THE DEVELOPMENT OF STUDENT WORKSHEETS (LKPD) WITH A SCIENTIFIC APPROACH ON THE MATERIAL OF AKIDAH AKHLAK AT THE CLASS VIII OF MADRASAH TSANAWIYAH

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Abstract

This study aimed to create a scientific-based Student Worksheet (LKPD) on the subject matter of Akidah Akhlak, grade 8 Madrasah Tsanawiyah, by knowing the level of feasibility and the teacher's response to the product being developed. This study uses research and development methods with the ADDIE model, including five steps: Analysis, Design, Development, Implementation, and Evaluation, which are modified according to the conditions at the time of the study. Data collection techniques used validation sheets and teacher response questionnaires. The percentage of the LKPD feasibility validation stage is from the material field; it gets 98.8%, the media field gets 90%, the language field gets 75%, and the scientific approach field gets 98.3%. The total average value of the overall percentage of validators is 90.5% with the criteria of Very Eligible. In comparison, the results of the questionnaire responses to Akidah Akhlak teachers obtained a total percentage of 88.4% with very good criteria for the scientific-based Akidah Akhlak LKPD product. So, it can be concluded that this scientific-based LKPD can be used as teaching material in the learning process in the classroom.

Keywords: Student Worksheet, Scientific, Akidah Akhlak, Research and Development, ADDIE.

INTRODUCTION

The rapid progress of technology and science has profoundly affected the current behavioural patterns of humankind. In today's world, information is readily available from numerous sources. However, individuals must be able to adapt swiftly and accurately. Those unprepared for this shift may find themselves overwhelmed by the rapid changes

brought about by globalisation. Therefore, enhancing a nation's educational standards is vital to address these changes.¹

The achievement of learning objectives cannot be separated from the role of the teacher as an educator. According to the 2013 curriculum, the teacher's role is not only imparting knowledge to students but also guiding, facilitating, and nurturing students to realise their full potential.² In educational institution management, teachers must demonstrate proficiency in formulating learning objectives, selecting materials, managing classes, determining effective teaching methods, evaluating the results of learning activities and other professional skills to ensure that the teaching and learning process aligns with the intended objectives.³

The educational transformation in the 21st century aligns with 4C learning, namely creative thinking skills, critical thinking and problem-solving, communication, and collaboration.⁴ Teachers and students aim for effective learning, which involves internalising values and knowledge. Teachers can achieve quality learning objectives in various ways, such as combining various learning techniques, developing teaching materials, and utilising creative learning media.⁵

Teaching materials are useful in conveying messages from teachers to students.⁶ Student worksheets (LKPD) are teaching materials that help students improve their thinking skills, emotions, attention, and interests to meet the teacher's expectations in delivering learning materials in the teaching and learning process.⁷ Basically, the LKPD is the same as the Student Worksheets (LKS). However, in the 2013 curriculum, the term LKS was changed to LKPD because it pays attention to students included in the learning element. LKPD is in the form of sheets used in learning as a guide, which contains questions or activities as student assignments.⁸

Using LKPD can enhance interaction between teachers and students during the teaching and learning process. LKPD allows for more efficient use of time in delivering learning materials, making it easier for students to follow a structured learning path outlined by the teacher. As a result, it can boost student interest and motivation to comprehend better the material being taught.⁹

According to observations at multiple schools and discussions with interns, it was discovered that many teachers still rely on conventional teaching methods. This simple

¹ Ranny Rastati, "Media Literasi bagi Digital Natives: Perspektif Generasi Z di Jakarta," *Jurnal Teknologi Pendidikan* 6, no. 1 (2018): 62,

https://jurnalkwangsan.kemdikbud.go.id/index.php/jurnalkwangsan/article/view/72.

² Nana Syaodih Sukmadinata, *Landasan psikologi Proses Pendidikan* (Bandung: Remaja Rosdakarya, 2005), 3.

³ Slamet Widodo, "Development of Student Activity Sheet Based on Scientific Approach To Improve Problem Solving Skill of Surrounding Environment in Elementary School Students," *Jurnal Pendidikan Ilmu Sosial* 26, no. 2 (2017): 189, https://doi.org/10.17509/jpis.v26i2.2270.

⁴ Rendy Nugraha Frasandy Resti Septikasari, "Keterampilan 4C Abad 21 dalam Pembelajaran Pendidikan Dasar," *Tarbiyah al-Awlad* 8, no. 2 (2018): 108,

https://ejournal.uinib.ac.id/jurnal/index.php/alawlad/article/view/1597.

⁵ Trianto, *Desain Pengembangan Pembelajaran Tematik: Baik Anak Usia Dini TK/RA dan Ana Usia Awal SD/MI* (Jakarta: Kencana Prenada Media Group, 2013), 10.

⁶ dkk. Arif Sadirman, *Media Pendidikan, Pengertian, Pengembangan dan Pemanfaatanya* (Jakarta: Rajawali Press, 2009), 32.

⁷ Andi Prastowo, *Panduan Kreatif Membuat Bahan Ajar Inovatif* (Yogyakarta: Diva Press, 2014), 269.

⁸ Dkk. Nizwardi Jalinus, Media dan Sumber Pembelajaran (Jakarta: Kencana, 2016), 1–2.

⁹ Angga Bagas Saputra, Afreni Hamidah, dan Raissa Mataniari, "Development of E-LKPD Based on Problem Based Learning on Excretory System Material for High Schools" 10, no. 5 (2024): 2424, https://doi.org/10.29303/jppipa.v10i5.6935.

approach requires minimal preparation and depends on long-standing printed books as teaching materials without incorporating innovative developments.

However, it was noted that schools were utilising LKPD as teaching materials despite the simplistic design, which did not align consistently with the indicators for creating systematic LKPD. As a result, teachers continued to guide learning by depending on the questions found in textbooks as teaching materials. This approach often leads to a lack of student engagement and contributes to a passive learning experience for many students.¹⁰

According to Clara Aldila's research, 92.85% of class XI science students at SMA Negeri 3 Metro believe that the teaching materials used in their learning activities lack diversity despite the availability of supportive facilities and infrastructure such as the library. Additionally, some teachers continue to employ traditional methods, hindering students from developing strong learning skills, particularly those involving creative thinking.¹¹

Similarly, Aulia Nashari's research suggests that the current religious education system remains largely teacher-centered, with limited implementation of active learning methods. Student assignments are commonly based on traditional textbooks that do not effectively engage students in learning. To address this, it is important to introduce creative learning approaches and media in religious education, challenging students and demonstrating the relevance of religious lessons in daily life. By fostering creativity, students can develop valuable problem-solving skills and enhance their imaginative thinking for the future. ¹²

To address these challenges, one of the efforts that can be made is to develop diverse teaching materials using various methods or approaches to enhance students' knowledge and skills. In this context, we need to design teaching materials in the form of LKPD that can involve students directly in more active learning. The results of the questionnaire on students' needs in one of the classes of MTsS Ulumul Quran Banda Aceh showed that, on average, 68.5% of the students agreed on the significance of developing engaging learning resources to facilitate independent learning.

The development of scientific-based LKPD is expected to improve student learning outcomes and activities. The scientific approach is a learning process that includes scientific components such as observing, asking, trying, processing, and communicating. Learning with this scientific approach is a student-centred process involving students' skills in constructing concepts and stimulates knowledge development, especially higher-order thinking skills (HOTS). The learning process with this scientific approach will touch

¹⁰ Sriyono, *Teknik Belajar Mengajar CBSA* (Jakarta: Rineka Cipta, 1992), 99.

¹¹ Clara Aldila, "Pengembangan LKPD Berbasis STEM untuk Menumbuhkan Keterampilan Berpikir Kreatif Siswa," *Jurnal Pembelajaran Fisika Universitas Lampung* 5, no. 4 (2017): 87, https://jurnal.fkip.unila.ac.id/index.php/JPF/article/view/13665.

¹² Aulia Nashari, "Pengembangan Lkpd Berbasis Cooperative Learning Pada Materi Akhlak Di Kelas 1 Sman 5 Banda Aceh," *Angewandte Chemie International Edition*, *6*(11), 951–952., 2017, 4.

¹³ Suratno, Pengembangan Kreativitas Anak Usia Dini (Jakarta: Depdiknas, 2005), 24.

¹⁴ Moch Agus et al., "Implementasi Pendekatan Saintifik dalam Pembelajaran di Pendidikan Dasar di Malang Implementation of Scientific Approach in Education in Primary Education in Malang" 13, no. 1 (2016): 48, https://jurnal.uns.ac.id/prosbi/article/view/5648.

¹⁵ M. Hosnan, *Pendekatan Saintifik dan Kontekstual dalam Pembelajaran Abad 21* (Bogor: Ghalia Indonesia, 2014), 36.

three domains: affective, cognitive, and psychomotor capacities. ¹⁶ This kind of learning is desired to foster productive, creative, and innovative student learning achievements. ¹⁷

RESEARCH METHODS

The type of research used is Research and Development (R&D). R&D research is the type of research that results in the development of new product innovations or improvements to existing products. The products developed are certainly tested for the effectiveness of the products made. This research starts from August 6, 2021, until July 18, 2022, in several schools (Madrasah Tsanawiyah) in Banda Aceh and Aceh Besar.

The study used purposive sampling, which involves selecting specific samples based on the researcher's considerations and objectives. The research sites were MTsN 4 Banda Aceh, MTsS Babun Najah, MTsS Ulumul Quran Banda Aceh, and MTsS Darul Ihsan. Five teachers were chosen as research subjects in each of the selected schools.

This LKPD development research was carried out through several stages referring to the ADDIE model: Analysis, Design, Development, Implementation, and Evaluation. However, this study modified the Implementation and Evaluation stages by substituting classroom trials to observe student responses with a trial involving teacher assessment of the practicality of the designed LKPD product.

During the analysis stage, the process involved conducting a needs analysis, identifying problems, and formulating objectives for the student worksheet using a scientific approach. This phase focused on identifying the gap between the current learning conditions and the desired results. It also involved analysing the objectives to ensure they align with the achieved needs.²⁰

The design stage involves establishing measurable general goals, categorising students into various types, choosing design tools, and specifying activities and media for LKPD. At this stage, the researcher plans the objectives of the assignment process, learning activities, and learning content. Goals are typically established for cognitive, psychomotor, and affective domains, along with selecting media and learning strategies. This phase encompasses the design of LKPD, including its components, component displays, and criteria instruments.²¹

During the developmental stage, the designed product was validated by experts to ascertain its feasibility. The Akidah Akhlak LKPD product's validation encompassed assessment by media experts, material/content experts, linguists, and scientific approach experts utilising validation sheets. The validators provided commentary, criticism, and input, contributing to assessing the LKPD under development. After getting input from experts and being validated, the product would be revised according to the assessment by the validator.²² Then, after being validated by experts, the product was distributed to Akidah Akhlak teachers to see the teacher's response to the developed LKPD.

The research instruments used include 1) Expert validation sheets, which consist of material validation sheets, appearance/media validation sheets, language validation sheets, and scientific approach validation sheets; 2) Teacher response sheets. The data collection techniques involved: 1) Validation, which entailed providing the LKPD to be validated and

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¹⁶ Daryanto, Pendekatan Pembelajaran Saintifik Kurikulum 2013 (Yogyakarta: Gava Media, 2014), 54.

¹⁷ Kementerian Pendidikan dan Kebudayaan, "Permendikbud No. 81 A Kurikulum 2013," 2013.

¹⁸ Yana Suryana, Metode Penelitian Manajemen Pendidikan (Bandung: Pustaka Setia, 2015), 334.

¹⁹ Sugiono, Metode Penelitian Kuantitatif, Kualitatif dan R&D (Bandung: Alfabet, 2014), 297.

²⁰ Sugiono, 32.

²¹ R.M Branch, *The ADDIE Approach* (London: Springer Science, 2009), 58.

²² Branch, 59.

a validation sheet to obtain input in the form of criticism, suggestions, and responses. 2) A teacher response questionnaire was distributed to obtain practical assessments of the LKPD from teachers.²³ The data analysis included the analysis of expert validation sheets and the Akidah Akhlak teacher's response questionnaire.

The technical data analysis included qualitative and quantitative data. Qualitative data derived from the validator's input to the LKPD, the material for product revision, would be analysed systematically using qualitative descriptive methods. Meanwhile, the quantitative data from the validator's questionnaire responses were analysed using the average percentage calculation formula. The expert validation and teacher response questionnaires used a four-scale Likert scale, starting from a score of 1, very poor/decent, to a score of 4, very good/decent. The average score could be found using a formula.

Percentage =
$$\frac{Obtained\ score}{Overall\ score}$$
 $x\ 100\%$

The assessment criteria were used to interpret the percentage of eligibility scale criteria and responses to the validation results of media experts, material experts, and teachers, as presented in Table 1 below.

 Number
 Validity Criteria
 Validity Level

 1.
 76% - 100%
 Very Eligible/Good/Agree

 2.
 56% - 75%
 Eligible/Good/Agree

 3
 40% - 55%
 Not Eligible/Good/Agree

 5
 0% - 39%
 Strongly Not Eligible/Good/Agree

Table 1. Assessment Criteria

Source: Suharsimi Arikunto, *Prosedur Penelitian: Suatu Pendekatan Praktik (Research Procedure: A Practical Approach)*.

RESEARCH RESULT AND DISCUSSION

In this R&D research, the resulting development product is the development of a Student Worksheet (LKPD) that uses a scientific approach to one of the materials for Akidah Akhlak class 8 MTs. The development of scientific-based LKPD is carried out through several stages referring to the ADDIE model: Analysis, Design, Development, Implementation, and Evaluation. However, in this study, modifications were made to the implementation and evaluation stages, which were omitted due to insufficient time for the students in class to be applied. The following is a detailed explanation of the stages of its development:

1. Stage of Analysis (Analysis)

The steps taken at the analysis stage included conducting a needs analysis and analysing learning materials. The needs analysis strategy involved observing teacher activities while teaching, interviewing teachers, and distributing needs analysis questionnaires to students. The information obtained revealed that many teachers primarily relied on textbooks as teaching materials, could not develop LKPD in accordance with

²³ Hadari Nawawi dan Martini Hadari, *Instrumen Penelitian Bidang Sosial* (Yogyakarta: Gadjah Mada University Press, 1992), 178.

scientific learning, and had limited time to design teaching materials with additional activities. It was found that developing teaching materials needs to consider students' ease in understanding the contents, their abilities, and practicality and efficiency in delivery.²⁴ So, the results of the needs analysis questionnaire by students showed an average value of 68.5%. Students require teaching materials that facilitate and captivate their interest in learning the conceptual material of *Akidah Akhlak*.

Subsequently, a thorough material analysis was undertaken to identify the subchapters of Akidah Akhlak subjects that can be utilised as content in the LKPD that is currently developing.²⁵ The materials applied in LKPD were taken from the ongoing school curriculum. Specifically, the material selected for the LKPD *Akidah Akhlak* is KD (basic competence) 3.10, and the focus was on "Adab Sosial Media" (*Media Social Ethics*).

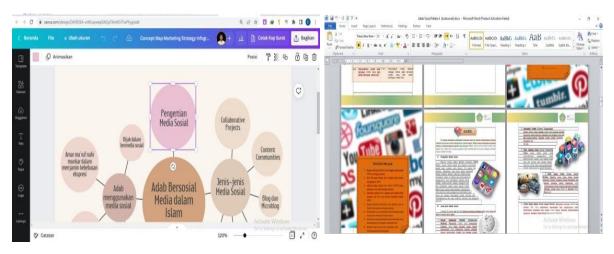


Figure 1: Design Equipment

2. Stage of Design (Design)

The LKPD Akidah Akhlak was designed using Microsoft Word Office 2010 application software, assisted by a website or online design application, Canva Pro, using UIN Ar-Raniry email. A paper size of 21x29.7 cm (A4) was used. The choice of type and size of letters and colours is varied but still consistent so that it looks beautiful and easy for students to read.

Several components were designed to make it easier for students to understand the contents of using the LKPD independently. The design components contained in this scientific-based LKPD include a cover, table of contents, introduction, introduction to scientific syntax, instructions for use, competency mapping, concept maps, LKPD contents (LKPD identity, study instructions, materials, LKPD activities), and bibliography.

a. LKPD cover

LKPD had 2 parts covers, namely the front and back. The front cover of the LKPD consists of the title, the author's name, the agency's logo, the supervisor's name, and pictures and graphics that describe the contents of the LKPD material. On the back cover

²⁴ Dkk Ahmad Zainuri, *Isu-Isu Kebijakan Kontemporer (Suatu Antologi Pendidikan Islam)* (Pasuruan: Qiara Media, 2021), 295.

²⁵ Ina Magdalena et al., "Analisis bahan ajar" 2 (n.d.): 324, https://ejournal.stitpn.ac.id/index.php/nusantara/article/view/828.

was a photo of the designer, an agency logo, a biography, and a brief description of the LKPD. Display cover as follows.



Figure 2: Front and Back Cover of LKPD

b. Guides in LKPD

Instructions for using and learning LKPD contain guidelines for applying LKPD so that students can understand LKPD easily. The design of the LKPD usage manual is as follows:



Figure 3: Guidelines for applying LKPD

c. Display of LKPD materials and activities

The display of the material and activities contained in the Akidah Akhlak LKPD is packaged using a scientific approach. The steps of the scientific approach include observing, asking, collecting information or trying, processing information, and communicating.









Figure 4. LKPD materials and activities

3. Development Phase (Development)

At the development stage, the LKPD Akidah Akhlak needed to be validated by experts in order to determine its feasibility. The validator filled out a questionnaire on the validation sheet, provided comments, and offered input on the LKPD design. Before the experts' direct validation, the researcher consulted the supervisor until the entire LKPD design was accepted. The feasibility of the scientific-based Akidah Akhlak LKPD was assessed by four lecturers from various study programs at UIN Ar-Raniry Banda Aceh. These lecturers evaluated the LKPD products across four fields: material, media/performance, language, and scientific approach. The validation results conducted by experts are presented in the following table.

Table 2. Results of the overall percentage of expert validation questionnaires

Field	Number of Aspects Assessed	Percentage (%)	Criteria
Material	7	98.8%	Very feasible
Media/Appearance	5	90%	Very feasible
Language	4	75%	Feasible
Scientific Approach	5	98.3%	Very feasible
Conclusion	21	90.5%	Very feasible

The data presented in Table 2 indicates that the material experts achieved a percentage score of 98.8%, media/appearance experts achieved 90%, linguists achieved 75%, and scientific approach experts achieved 98.3%. The validator noted that the LKPD's appearance paid attention to layout aesthetics, colour choices, easily legible text, and proper language rules, resulting in favourable ratings across all areas. The combined average percentage for all fields is 90.5%, earning a "Very Eligible" qualification. Therefore, developing scientific-based LKPD Akidah Akhlak for Year 8 of Madrasah Tsanawiyah is highly suitable for classroom use in facilitating the learning process.

The experts evaluated and provided comments, criticism, and input on the designed LKPD. Consequently, multiple inputs and suggestions from experts had been received to revise the product, including:



Figure 5. Changing news reportage to be a video

Figure 5 explains the modification in the "Observe" syntax stimulus in LKPD-1 regarding discussing the metaverse. According to the material expert, the student's comprehension of the metaverse discussion was hindered when presented through news reviews, as the topic remained largely unfamiliar. However, the experts suggested that presenting the stimulus as a video elucidating the metaverse could be advantageous.



Figure 6. Adding the arguments to enrich the lessons of Akidah Akhlak.

Figure 6. explains the input from the material validator to add arguments to the material in LKPD-3. The reason for adding this argument was that the indicators in LKPD-3 were key indicators for KD 3.10. Thus, it was necessary to add arguments to enrich the lessons of *Akidah Akhlak*.

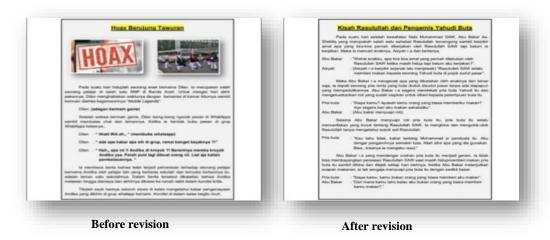


Figure 7. Changing the story

Figure 7. explains the changes in the narrative of LKPD-3, which served as a scenario for the role-playing learning technique. The initial scenario in the LKPD depicted a story about students getting involved in a brawl due to HOAX news. The narrative was replaced with the story of Abu Bakr, who endeavoured to perpetuate the Prophet's tradition of always providing food to blind Jewish beggars. The reason for this replacement was that the initial scenario story was unsuitable for children of MT age due to its violent content, although intended for educational purposes. Therefore, the validator suggested replacing it with a more Islamic story.



Figure 8. The Change in the Shape of the Concept Map

Figure 8 describes the modification of the concept map shape. It initially depicted the sub-materials spreading downwards, then expanding around the main title.

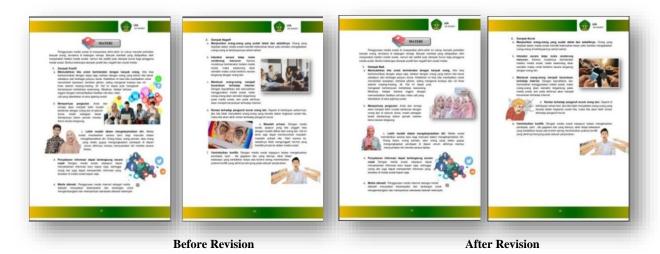


Figure 9. Changing the un-Islamic illustrations

Figure 9. explains the need to change the illustrations in LKPD-2. The initial image in the LKPD-2 material section contained images that were not Islamic. That was why the validator requested other pictures aligning with the Akidah Akhlak material.

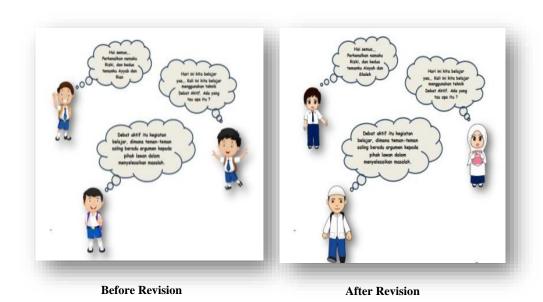


Figure 10. Changing Animitaion to be more Islamic Nuance

Figure 10. explains the animation changes in the "Prologue" section. Previously, it showed school children wearing uniforms that revealed their knees. Now, the animation has been updated to show the children wearing closed uniforms and caps.



Picture 11. Punctuation Errors and the Arrangement of Sentences in the Preface

Figure 11. explains the use of punctuation errors and the arrangement of sentences in the preface, which is messy in several sentences. The preface was also revised following the validator's directions, as shown in the picture on the right.

4. Implementation Phase

After completing the product revision stage, the implementation stage will be performed by testing the teacher's responses. This trial aims to assess the extent to which the results are feasible regarding the practicality of the scientific-based Akidah Akhlak LKPD development product when implemented in classroom learning. The data was obtained from the distribution of the Akidah Akhlak teacher response questionnaire to evaluate the developed LKPD.

So, when viewed as a whole, the percentage value of the five aspects assessed against the Akidah Akhlak teacher's response can be presented in the table below.

Table 3. Results of the Overall Percentage of Teacher Response Questionnaires.

Aspect	Number of Items	Percentage (%)	Criteria
Effective	4	91.25%	Strongly Agree/Good
Creative	4	90%	Strongly Agree/Good
Efficiency	4	85%	Agree/Good
Interactive	4	83.75%	Strongly Agree/Good
Interesting	5	92%	Strongly Agree/Good
Kesimpulan	21	88.4%	Strongly Agree/Good

Based on the results of the teacher's response questionnaire to the scientific-based LKPD Akidah Akhlak, Year 8 MTs, the developed LKPD product received a positive response. This statement was based on the results of the Akidah Akhlak teacher's response to several aspects of the assessment, including the effectiveness aspect of the Akidah LKPD scored 91.25%, the creativity aspect scored 90%, the efficiency aspect got 85%, the interactive aspect scored 83.75 %, and the attractiveness aspect scored 92%. The average value of the overall percentage obtained from the five aspects of the teacher's response assessment is 88.4% with the criteria of "Strongly Agree" or "Very Good". This indicated that the teacher highly appreciated this development product. The teacher also recognised the need to develop scientific LKPD for other Akidah Akhlak materials.

CONCLUSION

This development research (R&D) resulted in a development product in the form of scientific-based LKPD teaching materials on the material of Akidah Akhlak Year 8 MTs. The LKPD development process followed the ADDIE model, which consisted of analysis, design, development, implementation, and evaluation. However, in this study, there was a modification in the implementation and evaluation stages. Instead of conducting trials in the classroom to observe student responses to the product development, the approach substituted it with a trial with an assessment of the teacher's response regarding the practicality of the designed LKPD product.

Looking at the level of feasibility of the Akidah Akhlak LKPD, based on the results of the validation of experts in the field, the scientific-based LKPD Akidah Akhlak Year 8 MTs was well-suited for implementation in classroom learning by *Akidah Akhlak* teachers. This conclusion was based on the evaluations of expert validators across several field areas of studies, namely from the material field; the feasibility value was 98.8%, the media field was 90%, the language field was 75%, and the scientific approach field was 98.3 %. The average value of the overall percentage obtained from the four validators was 90.5%. Therefore, this LKPD was categorised using the "Very Eligible" criteria.

Based on the outcomes of the teacher's response questionnaire for the scientific-based LKPD *Akidah Akhlak*, Year 8 of Madrasah Tsanawiyah, it was evident that the LKPD product developed obtained a positive response. This conclusion was drawn from the results of the Akidah Akhlak teacher's response to several aspects of the assessment, including the effectiveness aspect of the Akidah LKPD, which scored 91.25%, the creativity aspect got 90%, the efficiency aspect scored 85%, the interactive aspect got a score of 83.75 %, and the attractiveness aspect of LKPD obtained 92%. The overall average percentage of *Akidah Akhlak* teachers' responses to the developed product obtained a response value of 88.4% with the criteria of "Strongly Agree" or "Very Good". This indicated that the teacher highly appreciated the development product. Furthermore, the teacher suggested developing scientific-based LKPD on other *Akidah Akhlak* materials.

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