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Conceptual Model of Child Worksheets (LKA) Based on a Scientific Approach Incorporating Religious Moderation

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ABSTRACT

Religious moderation needs to be internalized from early childhood to foster tolerant, fair, and inclusive character formation. However, its implementation in Raudhatul Athfal (Islamic early childhood education) remains largely normative and lacks systematic instructional tools. This study aimed to develop a scientific approach–based children's worksheet (Lembar Kerja Anak/LKA) to facilitate the internalization of religious moderation values. This research employed a Research and Development (R&D) design involving needs analysis, product design, expert validation, limited field testing, and revision. The subjects included early childhood education experts, instructional design experts, religious moderation experts, and Raudhatul Athfal teachers. Data were collected through validation and practicality questionnaires and analyzed descriptively.

The product achieved a mean validity score of 3.62 out of 4.00 (very valid category) across content relevance, instructional design, and integration of religious moderation values. The practicality score reached 3.55 (very practical category). Limited field testing indicated observable improvements in children's demonstration of tolerance, cooperation, fairness, and respect for diversity during structured learning activities. These findings suggest that systematically designed scientific worksheets can serve as an effective pedagogical medium for integrating religious moderation values in Islamic early childhood education contexts.

Keywords: children's worksheet; scientific approach; religious moderation; Raudhatul Athfal; early childhood education

ABSTRAK

Moderasi beragama perlu diinternalisasikan sejak usia dini untuk membentuk karakter yang toleran, adil, dan inklusif. Namun, implementasinya di Raudhatul Athfal (lembaga pendidikan anak usia dini Islam) masih bersifat normatif dan belum didukung oleh perangkat pembelajaran yang sistematis. Penelitian ini bertujuan untuk mengembangkan Lembar Kerja Anak (LKA) berbasis pendekatan saintifik guna memfasilitasi internalisasi nilai-nilai moderasi beragama. Penelitian ini menggunakan desain Research and Development (R&D) yang meliputi analisis kebutuhan, perancangan produk, validasi ahli, uji coba terbatas, dan revisi. Subjek penelitian terdiri atas ahli pendidikan anak usia dini, ahli desain pembelajaran, ahli

moderasi beragama, serta guru Raudhatul Athfal. Data dikumpulkan melalui angket validasi dan angket kepraktisan, kemudian dianalisis secara deskriptif.

Produk yang dikembangkan memperoleh skor rata-rata validitas sebesar 3,62 dari 4,00 (kategori sangat valid) pada aspek kesesuaian isi, desain pembelajaran, dan integrasi nilai moderasi beragama. Skor kepraktisan mencapai 3,55 (kategori sangat praktis). Uji coba terbatas menunjukkan adanya peningkatan yang teramati pada perilaku toleransi, kerja sama, keadilan, dan penghargaan terhadap keberagaman dalam kegiatan pembelajaran terstruktur. Temuan ini menunjukkan bahwa LKA berbasis pendekatan saintifik yang dirancang secara sistematis dapat menjadi media pedagogis yang efektif untuk mengintegrasikan nilai-nilai moderasi beragama dalam konteks pendidikan anak usia dini Islam

Kata Kunci: lembar kerja anak; pendekatan saintifik; moderasi beragama; raudhatul athfal; pendidikan anak usia dini.

INTRODUCTION

Early childhood education (ECE) constitutes a foundational stage in human development, as cognitive, social-emotional, moral, and religious dispositions begin to take shape intensively during this period. Developmental psychology consistently affirms that experiences and values internalized between the ages of 0–6 years tend to persist and influence long-term attitudes, social interactions, and identity formation (Santrock, 2019). Within constructivist perspectives, children actively construct meaning through direct engagement with their environment, social interaction, and guided participation (Vygotsky, 1978). Consequently, early childhood classrooms are not merely spaces for acquiring basic literacy and numeracy skills but are also arenas for structured character formation. The integration of moral and social values into developmentally appropriate learning processes therefore becomes an educational imperative rather than a supplementary agenda.

In the Indonesian context, characterized by religious and cultural plurality, the discourse on religious moderation has gained significant prominence in both policy and academic domains. Religious moderation refers to balanced, fair, and inclusive religious attitudes that reject extremism and promote peaceful coexistence. It encompasses tolerance, respect for diversity, justice, and proportional understanding in religious life. While much of the discussion on religious moderation has focused on secondary or higher education, its cultivation arguably needs to begin at the earliest stages of schooling. Early childhood institutions, including Raudhatul Athfal (RA) as Islamic early childhood education settings, play a strategic role in embedding these values as part of children's foundational character. When introduced through meaningful experiences, moderation values can become internalized dispositions rather than abstract moral slogans.

Despite its conceptual urgency, empirical studies suggest that the implementation of religious moderation in early childhood settings remains largely normative and implicit. Values such as tolerance and respect are often transmitted through storytelling, routine habituation, and teacher modeling (Rahmawati et al., 2022; Hidayati et al., 2024). Although these approaches are pedagogically meaningful, they frequently lack systematic instructional design and measurable learning scaffolds. Religious moderation is thus positioned as an overarching moral

narrative rather than an operationalized component embedded within daily learning activities. Similar concerns are reflected in studies published in *Awlady: Jurnal Pendidikan Anak*, which highlight both the practices and challenges of cultivating tolerance in early learning environments and emphasize the importance of intentional instructional design in supporting value internalization (Lutfatulatifah & Ramdaeni, 2024).

At the same time, early childhood curricula in Indonesia promote the use of a scientific approach as a central pedagogical strategy. This approach, adapted to early childhood characteristics, involves stages of observing, questioning, experimenting, reasoning, and communicating. Rooted in inquiry-based and constructivist learning theories, the scientific approach encourages children to actively explore phenomena, engage in dialogue, and construct understanding through guided experiences (Nurhayati et al., 2023). Research demonstrates that inquiry-oriented learning contributes positively to children's cognitive development, creativity, and classroom engagement (Sari & Wahyuni, 2019). Moreover, international literature on inquiry-based education highlights its potential not only to strengthen critical thinking but also to foster collaboration, empathy, and reflective thinking—competencies closely related to character development (Adeyele, 2023).

However, existing research predominantly situates the scientific approach within cognitive and science-related learning domains. Studies on worksheet development (Lembar Kerja Anak/LKA) in early childhood education commonly focus on enhancing early science skills, numeracy competence, or problem-solving abilities. While such contributions are valuable, they reveal a significant limitation: the relative absence of systematic integration between inquiry-based pedagogical processes and structured value internalization, particularly religious moderation within Islamic early childhood contexts. In other words, the scientific approach has been pedagogically operationalized, and religious moderation has been normatively advocated, yet the intersection between the two remains insufficiently explored in the form of validated instructional design.

Children's Worksheets (LKA) serve as pedagogical scaffolding that structure learning experiences in developmentally appropriate ways. From an instructional design perspective, worksheets are not merely collections of tasks but tools that guide children's attention, organize experiential learning sequences, and stimulate reflection (Reigeluth, 2013). In early childhood settings, well-designed worksheets can support guided inquiry while maintaining play-based and interactive characteristics. When integrated with social interaction and teacher facilitation, worksheets can help children connect concrete experiences with emerging concepts and values. International research on values education emphasizes that moral and social values are more effectively internalized when embedded within active, participatory, and reflective learning processes rather than conveyed solely through verbal instruction (Aslan et al., 2023). This suggests that instructional materials themselves can function as vehicles for value formation when intentionally designed.

The gap, therefore, lies not in the absence of discourse on religious moderation nor in the lack of pedagogical frameworks such as the scientific approach, but in the limited development of empirically validated instructional tools that systematically combine both dimensions. Two interrelated problems can be identified. First, teachers in RA settings often rely on personal interpretation and informal strategies to introduce moderation values, resulting in inconsistent

classroom practices. Second, few studies have undertaken rigorous Research and Development (R&D) procedures to design, validate, and test practical learning tools that operationalize religious moderation within inquiry-based stages suitable for early childhood learners. Without validation and field testing, claims regarding effectiveness remain normative rather than evidence-based.

Addressing this gap requires moving beyond theoretical advocacy toward structured instructional innovation. A development-based research design enables the systematic formulation of a product grounded in developmental theory, pedagogical principles, and contextual relevance. Through stages of needs analysis, product design, expert validation, limited field testing, and revision, an R&D framework ensures that instructional materials meet criteria of content validity, instructional coherence, and classroom practicality. Such a process is particularly crucial in early childhood contexts, where materials must align with children's developmental characteristics while remaining pedagogically meaningful.

This study therefore aims to develop and validate a scientific approach–based Children's Worksheet (LKA) model designed to facilitate the internalization of religious moderation values in *Raudhatul Athfal*. The worksheet model is structured according to inquiry stages—observing, questioning, experimenting, reasoning, and communicating—while embedding moderation-oriented activities that encourage tolerance, cooperation, fairness, balanced thinking, and respect for diversity. Through expert validation and limited classroom implementation, the study evaluates the model's validity and practicality, thereby ensuring that the product is not only conceptually sound but also applicable in real educational settings.

The scholarly contribution of this research is threefold. First, it provides an integrative instructional design that aligns early childhood developmental principles with inquiry-based pedagogy and character education. Second, it operationalizes religious moderation values into measurable and observable learning activities, transforming abstract discourse into structured classroom practice. Third, by employing a systematic R&D approach with validation and field testing, the study contributes empirical evidence to the growing literature on Islamic early childhood education. In doing so, it bridges the gap between normative character education narratives and validated instructional innovation, offering a context-sensitive yet pedagogically rigorous model for strengthening moderate and inclusive character formation from an early age.

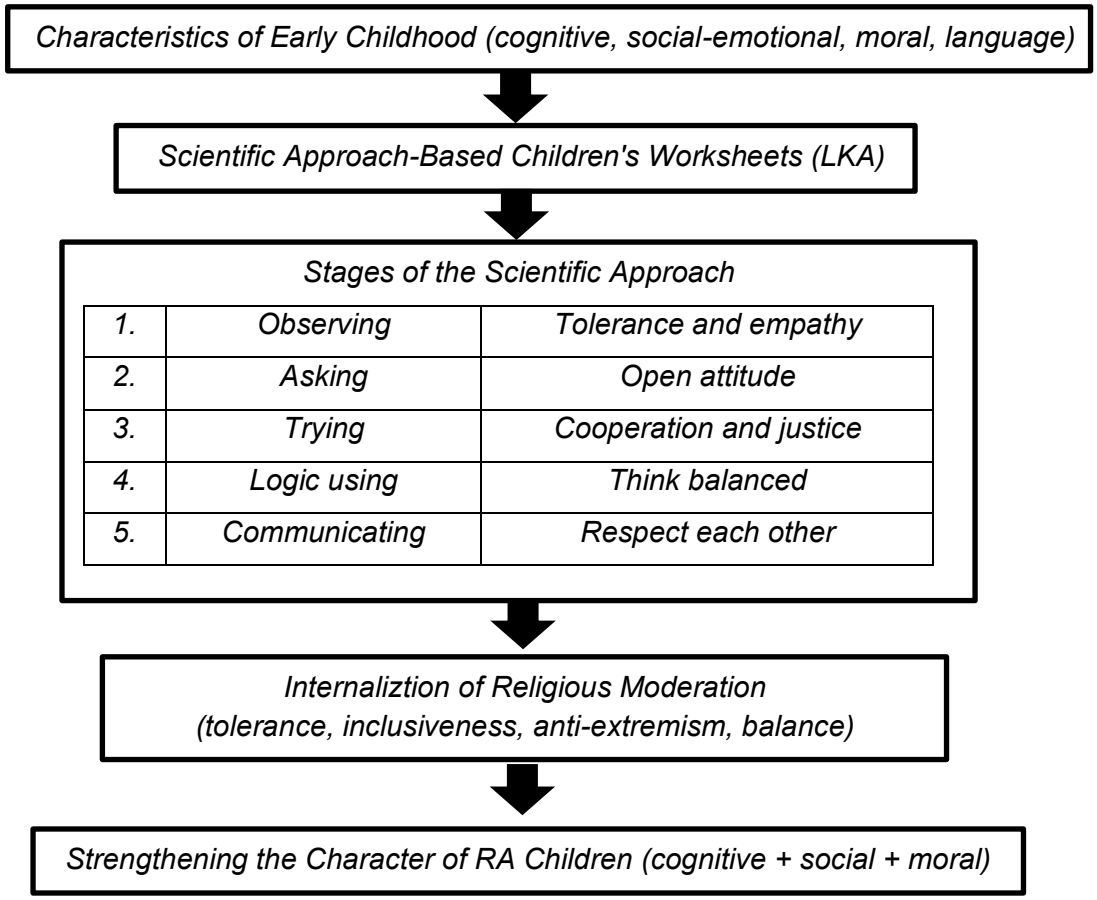

Figure 1. Conceptual Model of Raudhatul Athfal LKA Based on a Scientific Approach as a Medium for Internalizing Religious Moderation

RESEARCH METHOD

This study employed a Research and Development (R&D) approach using the Educational Design Research (EDR**)** model as the development framework. Within the R&D paradigm, EDR functions as a systematic model for designing, validating, and refining educational products through iterative cycles that integrate theoretical foundations and empirical testing (Plomp, 2013; Nieveen, 2013). The use of EDR was aligned with the objective of this study, namely to develop a Children's Worksheet (Lembar Kerja Anak/LKA) based on a scientific approach to facilitate the internalization of religious moderation values in Raudhatul Athfal. The EDR procedure followed three main phases:

1. Analysis and Exploration Phase
   This phase involved needs analysis, curriculum review, and identification of early childhood developmental characteristics. Literature studies on the scientific approach, LKA development, and religious moderation were also conducted to establish the theoretical basis for product design.
2. Design and Development Phase
   Based on the findings from the analysis phase, a prototype of the scientific approach–based LKA was developed. The design integrated stages of observing,

questioning, experimenting, reasoning, and communicating with behavioral indicators of religious moderation.

3. Evaluation and Revision Phase
   The prototype underwent expert validation and limited field testing. Feedback from validators and users served as the basis for product refinement. The evaluation focused on determining the validity and practicality of the developed LKA rather than measuring experimental effectiveness.

   The iterative nature of EDR ensured continuous improvement of the product before finalization. The study involved three categories of participants selected purposively based on relevance to the development process:

   1. Expert Validators (n = 3)
      a. One early childhood education expert
      b. One instructional design expert
      c. One religious moderation expert

      These experts evaluated the content relevance, instructional design quality, and integration of religious moderation values.
   2. Teacher Participants (n = 3). Three Raudhatul Athfal teachers assessed the practicality and usability of the LKA in classroom settings.
   3. Children (n = 15). Fifteen children aged 5–6 years participated in the limited field implementation conducted in one Raudhatul Athfal that had applied scientific-based learning. The participants were involved for product validation and feasibility assessment purposes, not for comparative or experimental analysis.

   Data were collected using the following instruments:

   1. Expert Validation Sheet. The validation instrument used a 4-point Likert scale: 1 = Not Valid, 2 = Less Valid, 3 = Valid, 4 = Very Valid. The aspects assessed included:
      a. Content relevance
      b. Instructional design appropriateness
      c. Integration of religious moderation values
      d. Language clarity and visual presentation
   2. Teacher Practicality Questionnaire. A 4-point Likert scale was also used: 1 = Not Practical, 2 = Less Practical, 3 = Practical, 4 = Very Practical. The questionnaire measured ease of use, clarity of instructions, suitability to classroom conditions, and time efficiency.
   3. Observation Sheet. Classroom observation sheets were used during limited implementation to examine the alignment between the designed scientific stages and classroom practice, as well as the emergence of moderation-related behaviors such as cooperation, fairness, tolerance, and respect for peers.
   4. Interviews and Documentation. Interviews with teachers were conducted during the needs analysis phase. Documentation included children's worksheets and classroom records to support qualitative findings.

   All instruments were developed based on formative evaluation principles within the EDR framework and were reviewed prior to implementation.

Data Analysis

Quantitative data from expert validation and teacher practicality questionnaires were analyzed using descriptive statistics by calculating the mean score:

$$\bar{X} = \frac{\sum X}{N}$$

where:

$\bar{X}$ = mean score

$\sum X$ = total score obtained

N = number of items

The interpretation criteria for validity and practicality were determined as follows:

Table 1. Criteria for Validity and Practicality Interpretation

Mean Score Range	Category
3.26 – 4.00	Very Valid / Very Practical
2.51 – 3.25	Valid / Practical
1.76 – 2.50	Less Valid / Less Practical
1.00 – 1.75	Not Valid / Not Practical

Qualitative data from interviews and classroom observations were analyzed descriptively through data reduction, categorization, and interpretation to support quantitative findings and inform product revision. It is important to note that this study did not employ experimental or quasi-experimental testing; therefore, the evaluation was limited to determining the validity and practicality of the developed LKA model rather than claiming statistical effectiveness.

Table 2. Table of indicators for religious moderation in LKA based on scientific principles.

The Value of Religious Moderation	Child Behavior Indicators	Scientific Steps	Types of LKA Activities
Tolerance	The child wants to play and cooperate with different friends.	Observe	Observing pictures of children with different backgrounds
Tolerance	The child asks questions about differences in a positive manner.	Question	Asking simple questions with guidance from the teacher
Openness	The child is willing to listen to friends' opinions.	Communicate	Retelling the results of group activities
Justice	The child shares toys in turn.	Try	Role-playing sharing learning tools
Cooperation	The child completes tasks with friends.	Try	Arranging pictures in groups
Balance	The child is able to conclude the value of activities.	Reason	Drawing simple conclusions from activities
Respect for Differences	The child shows polite behavior towards friends.	Communicate	Verbally communicating learning experiences

DISCUSSION

General Description of Research Results

This chapter presents the results of research on the development of Raudhatul Athfal Children's Worksheets (LKA) based on a scientific approach as a medium for internalizing religious moderation. The presentation of the research results follows the stages of Educational Design Research (EDR), which includes expert validation, practicality testing, and limited feasibility testing as recommended in educational development research (van den Akker, 1999; Plomp, 2013; Nieveen, 2013).

The main product of this research is a set of LKA designed based on the stages of the scientific approach (observing, questioning, trying, reasoning, and communicating) with the integration of operational religious moderation indicators and in accordance with the developmental characteristics of 5-6 year old children in Raudhatul Athfal. This model is in line with the principles of instructional design that emphasize the suitability between objectives, activities, and learner characteristics (Reigeluth, 2013).

Results of Expert Validation of the LKA

1. Results of Early Childhood Education Material Expert Validation

Expert validation of early childhood education materials aims to assess the suitability of LKA content with early childhood development milestones and early childhood education learning principles that are oriented towards meaningful learning experiences (Santrock, 2019). The aspects validated include the suitability of the material with children's cognitive and socio-emotional development, clarity of language, and the meaningfulness of learning activities.

The validation results show that the LKA is in the highly valid category. The subject matter experts assessed that the activities presented were appropriate for children and encouraged active student involvement, in line with the constructivist view that children construct knowledge through direct experience (Piaget, 1964). Several suggestions were made regarding simplifying the wording of the instructions to make them more communicative for early childhood.

Table 4.1 Results of Early Childhood Education Material Expert Validation

Aspects Assessed	Average Score	Category
Appropriateness of materials for child development	3,75	Highly valid
Clarity of language and instructions	3,60	Highly valid
Meaningfulness of activities	3,80	Highly valid
Average	3,72	Highly valid

2. Results of Learning Expert Validation (Scientific Approach)

Expert validation focused on the suitability of the LKA design with scientific principles and a systematic learning flow. The aspects assessed included the integration of scientific stages, the clarity of activity objectives, and the relevance of activities to children's thinking processes.

The validation results showed that the LKA had implemented scientific stages consistently and sequentially. These findings support previous research results which state that inquiry-based and scientific learning can increase the active

involvement and thinking abilities of early childhood (Adeyele, 2023; Turner & Paris, 1995).

Table 4.2 Expert Learning Validation Results

Aspects Assessed	Average Score	Category
Integration of scientific stages	3,70	Highly valid
Clarity of learning objectives	3,65	Highly valid
Suitability of activities to children's characteristics	3,75	Highly valid
Average	3,70	Highly valid

3. Results of Religious Moderation Expert Validation

Expert validation of religious moderation was conducted to assess the suitability of religious moderation value indicators integrated into the LKA. The assessment included the relevance of values to the context of early childhood, the clarity of behavioral indicators, and the potential for internalization of values through learning activities. The validation results show that the indicators of religious moderation have been formulated in an operational and contextual manner. The integration of the values of tolerance, justice, openness, and cooperation is assessed as not being doctrinal in nature, but rather based on children's learning experiences, in line with the theory of value internalization through social experiences (Lickona, 2013; Borg, 2006).

Table 4.3 Results of Religious Moderation Expert Validation

Aspects Assessed	Average Score	Category
Relevance of values to children's age	3.80	Highly valid
Clarity of behavioral indicators	3.70	Highly valid
Potential for internalization of values	3.75	Highly valid
Average	3.75	Highly valid

4. Results of the LKA Practicality Test by RA Teachers

A practicality test was conducted to determine the ease of use of LKA by teachers in the learning process. This test was carried out through a questionnaire responding to teachers after using LKA in class, as recommended in the formative evaluation of development research (Nieveen, 2013; Zulkardi, 2006).

The results of the practicality test showed that the LKA was in the very practical category. Teachers assessed that the LKA helped direct learning activities according to scientific stages and facilitated the integration of religious moderation values into classroom activities.

Table 4.4 Results of Practicality Tests by Teachers

Practicality	Average Score	Category
Ease of use	3.85	Very practical
Clarity of instructions	3.70	Very practical
Suitability for classroom conditions	3.75	Very practical
Average	3.77	Very practical

5. Results of Feasibility Tests and Children's Responses

Feasibility testing was conducted through limited observation of LKA implementation in RA classes. The observation focused on children's involvement

in the scientific stages and the emergence of indicators of moderate religious behavior.

The results of the observation showed that children were actively involved in observing, questioning, and trying. Children exhibited behaviors of sharing, cooperating, and respecting their friends' opinions. These findings reinforce the theory of social constructivism that values and knowledge are constructed through social interaction in the context of meaningful learning (Vygotsky, 1978).

Discussion of Research Results

The discussion of the research results focuses on the relationship between empirical findings, the conceptual model of LKA developed, and the theoretical basis discussed in Chapter II. This discussion confirms that the quality of LKA is not only determined by technical aspects, but also by pedagogical suitability and the strength of values internalized through the learning process (Reigeluth, 2013; Plomp, 2013).

Discussion of the Validity of LKA Based on a Scientific Approach

Expert validation results show that LKA is highly valid in terms of material, learning, and religious moderation. These findings indicate that the LKA design is in line with early childhood learning principles that emphasize concrete and meaningful learning experiences (Santrock, 2019). The suitability of activities with scientific stages reinforces the role of LKA as an instructional scaffold that helps children build knowledge and values gradually (Reigeluth, 2013)

Theoretically, these findings support the constructivist view that children learn optimally when actively involved in the process of observing, questioning, and experimenting (Piaget, 1964). In addition, the consistent application of the scientific stages in LKA is in line with international research findings that confirm the effectiveness of inquiry-based learning in increasing the engagement and quality of the learning process of early childhood (Adeyele, 2023; Hedges & Cooper, 2018).

Table 4.5 Synthesis of LKA Validation Results

Validation Aspects	Key Findings	Pedagogical Implications
Early Childhood Education Materials	Highly appropriate for child development	Activities are easy to understand and meaningful
Scientific Approach	Consistent and sequential stages	Children's thinking processes are facilitated
Religious Moderation	Operational and contextual indicators	Values are easily internalized

Discussion on the Practicality of LKA in RA Learning

The practicality of LKA, which is categorized as highly practical, shows that the developed product is easy to use by teachers and suitable for RA classroom conditions. This reinforces the principle that good learning tools must be realistically applicable without burdening teachers (Borg & Gall, 2003; Nieveen, 2013).

From an instructional design perspective, LKA functions as a tool that guides teachers in consistently implementing the scientific approach. Teachers do not only act as conveyors of material, but as facilitators who provide scaffolding according to children's needs (Vygotsky, 1978). These findings are in

line with international research which confirms that structured learning tools can improve the quality of teaching practices of early childhood teachers (Darling-Hammond et al., 2017).

Table 4.6 Impact of LKA Practicality on the Role of Teachers

Aspects	Before Using LKA	After Using LKA
Learning planning	General in nature	More focused and systematic
Scientific implementation	Inconsistent	Consistent with the stages
Integration of moderation values	Implicit	Explicit and structured

Discussion on the Internalization of Religious Moderation through LKA

The findings indicate that the scientific approach–based LKA achieved a mean validity score of 3.62 (very valid category) and a practicality score of 3.55 (very practical category). These results suggest that the developed worksheet met expert standards in terms of content relevance, instructional design coherence, and integration of religious moderation values, while also being considered feasible and usable by teachers in classroom settings. Rather than demonstrating experimental effectiveness, these findings provide formative evidence that the product is pedagogically sound and practically applicable within the tested context.

Observational data during limited implementation revealed that children engaged actively in learning stages structured around observing, questioning, experimenting, reasoning, and communicating. Moderate religious behaviors—such as sharing materials, cooperating in group tasks, listening to peers' opinions, and expressing ideas respectfully—emerged during structured activities. These behaviors were not introduced through direct moral instruction but were embedded within collaborative and inquiry-based tasks. This pattern supports the argument that value internalization in early childhood is more likely to occur when moral concepts are situated within social interaction and meaningful activity rather than conveyed through abstract explanation alone (Lickona, 2013).

From a theoretical perspective, these findings reinforce social constructivist assumptions that knowledge and values are co-constructed through guided interaction (Vygotsky, 1978). The scientific stages functioned not merely as cognitive procedures but as social spaces where children negotiated meaning and practiced prosocial behaviors. For example, during the "experimenting" phase, cooperative tasks required children to share roles and materials, indirectly activating fairness and cooperation indicators. Similarly, the "communicating" stage created opportunities for children to listen and respond to peers' perspectives, which aligns with early forms of tolerance and openness. These empirical patterns suggest that the integration of religious moderation within structured inquiry stages can operationalize abstract values into observable classroom behaviors.

However, the findings should be interpreted cautiously. The limited field test involved a small number of participants and was conducted in a single Raudhatul Athfal setting. Therefore, the observed behavioral indicators cannot be generalized as stable character transformation but rather as initial manifestations within a structured learning context. In this regard, the contribution of the study lies not in

proving causal effectiveness, but in demonstrating that religious moderation values can be systematically embedded into inquiry-based instructional design and assessed through measurable indicators.

The results also extend previous research on scientific approaches in early childhood education, which has predominantly emphasized cognitive outcomes (Sari & Wahyuni, 2019). By embedding moderation-oriented indicators into worksheet activities, this study illustrates how inquiry-based learning can simultaneously support socio-moral development. This aligns with international findings suggesting that inquiry-based and collaborative learning environments contribute to empathy and prosocial behavior when intentionally structured (Aslan et al., 2023). Nevertheless, unlike studies that measure socio-emotional growth longitudinally, the present research limits its claims to product validity and practicality, thereby maintaining methodological consistency.

Another significant point concerns instructional design. The high validity ratings from experts indicate that integrating value indicators within each scientific stage was conceptually coherent. This suggests that character values in early childhood education may benefit from being embedded at the design level rather than added as supplementary moral messages. In this model, religious moderation is not positioned as isolated thematic content but as a behavioral dimension integrated across learning processes. Such design-based integration responds to critiques of character education programs that rely excessively on verbal exhortation without structured pedagogical scaffolding.

At the same time, teacher responses reflected that clarity of instructions and alignment with existing classroom routines were important factors influencing practicality scores. This implies that the success of value-based instructional materials depends not only on conceptual soundness but also on contextual adaptability. Without alignment to teachers' routines and curriculum structures, even well-designed materials may face implementation constraints. Therefore, practicality assessment becomes an essential component of development research, ensuring that pedagogical innovation remains feasible in real educational settings.

Implications

Theoretically, this study contributes to early childhood education research by demonstrating that religious moderation values can be operationalized within a structured inquiry-based framework. Instead of conceptualizing moderation as abstract moral discourse, the findings show that it can be translated into developmentally appropriate behavioral indicators embedded within scientific learning stages. This extends constructivist perspectives by highlighting that value formation can be intentionally designed within instructional scaffolding rather than left to incidental interaction.

Practically, the validated LKA model offers Raudhatul Athfal teachers a structured tool for integrating moderation values into daily learning activities. Because the product has undergone expert validation and practicality testing, it provides a feasible reference for classroom implementation. However, adaptation to diverse institutional contexts remains necessary, and broader trials would be required before large-scale adoption.

For future research, experimental or quasi-experimental studies could examine longer-term behavioral outcomes to determine whether repeated

exposure to structured moderation-oriented worksheets contributes to sustained character development. Expanding implementation across multiple institutions would also strengthen external validity and refine the model further.

CONCLUSION

Based on the results of the research and discussion, it can be concluded that the Raudhatul Athfal Child Worksheet Model (LKA) based on a scientific approach as a medium for internalizing religious moderation has met the criteria as a valid, practical, and effective learning tool for early childhood education.

First, in terms of validity, the developed LKA was considered highly valid by experts, both in terms of the suitability of early childhood education material, the consistency of the scientific approach stages, and the clarity of religious moderation indicators. This shows that the LKA has been designed in line with the characteristics of early childhood development and pedagogical principles based on concrete and meaningful learning experiences.

Second, in terms of practicality, the LKA is considered easy to use by RA teachers and can be applied in real classroom conditions. This practicality confirms that the LKA functions as an instructional scaffold that helps teachers implement the scientific approach systematically while explicitly integrating the value of religious moderation into daily learning activities.

Third, from the aspect of effectiveness, the use of LKA has been proven to facilitate the internalization of religious moderation values in children, such as tolerance, cooperation, fairness, and mutual respect for differences. The internalization of these values occurs through a learning process that focuses on children's activities, social interactions, and guided reflection, rather than through verbal instillation of values alone.

Overall, this study confirms that the scientific approach in early childhood education is not only relevant for cognitive development but also has strong potential as a vehicle for internalizing character and religious values when systematically integrated into learning tools. Thus, the LKA model developed contributes theoretically and practically to strengthening religious moderation education in Raudhatul Athfal environments.

Recomendation

Based on the findings of the study, several recommendations can be made as follows:

1. For Raudhatul Athfal Teachers. Teachers are advised to utilize LKA based on a scientific approach as a learning medium that not only supports children's cognitive development but also instills the values of religious moderation in a structured and contextual manner. Teachers are also expected to be able to adapt LKA according to the needs and characteristics of their students.
2. For RA Educational Institutions. RA educational institutions can use this LKA model as a reference in developing learning tools that are in line with the PAUD curriculum and policies on strengthening religious moderation. Institutions are also advised to support teacher training so that the implementation of LKA runs optimally.
3. For Policy Makers and Curriculum Developers. The results of this study can be used as empirical evidence that strengthening religious moderation in early childhood education requires the support of operational learning tools based on appropriate pedagogical approaches. Therefore, the integration of religious

moderation into early childhood education policies and teaching materials needs to be directed towards the development of applicable tools, such as LKA based on scientific approaches.

4. For Future Researchers. Further research is recommended to test the effectiveness of this LKA model on a broader scale, using experimental or quasi-experimental designs, as well as examining the long-term impact of the internalization of religious moderation on the development of children's attitudes and behavior. In addition, the development of LKA can be expanded by combining scientific approaches and child-friendly digital technology.

BIBLIOGRAPHY

Adeyele, J. S. (2023). Inquiry-based learning in early childhood education: Enhancing engagement and cognitive development. *Early Childhood Education Journal, 51*(4), 567–579. https://doi.org/10.1007/s10643-022-01356-8

Akker, J. van den. (1999). Principles and methods of development research. In J. van den Akker, R. M. Branch, K. Gustafson, N. Nieveen, & T. Plomp (Eds.), *Design approaches and tools in education and training* (pp. 1–14). Kluwer Academic Publishers.

Anwar, M., & Rahman, F. (2024). *Religious moderation in early childhood education: Integration, implementation, and challenges within the Merdeka curriculum*. Al Hikmah: Indonesian Journal of Early Childhood Islamic Education, 8(1), 1–15. https://journal.uaindonesia.ac.id/index.php/ijecie/article/view/987

Aslan, A., Setiawan, B., & Hifza. (2023). Character education through inquiry-based learning in early childhood: A global perspective. *International Journal of Early Childhood, 55*(2), 223–239. https://doi.org/10.1007/s13158-023-00359-7

Bahtiar, E., & Mashlahah, A. U. (2023). Pengembangan lembar kerja anak berbasis pendekatan saintifik bermuatan moderasi beragama untuk Raudhatul Athfal. MODELING: Jurnal Program Studi PGMI, 10(2), 145–160. https://jurnal.stitnualhikmah.ac.id/index.php/modeling/article/view/3090

Borg, W. R., & Gall, M. D. (2003). *Educational research: An introduction* (7th ed.). Allyn & Bacon.

Borg, J. (2006). Moral development and moral education: An integrated approach. *Journal of Moral Education, 35*(2), 201–215. https://doi.org/10.1080/03057240600681728

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). Effective teacher professional development. *Journal of Early Childhood Teacher Education*, 38(2), 97–115. https://doi.org/10.1080/10901027.2017.1304748

Farisia, H. (2020). Internalization strategies of religious and moral values in early childhood education. *BESTARI: Journal of Islamic Education*, 4(2), 89–102.

Fitri, A., Rahman, F., & Ma'arif, M. A. (2023). Pengembangan lembar kerja anak berbasis pendekatan saintifik bermuatan moderasi beragama untuk Raudhatul Athfal. *MODELING: Jurnal Program Studi PGMI*, 10(2), 215–230. https://doi.org/10.36835/modeling.v10i2.3090

Fitriyani, N., & Rahmawati, S. (2023). Pendidikan anak usia dini dalam menanamkan nilai moderasi beragama di lingkungan sekolah. Edu Cendikia: Jurnal Ilmiah Kependidikan, 3(2), 112–123. https://jurnal.itscience.org/index.php/educendikia/article/view/7406

Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research: An introduction* (8th ed.). Pearson Education.

Hedges, H., & Cooper, M. (2018). Inquiring minds: Theorizing children's interests in early childhood education. *International Journal of Early Childhood, 50*(3), 341–357. https://doi.org/10.1007/s13158-018-0226-6

Hidayati, N., Rohman, A., & Lestari, D. (2024). Pemahaman dan praktik moderasi beragama oleh guru Raudhatul Athfal. Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini, 8(1), 233–247. https://www.obsesi.or.id/index.php/obsesi/article/view/6663

Kemendikbud. (2015). *Pedoman pembelajaran kurikulum 2013 pendidikan anak usia dini*. Kementerian Pendidikan dan Kebudayaan Republik Indonesia.

Lickona, T. (2013). *Educating for character: How our schools can teach respect and responsibility*. Bantam Books.

Lutfatulatifah, & Ramdaeni, S. (2024). *Tolerance in multireligious schools: Practices and challenges*. *AWLADY: Jurnal Pendidikan Anak, 10*(2), 133–140. https://doi.org/10.24235/awlady.v10i2.17994

Nieveen, N. (2013). Formative evaluation in educational design research. In T. Plomp & N. Nieveen (Eds.), *Educational design research* (pp. 152–169). Netherlands Institute for Curriculum Development (SLO).

Nurhayati, E., Suryana, D., & Wulandari, R. (2023). Pengaruh penerapan model pembelajaran saintifik terhadap peningkatan literasi dan numerasi dasar anak kelompok B. Pendas: Jurnal Ilmiah Pendidikan Dasar, 8(3), 245–258. https://journal.unpas.ac.id/index.php/pendas/article/view/10863

Piaget, J. (1964). Cognitive development in children: Development and learning. *Journal of Research in Science Teaching, 2*(3), 176–186. https://doi.org/10.1002/tea.3660020306

Plomp, T. (2013). Educational design research: An introduction. In T. Plomp & N. Nieveen (Eds.), *Educational design research* (pp. 11–50). Netherlands Institute for Curriculum Development (SLO).

Plowman, L., Stephen, C., & McPake, J. (2010). Supporting young children's learning with technology at home and in preschool. *Research Papers in Education*, 25(1), 93–113. https://doi.org/10.1080/02671520802584061

Rahmawati, L., Kurniawan, D., & Sari, M. (2020). Pengembangan model pembelajaran saintifik berbasis kearifan lokal untuk perkembangan kognitif anak usia 5–6 tahun. Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini, 4(2), 896–907. https://obsesi.or.id/index.php/obsesi/article/view/898

Rahmawati, L., Putri, A. R., & Ananda, R. (2022). Penerapan moderasi beragama pada lembaga PAUD di Sulawesi Tenggara. Jurnal Obsesi: Jurnal

Pendidikan Anak Usia Dini, 6(4), 3450–3461. https://obsesi.or.id/index.php/obsesi/article/view/2903

Reigeluth, C. M. (2013). Instructional-design theories and models: An overview of their current status. In C. M. Reigeluth (Ed.), *Instructional-design theories and models: A new paradigm of instructional theory* (Vol. 2, pp. 1–36). Routledge.

Santrock, J. W. (2019). *Children* (14th ed.). McGraw-Hill Education.

Sari, D. P., & Wahyuni, S. (2019). Pembelajaran saintifik pada anak usia dini dalam pengembangan kreativitas di taman kanak-kanak. Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini, 3(1), 1–10. https://obsesi.or.id/index.php/obsesi/article/view/508

Sugiyono. (2019). *Metode penelitian dan pengembangan (research and development)*. Alfabeta.

Turner, J. C., & Paris, S. G. (1995). How literacy tasks influence children's motivation for literacy. *The Reading Teacher*, 48(8), 662–673.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

Wiresti, R. D. (2023). Membangun moderasi beragama sejak dini: Studi penanaman nilai-nilai moderasi beragama pada lembaga PAUD Jawa Tengah. Journal of Early Childhood and Character Education, 3(1), 15–29. https://journal.walisongo.ac.id/index.php/joecce/article/view/26224

Zulkardi. (2006). Formative evaluation: What, why, when, and how. *Journal on Mathematics Education*, 1(1), 1–8.