagogical gap and meets the Merdeka Curriculum mandates for holistic early childhood development.

A comparative analysis with existing research reinforces the innovation of FESBOOK Beta. In comparison, Lia advocates tawhid-based integrative learning theoretically.[27] Aulia emphasizes the urgency of early tawhid development, but neither provides concrete pedagogical tools to operationalize these principles for digital-native early childhood learners.[28] FESBOOK Beta's contribution lies not merely in theoretical synthesis but also in creating an evidence-based, field-validated digital learning tool that demonstrates how abstract tawhid concepts can be effectively concretized through scientific observation and literacy development within a single, cohesive learning experience

D. CONCLUSION

Based on the research results and discussion, it can be concluded that: (1) FESBOOK Beta has been developed according to the ADDIE procedure (Analysis, Design, Develop, Implement, Evaluate) and declared valid by material experts, media experts, and language experts with an average validation percentage of 85.62%; (2) Field trial results show that FESBOOK Beta is feasible to use with minor revisions with an average score of 4.51. Children's understanding of the book is categorized as good, indicated by their ability to answer questions and explain material presented in the e-

[27] Naila Fikrina and others, 'Integrative Learning Based On Tauhid For Early Childhood', *Jurnal Lentera Anak*, 1.1 (2020).

[28] Aulia and Mujahidah.

book; (3) Children's response to FESBOOK Beta is very positive, shown by high enthusiasm and interest in using the e-book.

This research demonstrates that integrating tawheed, science, and literacy into a single digital learning medium (e-book) is feasible and well-received by early childhood educators. FESBOOK Beta can serve as an innovative early childhood learning medium in the digital era that not only develops cognitive and literacy skills but also strengthens children's spiritual foundation by introducing tawheed.

However, this research still has limitations, particularly regarding the e-book display size within specific mobile phone applications and the material that remains to be added. Therefore, it is recommended that: (1) Further development be carried out on FESBOOK Beta to improve deficiencies based on input from field trials; (2) Research be conducted on the effectiveness of using FESBOOK Beta on improving children's tawheed understanding, science knowledge, and reading literacy skills; (3) Similar e-books be developed with other themes to enrich the variety of tawheed-motif digital learning media for early childhood; (4) Training be conducted for PAUD teachers on how to develop tawheed-motif digital learning materials independently.

REFERENCES

Aulia, Diajeng, and Fatika Mujahidah, 'Pengembangan Tauhid Anak Usia Dini Di Era Digital', *Hamalatul Qur'an : Jurnal Ilmu Ilmu Alqur'an*, 2.1 (2021), 13–19 <https://doi.org/10.37985/hq.v2i1.17>

Ayathurrahman, Himmawan, and Sadam Fajar Shodiq, 'Integrasi Ilmu Agama-Sains Badiuzzaman Said Nursi Dan Relevansinya Dengan Pendidikan Agama Islam Era Digital Di Indonesia', *Bulletin of Indonesian Islamic Studies*, 2.1 (2023), 1–18 <https://doi.org/10.51214/biis.v2i1.512>

Farida, Umma, 'Pemikiran Ismail Raji Al-Faruqi Tentang Tauhid, Sains, Dan Seni', *Fikrah*, 2.2 (2014)

Fatirul, Achmad Noor, and Djoko Adi Walujo, *Metode Penelitian Pengembangan Bidang Pembelajaran (Edisi Khusus Mahasiswa Pendidikan Dan Pendidik)* (Tanggerang selatan: Pascal Books, 2021)

Fikrina, Naila, Afrih Lia, Dan Dina, Salimatul Khotimah, Dina

Salimatul Khotimah, Prodi Pendidikan, and others, 'Integrative Learning Based On Tauhid For Early Childhood', *Jurnal Lentera Anak*, 1.1 (2020)

Kemenristek RI, 'Platform Merdeka Mengajar/CP & ATP', 2024 <https://guru.kemdikbud.go.id/kurikulum/referensi-penerapan/capaian-pembelajaran/paud/>

Khotimah, Khusnul, and Agustini Agustini, 'Implementasi Teori Perkembangan Kognitif Jean Piaget Pada Anak Usia Dini', *Al Tahdzib: Jurnal Pendidikan Islam Anak Usia Dini*, 2.1 (2023), 11–20 <https://doi.org/10.54150/altahdzib.v2i1.196>

Lia, Naila Fikrina Afrih, and Dina Salimatul Khotimah, 'Integrative Learning Based on Tauhid for Early Childhood', *Jurnal Lentera Anak*, 01.01 (2020), 63–80

Marpaung, Taupik Prihatin, Junaidi Junaidi, Imam Sibaweh, Zulhaini Zulhaini, and Bambang Wahyu Susanto, 'Urgensi Guru PAI Dalam Membentengi Akhlak Peserta Didik Di Era Disrupsi (Studi Kasus Pada Siswa SD Islam Uwais Al Qarni Pekanbaru)', *Journal on Education*, 5.3 (2023), 9756–9765

Maulidi, A. R., and A Shalilah, 'Pendidikan Anak Di Zaman Modern: Upaya Menghadapi Perkembangan Teknologi', *TILA: Jurnal Pendidikan Islam Anak Usia Dini*, 1.2 (2021), 6–7 <https://jurnal.stain-madina.ac.id/index.php/tila/article/view/537>

Natasha, Devvi, Destia Amelia, and Rizki Amrillah, 'Pentingnya Penanaman Pendidikan Tauhid Pada Anak Usia Dini', *Jurnal Pendidikan Tambusai*, 8.1 (2024), 15783–89 <https://jptam.org/index.php/jptam/article/view/14657>

Rahmi, Putri, 'Pengenalan Sains Anak Melalui Permainan Berbasis Keterampilan Proses Sains Dasar', *Bunayya: Jurnal Pendidikan Anak*, 5.2 (2019), 43–55

Rifa'i Abubakar, *Pengantar Metodologi Penelitian* (Yogyakarta: Suka Press, 2021)

Rudi, Hari Rayanto, and Sugianti, *Penelitian Pengembangan Model ADDIE Dan R2D2: Teori Dan Praktek* (Pasuruan,Iindonesia: Lembaga Academic & Research institute, 2020)

Sukatin, Elis Rahmayeni Zulhizni, Siti Tasifah, Nova Triyanti, Dina Auliah, Indah Laila, and others, 'Pendidikan Anak Dalam Islam', *Bunayya : Jurnal Pendidikan Anak*, 6.2 (2020), 185–205 <https://doi.org/https://doi.org/10.22373/bunayya.v6i2.7345>

Yumnah, Siti, 'Konsep Pendidikan Tauhid Perspektif Harun Yahya Dan Implikasinya Terhadap

Pembinaan Keimanan', *Jurnal Al-Makrifat*, 5.1 (2020)

Yurnalis, Roken, 'Urgensi Pendidikan Agama Islam Di Era Digital', *Jurnal Pendidikan Profesi Guru Agama Islam*, 2.9 (2022), 31–36 <https://doi.org/10.37087/jtb.v4i1.82>