



Development of Biosciences in the Integrated Qur'an Textbooks of Lampung Local Wisdom Values

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ABSTRACT

The process of learning science in the qur'an should be integrated with its own national culture, known as local wisdom. The obvious issue is the absence of references that can be used in learning. And therefore, the current research was carried out to develop biosciences in the integrated qur'an textbooks with lampung's local sacred values. Conducted through 4D development model that includes defining, designing, developing, and disseminating, The validation results of the designing expert obtained a score of 89% considered excellent. The results of the material expert validation obtained a score of 92% considered excellent. Furthermore, the validation of the linguist obtained a score of 90% considered very good. the results on responses of Tadris Biology lecturers obtained a score of 85% considered very good. The results of the limited trial among Biology students was of 87.25% considered very good. Based on the findings, it can be concluded that the teaching book products developed are definitely useful for the learning process.

Keywords: *textbooks, biosciences, Qur'an, local wisdom*

INTRODUCTION

The development of modern science in the western poses a severe threat to faith and religion (Fakhri, 2010). The findings of modern science by bringing strong evidence are contrary to what is believed in their religion. Religion, with its power, seeks to maintain its existence (Firdaus, 2019). However, the rapid development of science and being able to provide facts have encouraged the movement to reject religious authority as the beginning of the emergence of secularism and liberalism (Maimun, 2019).

Meanwhile, the development of science in the Islamic world shows a different phenomenon. Islamic scientists accept the development of science very openly (Ahmad et al., 2020). In Islam, it is believed that science, in essence, all comes from The Al-Mighty God, Allah. Science is not a threat to the religion of Islam. Instead, science becomes a booster of faith and Islam (Minarno, 2017)

Science and religion are a whole and inseparable unity (Nasiruddin, 2013). Science and religion must coexist (Chanifudin & Nuriyati, 2020). The Qur'an contains guides, instructions, and guidelines for humans in all matters, including science, and is an inspiration in the emergence of local wisdom values (Yaqin, 2020). It seems that the problem is that religious subjects and general subjects do not in line and synergize well. The results in less learning shall provide meaningful values (Sanusi, 2017).

The process of learning science in the Qur'an should be integrated with its own national culture, known as local wisdom (Jendri, 2013). Local wisdom has a significant role as a foundation for every human being interacting with the environment (Pranoto & Wibowo, 2018; Ramdiah et al., 2020). The integration of local wisdom in the learning process encourages mutual respect among religions, ethnicities, tribes, and cultures to achieve diversity (Syahrial et al., 2021; Asrial et al., 2021). Religious Universities shall be able to provide a forum in the form of courses that integrate science, religion, and culture (Syarif Hidayatullah, 2019; Husamah, 2015). Biosciences is an important topic in higher education that can be integrated with both Islamic value dan local wisdom (Minarno, 2017).

Biosciences in the Qur'an is one of the compulsory courses for students of the Biology Study Program in IAIN Metro. This course becomes a superior course and, at the same time, becomes a course in achieving the standard competency for graduates of the Biology Tadris study program. This course contains concepts of science, scientific methods, early life on earth, human origins, ecosystems, pollution, botany, zoology, entomology, physiology, genetics, evolution, and reproduction. The discussion of lecture materials is integrated with reference materials from the Qur'an and the values of local wisdom in Lampung culture, with the understanding that bioscience learning in the Qur'an integrated with the values of local wisdom will be able to cultivate people who believe and worship by the purposes of national education (Sulaiman, 2020). The obvious issue is that there is no bioscience references in the Qur'an that is integrated with the local wisdom of Lampung culture.

The lack of bioscience references in the Quran that are integrated with the values of local wisdom of Lampung culture is a factor in the low ability of students to understand learning concepts and materials well. Students have not been able to explore various concepts and integrate them into a value to build constructive and integral ideas and thinking in the development of science and have not been able to solve various problems that arise in the community (Darmaji et al., 2019).

Based on the above background, research entitled "Development of Bioscience in the Integrated Qur'an Textbooks of Lampung Local Wisdom Values" is significant to be implemented as a source of references and guidelines for students in biosciences course in the Biology Study Program.

METHODOLOGY

The current project is a type of research and development, known as R n D (Research and Development). The development model used in this study is the 4 D model (Define, Design, Develop, Disseminate) proposed by Thiagarajan and Semmel. The basis for consideration of this model selection is because the development steps are more flexible, relatively simple, and by the type of final product to be developed (Yudiyanto et al., 2020; Irwansyah et al., 2019). The product that will be developed in this research is the Biosciences teaching book in the Qur'an that integrates the values of local wisdom of Lampung culture. The steps of developing a Biosciences textbook in the Qur'an integrated the values of local wisdom of Lampung culture in this study are as follows:

Define

At this stage, an analysis of the needs of the teaching materials to be developed is carried out. This needs analysis includes curriculum analysis and analysis of learner characteristics. The curriculum use today is KKNI based curriculum.

Design

At this stage, researchers design teaching books adopted to the curriculum and semester lecture plan. Bioscience is course that aims to equip student to strengthen their personality and sensitivity to the development of science, especially bioscience in Islamic values that are explored in the Qur'an. This design includes the contents of the book, several chapters, and subjects that are adopted to the concept of integration design, the Qur'an, and local wisdom that has been established. At this stage, researchers also design the book format, size, typeface, layout, cover, and appearance of the teaching book to be developed.

Develop

At this stage, researchers develop teaching books according to the arranged plan. After the product completed, the product validated by the material expert validator and the media expert. This validation process aims to improve the feasibility and input and advice from experts on the products developed. The product is then revised according to the input of material experts and media experts. As well, product trials are conducted with lecturers and students to get responses about the use of products that have been developed. And thus, the product is revised according to input and suggestions from lecturers and students as users.

Disseminate

At this stage, the developed products are refined based on input and suggestions at the validation stage and the results of lecturers' and students' responses. After the product is completed, it is then printed, published, and disseminated to the users.

Data Retrieval Techniques

The data retrieval techniques in this research are literature studies, interviews, and questionnaires. The study of literature aims to collect references on teaching book development materials from various scientific sources both on Biosciences in the study of the Qur'an, as well as the value of local wisdom. The interview intended to gather information about the values of local wisdom of Lampung culture from experts, indigenous institutions, and cultural actors.

Data on the feasibility of the teaching book obtained from questionnaires were delivered to material expert validators, media experts, lecturer response questionnaires, and the students of Tadris Biology in IAIN Metro.

Data Analysis Methods

The data obtained in this study is teaching book feasibility data in the form of validation results from material expert validators, media expert validators, lecturer responses, and student responses in small group trials. The analysis of the validation results performed by the validator determined from the percentage of the average eligibility score using the following formula.

$$SV = \frac{\text{Validator average score}}{\text{Maximum Score}} \times 100\% \quad (1)$$

SV = average percentage of validation result scores

The conclusion of the data analysis is adjusted to the criteria as described in the following table 1:

Table 1. Teaching book product eligibility criteria

| Score Percentage | Criteria | Information |
|---------------------------|-----------|----------------------|
| $90\% \leq SV \leq 100\%$ | Excellent | No need for revision |
| $80\% \leq SV < 90\%$ | Very Good | Need for revision |
| $60\% \leq SV < 80\%$ | Good | Major Revision |
| $0\% \leq SV < 60\%$ | Poor | Useless |

Analysis of lecturers' and students' responses to the developed teaching books obtained from questionnaires was addressed during product trials. Data on lecturer and student response questionnaires in the form of scores were then analyzed by:

$$\text{Percentage of Students' Response} = \frac{\text{Number of positive responses}}{\text{Number of Students}} \times 100\% \quad (2)$$

Table 2. Criteria for lecturer and student response to the developed teaching books

| Percentage | Criteria |
|---------------------------|-----------|
| $90\% \leq SV \leq 100\%$ | Excellent |
| $80\% \leq SV < 90\%$ | Very Good |
| $60\% \leq SV < 80\%$ | Good |
| $0\% \leq SV < 60\%$ | Poor |

FINDINGS AND DISCUSSIONS

This research and development produce products in the form of Biosciences textbooks in the Integrated Qur'an of The Values of Local Wisdom of Lampung Culture. The development of this teaching book uses 4D model development research steps presented by Thiagarajan, Semmel, and Semmel with the following steps Define, explaining the problems and gaps in a learning process. Design explains the concept of the product's initial design and specifications. Develop, explain product development with the advice of validators, and conduct product trials. The Dissemination explains the printing process results and the Dissemination of product results developed and widely utilized (Darmaji et al., 2019).

Material Expert Validation Results

Bioscience textbooks in the Qur'an are to be a teaching material for students of the Tadris Biology study program that developed, then validated by material experts. Validation of this material aims to assess the feasibility of the material in the teaching book. The validation process by the material expert carried out twice. The validation results by the material expert validator can be seen in figure 1 below.

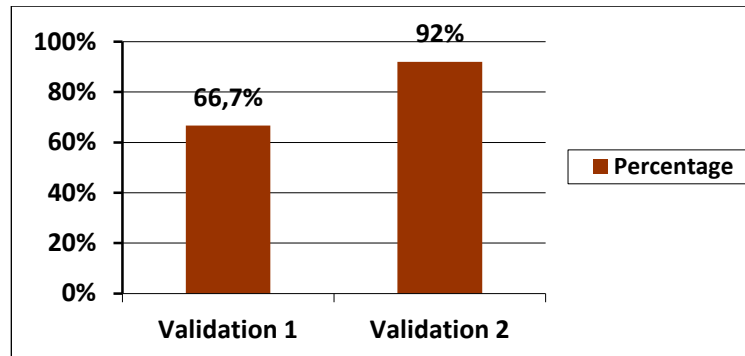


Figure 1: The results of validation by the expert validator

Validation Results by Design Experts

Bioscience textbooks in the Qur'an integrated the value of local wisdom of Lampung culture that has been developed, then validated by design experts. This media validation aims to assess the feasibility of the design display of the developed teaching book. The validation process by the design expert carried out twice. The validation results by a design expert validator can be seen in figure 2 below.

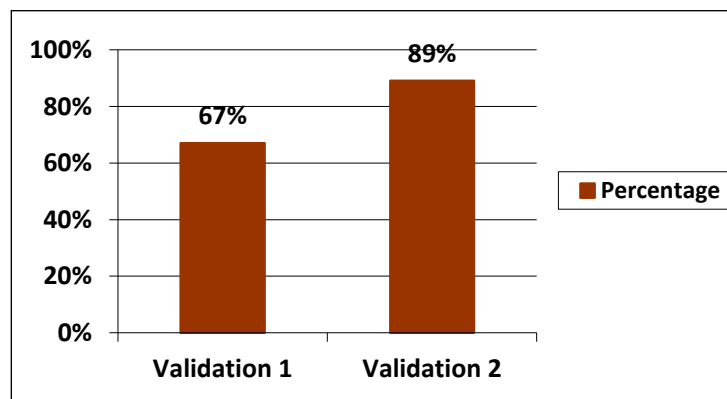


Figure 2: The results of validation by design expert

Validation Results by Linguists Experts

Bioscience textbooks in the Qur'an integrated the value of local wisdom of Lampung culture that has been developed and validated by linguists. This media validation aims to assess the feasibility of the design display of the developed teaching book. The validation process by the design expert carried out twice. The results of the first validation by the linguist experts can be seen in figure 3 below.

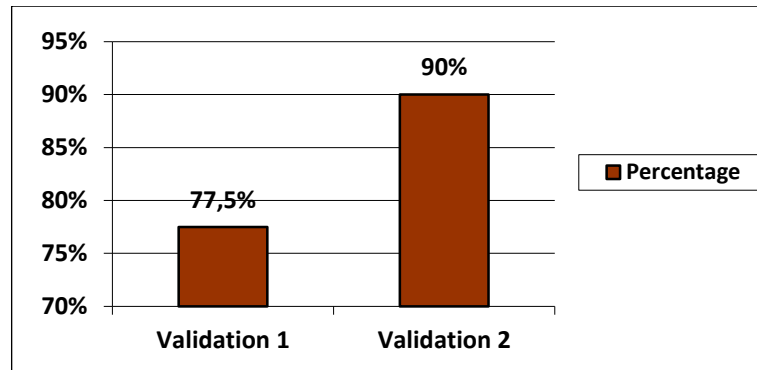


Figure 3: The results of the first validation by the linguist validator

The Result of the lecturer's overall response to the Biosciences textbook in the Qur'an integrated value of local wisdom of Lampung culture is 34 with a percentage of 85% considered very good. The Result of small group trials of teaching books developed obtained an average score of 34.9 or 87.25% considered very good. The response of lecturers and students can be seen in figure 4 below.

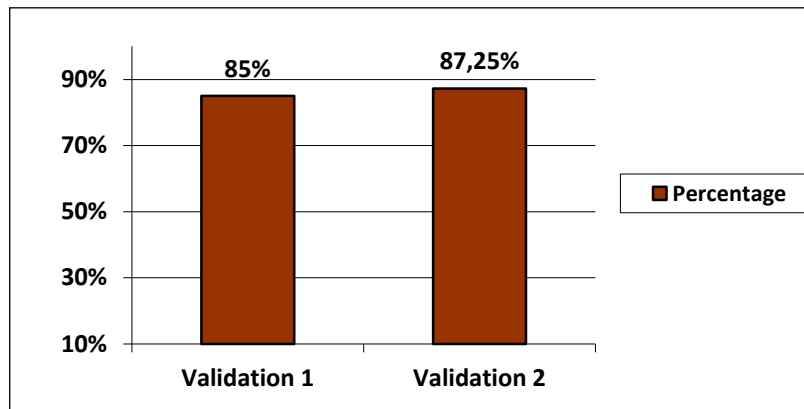


Figure 4: Response results and small group trials

After the product is completed and re-refined based on user input and suggestions, this book is suitable to use in the learning process in universities (Setryosari, 2012; Syaferi et al., 2022). The final product of such formulated textbook can be seen in the following figure 5.

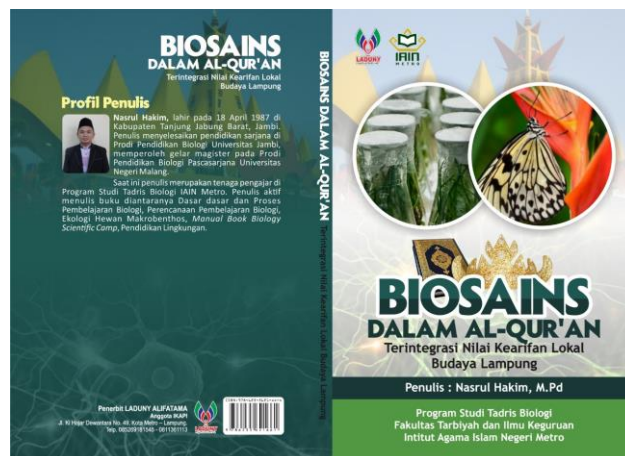


Figure 5: textbook product display

According to (Kholil, 2018), the guideline is about integration, which means combining biosciences, the Qur'an, and local wisdom. Islam as universal teaching should use as the primary reference for the science and cultural values resulting from human thought (Hasanah & Zuhaida, 2018; Kurniawan et al., 2019). This book equips with integration measures that include choosing a topic, determining the concept to be developed, and implementing the activities (Naja et al., 2021). Implementing this integrative learning is expected to create students who understand science, religion, and local wisdom (Irawan, 2016; Fithriani, 2020).

CONCLUSIONS

Based on results obtained in this line of research, it is therefore argued that developed teaching guidelines with 4D development model are valuable for learning. There is now considerable evidence from the validation results by material experts, media experts, and linguists. The overall validation results was considered Very Good. The trial results of the biology lecturer's response to the developed product fall into Very Good category. As well, the test assessment results of student responses to the Tadris Biology study program was considered Very Good. It proves that the learning media in the form of Biosciences textbooks in the Qur'an integrated with the value of local wisdom of Lampung culture is practical and easy to use in the biological learning process in the classroom.

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