

Development of a Student Worksheet (LKPD) Integrated with the Qur'an and Hadith on the Digestive System Topic

Siti Nurhayati¹, Elsa Ofiarni¹, Tegi¹, Umami Hiras Habisukan^{1*}, Weni Lestari¹, Dur Brutu¹, Muhammad Sirajudin Fikri²

¹Universitas Islam Negeri Raden Fatah, Indonesia

²Universitas Samudra, Indonesia

*Corresponding author: ummihirashabisukan@radenfatah.ac.id

Abstract: This study aims to develop a Student Worksheet (LKPD) integrated with Qur'anic verses and Hadith on the digestive system topic for senior high school students, as well as to determine its validity and practicality. The development model used was ADDIE, although the study was limited to the Analysis and Design stages. The instruments consisted of expert validation sheets (material, media, language, and Islamic studies experts) and practicality questionnaires for students and biology teachers. The validation results indicated that the LKPD was categorized as very valid, with the following scores: Islamic studies expert 94.66%, material expert 93.33%, media expert 97.33%, and language expert 97.33%. The practicality test results showed that the LKPD was rated very practical by students with a score of 89% and by biology teachers with a score of 90.66%. Accordingly, the Qur'an- and Hadith-integrated LKPD is considered feasible and suitable for use as a learning resource for the digestive system topic.

Keywords: LKPD, Qur'an and Hadith integration, digestive system, development research, ADDIE

Abstrak: Penelitian ini bertujuan untuk mengembangkan Lembar Kerja Peserta Didik (LKPD) terintegrasi Al-Qur'an dan Hadits pada materi sistem pencernaan untuk peserta didik SMA, serta mengetahui tingkat validitas dan praktikalitas produk yang dikembangkan. Model pengembangan yang digunakan adalah ADDIE, namun penelitian dibatasi pada tahap Analysis dan Design. Instrumen yang digunakan meliputi lembar validasi ahli (ahli materi, ahli media, ahli bahasa, dan ahli agama) serta angket praktikalitas peserta didik dan guru. Hasil validasi menunjukkan bahwa LKPD berada pada kategori sangat valid, dengan persentase kelayakan: ahli agama 94,66%, ahli materi 93,33%, ahli media 97,33%, dan ahli bahasa 97,33%. Hasil uji praktikalitas menunjukkan bahwa LKPD dinilai sangat praktis oleh peserta didik dengan persentase 89% dan oleh guru biologi sebesar 90,66%. Dengan demikian, LKPD terintegrasi Al-Qur'an dan Hadits ini layak digunakan sebagai media pembelajaran pada materi sistem pencernaan.

Kata Kunci: LKPD, integrasi Al-Qur'an dan Hadits, sistem pencernaan, pengembangan, ADDIE

INTRODUCTION

Biology, as a branch of science, studies complex life phenomena and therefore demands that students grasp abstract concepts as the foundation for further learning (Syarah et al., 2021). Biology education not only fosters scientific understanding but also connects scientific concepts to real life, including the natural environment and religious values related to human behavior (Ize et al., 2025). For this reason, biology instruction should ideally extend beyond the cognitive domain to also cultivate students' character and spiritual awareness. This aligns with the direction of the national curriculum the Merdeka Curriculum which emphasizes the strengthening of the Pancasila Student Profile, including the dimensions of faith and noble character (Purnawanto, 2022).

The digestive system topic is closely connected to Islamic values, particularly regarding eating habits, bodily health, and the principle of *halalan thayyiban*. Integrating biological concepts with Islamic teachings guides students toward understanding that maintaining digestive health is part of the religious imperative to consume food that is lawful and wholesome (Abdullah, 2021; Sahroni, 2015). This aligns with the guidance in Q.S. Al-Mā'idah (5): 87–88, which affirms the importance of choosing wholesome food as an act of devotion to Allah. Such integration can also strengthen students' religious scientific literacy the capacity to connect biological phenomena with spiritual values.

Within the senior high school biology curriculum as stipulated in Permendikbud No. 37 of 2018, students are expected to analyze the relationship between the tissue structure of digestive organs and their biological processes, and to present the results of nutrient content tests related to energy needs and food safety (Mendikbud, 2018). These learning objectives demand teaching materials that are not only informative but also facilitate scientific inquiry. In practice, however, classroom instruction tends to focus on cognitive knowledge, while the integration of spiritual values has yet to be optimally implemented (Abdullah, 2021).

Incorporating religious values into biology instruction is important for strengthening character education. Values such as honesty, responsibility, and moderation including the principle of *halalan thayyiban* can be embedded within the digestive system topic to make learning more contextual (Fitriani, 2022). The Qur'an and Hadith contain verses that are consistent with modern scientific concepts (Masitoh, 2023; Shofa et al., 2020), and integrating them can create more meaningful learning experiences that simultaneously advance scientific understanding and deepen students' faith (Maghfiroh et al., 2023).

Among the teaching materials capable of supporting active learning is the Student Worksheet (LKPD), which engages students in scientific activities such as experiments, analysis, and discussion (Zahroh & Yuliani, 2021). An LKPD developed contextually and integrated with Islamic values can reinforce conceptual understanding while instilling religious values in students (Abdullah, 2021; Salafudin, 2019). Nevertheless, the quality of an LKPD is highly dependent on its design, language, visual presentation, and alignment with learning objectives.

Preliminary observations conducted at a senior high school in Palembang revealed that the existing LKPD was unappealing, offered minimal illustrations, lacked contextual relevance, and did not incorporate Islamic values. The biology teacher also noted that students preferred printed teaching materials over digital ones due to limited access to devices and internet connectivity. These conditions underscore the urgency of developing a more systematic LKPD that better addresses the school's actual needs. The majority of teachers expressed support for developing an LKPD that integrates Qur'anic verses and Hadith to support students' character formation. Given that all students are Muslim, developing an LKPD grounded in Islamic values was considered both relevant and necessary.

Thus, developing an LKPD integrated with the Qur'an and Hadith for the digestive system topic represents a strategic step toward providing holistic and meaningful learning. Through this development, students are expected not only to understand biological concepts scientifically but also to connect them with their faith and daily lives, so that the educational goal of forming a generation that is both knowledgeable and principled can be fully realized.

METHOD

This study was conducted over approximately five months, from October to December. It employed a Research and Development (R&D) approach, which focuses on developing a product while simultaneously evaluating its effectiveness and feasibility (Sugiyono, 2009). In line with this, Saripudin et al. (2025) explain that development research is carried out to produce teaching materials that are relevant and suited to classroom learning needs. The primary objective of this R&D study was to describe the development process and assess the quality and feasibility of the resulting product (Sulistiyowati et al., 2024).

The development model employed was ADDIE, a systematic model widely used in designing learning media and instructional materials (Husniyah et al., 2022). The model comprises five interconnected stages namely Analysis, Design, Development, Implementation, and Evaluation forming a workflow from planning through final product assessment (Syabrina & Sulistyowati, 2020). However, in this study, the ADDIE model was applied only through the Analysis and Design stages. The Development stage was focused on conducting validity and practicality tests. A similar approach was adopted by Setiawan et al. (2021), who emphasized developing learning media up to the point of producing a valid product based on expert evaluation.

Analysis

As an initial step, the researchers conducted observations and interviews with biology teachers. The observations revealed that the existing LKPD was monotonous, offered limited guidance for independent learning, and did not integrate Islamic values. The teachers also indicated that students needed teaching materials with more engaging visuals and activities that promote analytical thinking.

Design

The design stage involved planning the conceptual framework of the instructional material. At this stage, the LKPD structure was drafted, learning indicators were determined, relevant Qur'anic verses and Hadith were identified and mapped, and illustrations and activity sequences were arranged. The design layout can be seen in Figure 1.

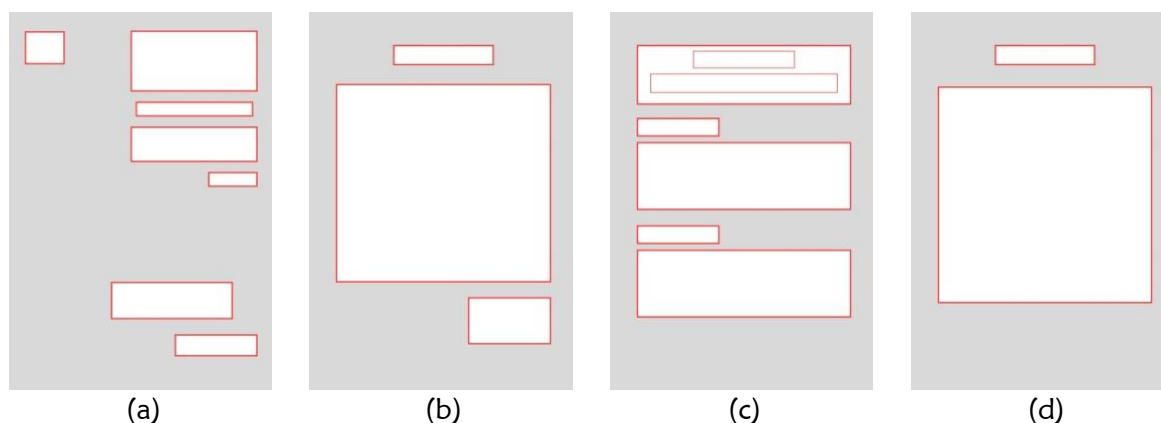


Figure 1. LKPD Design. (a) Cover design (b) Preface design (c) Content design (d) Table of contents and reference list design

Development

During the development stage, a series of activities was carried out, including searching and compiling various relevant sources to enrich the material content, creating illustrations, diagrams, and charts, and performing typing, editing, and layout formatting of the LKPD. The subsequent steps comprised expert validation and revision in accordance with the feedback received, followed by practicality testing with teachers and students. The results of the LKPD revisions can be seen in Figure 2.

Research Subjects

The research subjects included expert validators namely the Islamic studies expert, material expert, media expert, and language expert as well as participants involved in the practicality test, consisting of 9 Grade XI students (limited trial) and 2 biology teachers.

Research Instruments

The instruments used in this study comprised validation sheets for the expert validators covering media, material, language, and Islamic studies as well as practicality questionnaires for students and teachers. All instruments employed a Likert scale as the basis for scoring, and the data were analyzed using the percentage formula. The validity assessment criteria are presented in Table 1, and the practicality criteria in Table 2.

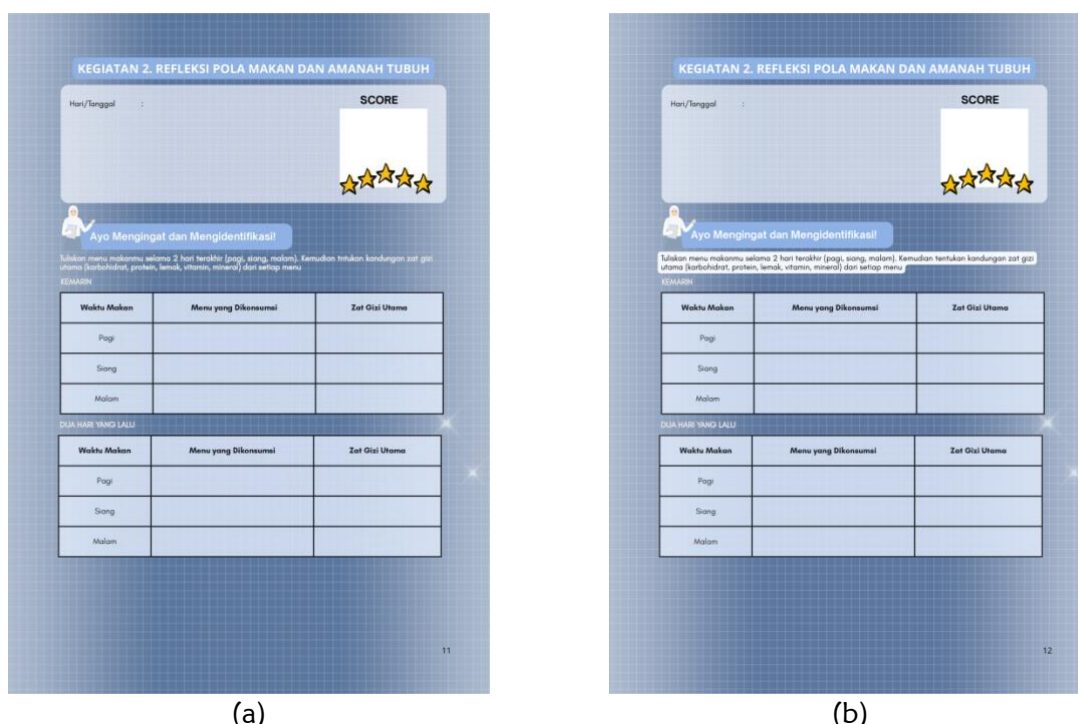
Table 1. Validity Assessment Criteria

Score	Description	Criteria
5	Very Valid	$81\% < N \leq 100\%$
4	Valid	$61\% < N \leq 80\%$
3	Fairly Valid	$41\% < N \leq 60\%$
2	Not Valid	$21\% < N \leq 40\%$
1	Very Not Valid	$0\% < N \leq 20\%$

Table 2. Practicality Assessment Criteria

Score	Description	Criteria
5	Very Practical	$81\% < N \leq 100\%$
4	Practical	$61\% < N \leq 80\%$
3	Fairly Practical	$41\% < N \leq 60\%$
2	Not Practical	$21\% < N \leq 40\%$
1	Very Not Practical	$0\% < N \leq 20\%$

A product is declared fit for use when the calculated percentage falls within the range of $60 < N \leq 100$ (Krisnanti et al., 2020).



(a) (b)
Figure 2. LKPD Development Before (a) and After Revision (b)

RESULT AND DISCUSSION

Result

Each finding was analyzed systematically to describe the quality of the developed product in terms of validity and practicality. The results were subsequently discussed with reference to the

theoretical framework and relevant research findings to provide a comprehensive interpretation of the development outcomes.

Validation Results

A summary of the expert validation results is presented in Table 3. All four validation aspects indicate that the LKPD meets the eligibility criteria for content, visual presentation, language, and Islamic values integration. The overall average falls within the very valid category, confirming that the product is ready for a limited trial.

Table 3. Validation Results

Validator	Score Obtained	Percentage	Category
Islamic Studies Expert	71	94.66%	Very Valid
Material Expert	70	93.33%	Very Valid
Media Expert	73	97.33%	Very Valid
Language Expert	73	97.33%	Very Valid

Note: maximum score = 75

Practicality Results

The practicality questionnaire administered to 9 students yielded a score of 89% (very practical), while the biology teachers' practicality assessment resulted in a score of 90.66% (very practical). The teachers rated the LKPD as highly supportive of the learning process, easy to implement, and relevant to the curriculum. These scores reflect that the LKPD is easy to use, aids in understanding the material, and is engaging for students.

Discussion

The validation results, which fall within the very valid category, demonstrate that the LKPD meets the eligibility criteria for content, presentation, language, and Islamic values integration. The high validity score from the media expert (97.33%) indicates that the visual design and layout conform to instructional design principles. Meanwhile, the Islamic studies expert's high score (94.66%) confirms that the Qur'anic verses and Hadith were incorporated appropriately and without distortion of their intended meanings.

The practicality scores from students (89%) and teachers (90.66%) indicate that the LKPD is not only theoretically sound but also easy to use in actual classroom practice. The high practicality scores suggest that students were able to follow the instructions, comprehend the content, and engage in scientific activities without difficulty.

These findings are also consistent with the research by Fazira & Jayanti (2023), who developed an Islamic-values-integrated LKPD and found that it was not only very valid and practical but also contributed to improved student understanding. Additionally, the study by Abdullah et al. (2023), which specifically developed an LKPD incorporating Islamic values, also yielded very good ratings and was deemed suitable for use. These studies reinforce the finding that the digestive system topic holds considerable potential for integration with Islamic teachings particularly through the concepts of *halalan thayyiban* and proper eating etiquette. Collectively, these findings support the current study, especially in terms of product practicality and acceptance by both teachers and students.

The consistent pattern of high validity and practicality scores across studies integrating Qur'anic verses and Hadith into LKPDs including those focused on the digestive system affirms that this integrative approach is highly effective in producing learning media that are feasible, meaningful, and responsive to students' needs. The LKPD developed in this study can therefore be recommended as an alternative learning resource for the digestive system topic.

CONCLUSION

Based on the findings of this study, it can be concluded that the development of an LKPD integrated with the Qur'an and Hadith for the digestive system topic using the ADDIE model

applied through the Analysis and Design stages successfully produced a worksheet that is systematically structured, relevant, and aligned with students' learning needs. The assessment results from four validators material, media, language, and Islamic studies experts indicate that the LKPD falls within the very valid category, with feasibility percentages ranging from 93% to 97%. These findings demonstrate that the LKPD satisfactorily meets the criteria for content eligibility, language quality, visual presentation, and Islamic values integration. Furthermore, the practicality test results from students and biology teachers yielded scores of 89% and 90.66%, respectively, both classified as very practical. Accordingly, the developed LKPD is considered feasible and easy to use in the learning process, and has the potential to enhance students' conceptual understanding of biology while simultaneously strengthening their spiritual values.

REFERENCES

- Abdullah, Z. (2021). Development of a Biology Learning Module Integrated with Islamic Values to Improve Environmental Care Character. *HIKMATUNA: Journal for Integrative Islamic Studies*, 7(1), 17–30.
- Abdullah, Z., Istiqomah, T., & Sari, R. (2023). Development of student worksheets based on STEM and religion in digestive system materials. *JPBIO: Jurnal Pendidikan Biologi*, 8(1), 80–92.
- Fazira, D., & Jayanti, U. N. A. D. (2023). The development of guided-inquiry based student worksheets integrated with Islamic values on environmental pollution material. *BIO-INOVED: Jurnal Biologi-Inovasi Pendidikan*, 5(2), 132.
- Fitriani, F. (2022). Konsep Makanan Halalan Thayyiban dalam Qs. Al-Baqarah: 168 Perspektif Quraish Shihab dan Ilmu Kesehatan. *NIHAIYYAT: Journal of Islamic Interdisciplinary Studies*, 1(1), 53–66.
- Husniyah, R., Widiatsih, A., Fajarisman, F., Kunrozazi, K., & Kurniawan, N. (2022). Pengembangan website menggunakan google sites materi produksi pada tumbuhan dan hewan untuk SMP/MTs pada masa pandemi COVID-19. *Education Journal: Jurnal Education Research and Development*, 6(1), 47–58.
- Ize, U., Nawawi, I., & Nurmawati, I. (2025). Pengaruh Pembelajaran Terintegrasi Islamic-Science Environment Technology Society (I-SETS) terhadap Hasil Belajar Kognitif Siswa Kelas XI MIPA. *Jurnal Pendidikan MIPA*, 15(2), 723–731.
- Krisnanti, D. A., Rizki, S., & Vahlia, I. (2020). Pengembangan Modul Matematika Berbasis Discovery Learning Disertai Nilai-Nilai Islam. *EMTEKA: Jurnal Pendidikan Matematika*, 1(1), 78–81.
- Maghfiroh, I. F., Afidah, N., & Falah, F. (2023). The Validity of Scientific Literacy-Based LKPD Integrated Verses of the Quran with Light Material for MTs Students. *Nukleo Sains: Jurnal Pendidikan IPA*, 2(1), 34–43.
- Masitoh, D. (2023). Telaah Konsep Pendidikan Islam dalam Perspektif Hadits. *Jurnal Ilmiah Edukatif*, 9(2), 191–204.
- Mendikbud. (2018). Peraturan Menteri Pendidikan dan Kebudayaan RI No. 37 Tahun 2018 tentang Kompetensi Inti dan Kompetensi Dasar Pelajaran pada Kurikulum 2013 pada Pendidikan Dasar dan Pendidikan Menengah.
- Purnawanto, A. T. (2022). Implementasi Profil Pelajar Pancasila dalam Pembelajaran Kurikulum Merdeka. *Jurnal Pedagogy*, 15(2), 76–87. <https://doi.org/10.63889/pedagogy.v15i2.139>
- Sahroni, D. (2015). Pentingnya Pendidikan Karakter dalam Dunia Pendidikan. *In Prosiding Seminar Bimbingan dan Konseling*, 9(1), 464–468.
- Salafudin. (2019). Penanaman Nilai Nilai Pendidikan Islam melalui Pembelajaran Matematika. *HIKMATUNA: Journal for Integrative Islamic Studies*, 5(1), 29–42.
- Saripudin, Bonok, Z., Wiranto, I., Abdussamad, S., Tansa, S., & Nasibu, I. Z. (2025). Pengembangan Media Pembelajaran Sistem Telekomunikasi dengan Metode ADDIE Berbasis Digital. *JJEEE: Jambura Journal of Electrical and Electronics Engineering*, 7(1), 100–105.

- Setiawan, H. R., Rakhmadi, A. J., & Raisal, A. Y. (2021). Pengembangan Media Ajar Lubang Hitam Menggunakan Model Pengembangan ADDIE. *Jurnal Kumparan Fisika*, 4(2), 112–119.
- Shofa, M., Nailufa, L. E., & Haqiqi, A. K. (2020). Pembelajaran IPA Terintegrasi Al-Quran dan Nilai-Nilai Pesantren. *IJIS Edu: Indonesian Journal of Integrated Science Education*, 2(1), 81.
- Sugiyono. (2009). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Alfabeta.
- Sulistiyowati, S., Mahmudah, I., Syabrina, M., Syar, N. I., Rahmad, R., & Wahid, A. (2024). Pengembangan Bahan Ajar Digital pada Mata Pelajaran IPAS Kelas IV di MI/SD. *Jurnal Kajian Kritis Pendidikan Islam*, 7(1), 35–52.
- Syabrina, M., & Sulistyowati. (2020). Pengembangan Media Pembelajaran Tematik Flash Ibtidaiyah. *Tarbiyah Wa Ta'lim: Jurnal Penelitian Pendidikan & Pembelajaran*, 7(1), 25–36.
- Syarah, M., Rahmi, Y., & Darussyamsu, R. (2021). Analisis Penerapan Pendekatan STEM pada Pembelajaran Biologi. *BIO-EDU: Jurnal Pendidikan Biologi*, 12(3), 146–157.
- Zahroh, D. A., & Yuliani. (2021). Pengembangan E-LKPD Berbasis Literasi Sains untuk Melatihkan Keterampilan Berpikir Kritis Peserta Didik pada Materi Pertumbuhan dan Perkembangan. *Jurnal Bio Edu*, 10(3), 605–616.