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Development of High Botanical Module to Integrated Islam Toward Independence Student Learning

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Abstract: High plant botanical learning in Biology Tadris study program at IAIN Palangka Raya has not used integrated Islamic modules yet, it can be produced an impact on the learning outcomes achievement, there are 43.25% of students have not achieved on mastery learning grade. The purpose of this study was to produce a valid, practical and effective on the Islamic learning module for high plant botanical courses towards students' independence in using the module. This research used Research & Development and developed a method by using the ADDIE model with stages of Analyze, Design, Development, Implementation, and Evaluation. The results of this study indicated that the modules developed are suitable for use in high plant botanical lecture learning obtained from the validity scores of material experts 97.03% with very good or valid categories, design experts obtained 92.11% with good or valid categories, religious experts obtained 94, 14% with a good or valid category. The application based on observations of the implementation of learning modules obtained an average grade of 98.70% with very successful criteria. The value of practicality is obtained from student responses in using the average module percentage of 94.75% with practical criteria. The independence of students learning using questionnaires has obtained an average of 87.70%. The effectiveness of the application of the module is obtained from improving student learning outcomes with the N-Gain value of 0.7 with a high category compared to the control class of the N-Gain 0.2 with a low category

Keywords: development, modules, integrated Islam, learning independence

INTRODUCTION

Learning of high plant botanical in the Tadris Biology study program at the State of Islamic Institute (IAIN) in Palangka Raya has not used integrated Islamic modules yet, based on the Semester Learning Plan (RPS) the results of interviews with students who have taken these courses and lecturers. The student learning outcomes in high plant botanical courses have 43.25%, which means that they had not yet reached the mastery learning grade. Based on the observation, not all students are actively contributing to this learning. Students are only looking for information on their themes with limited references, and not actively discussing the themes to other groups. It can be shown that students are still unable to learn independently about the problem related to the learning themes.

Some of the various kinds of problems have been described so it is necessary to develop a high botanical plant module is integrated Islam towards independence student learning. Resolve the problem of education with an Islamic perspective approach dealing with student problems (Ismail, M., et al, 2013). The developed modules have validity, practicality, and effective for use in the learning process. The developed modules are systematically designed, efficient, and effective to help students in learning independently and linking the Qur'an and Hadith according to the RPS. Developed modules can be implemented to achieve goals (Hoffman, et al., 2016). The curriculum and learning in the Tadris Biology study program at the State Islamic Institute Palangka Raya are compiled by integrating Islamic values, although they still do not use books or modules that are integrated into Islam (Lestariningsih, N., et al, 2017). One example

organizations in Malaysia, integrated Islamic values into their policies (Wahab, M.A., et al, 2016). Learning at the University to integrate Islamic values is highly recommended and adhered to (Ahmad, A., et al, 2018).

Modules are a piece of printed teaching materials that can be used to support the learning process for students and lecturers. Modules are presented with an attractive design and equipped with the integration of Islamic values. The values contained in science religious values that can be developed by inserting verses of the Qur'an (kauniyah) and relevant to the discussion in the material (Latifah, 2015). Students are expected not only to study learning intellectually, but the religious values included in the material have additional values and become a differentiator between modules developed with other modules. Science learning integrated with Islamic values provides an opportunity to connect conceptual knowledge with their experiences in life as a Muslim, so learning becomes meaningful (Purwati, N., et al, 2018).

METHOD

The development of this module is based on the needs analysis carried out in the Tadris Biology Study Program of the State Islamic Institute (IAIN) Palangka Raya in the odd semester 2017/2018 academic year; which took 36 high-botanical courses. Development research used the ADDIE model (Analyze, Design, Develop, Implement, and Evaluate). The step of ADDIE's product of development is one of the most effective tools to date (Branch R.M, 2009).

The research instruments used tests, test questions that contain the understanding of material concepts and Islamic integration to measure the effectiveness products of the Islamic integrated high-plant botanical module. To measure product validity, the researcher a validation sheet to experts' validation consisting of material validation, validation of Islamic integration, and media or design validation. To measure the practicality of the product using two types of questionnaires, namely the questionnaire observations and the student response questionnaire. To measure the learning independence of students, the researcher using questionnaires based on the criteria of independence according to Knowles (Fisher, et al, 2001) described in the closed questionnaire-questions totaling 20 questions.

Analysis data by using qualitative and quantitative descriptive techniques, percentages and average values. The way to analysis module validation calculates the average score with the following formula.

$$(\bar{x}) = \frac{(\sum x)}{(n)}$$

Explanation:
$(\bar{x})$ = Average Score
$(\sum x)$ = Total score
(n) = Number of items

To convert quantitative mean scores into qualitative scores according to aspects of assessment (Widoyoko, 2009). The conversion of qualitative values can be seen in table 1. Guidelines for module rating classification.

Table 1. Guidelines for module rating classification.

Range of Score	Klasifikasi	Validity Information	practicality Information
$\bar{X} > 4,2$	Excellent	Very valid	Very practical
$3,4 < \bar{X} \le 4,2$	Good	Valid	Practical
$2,6 < \bar{X} \le 3,4$	Average	Neutral	Neutral
$1,8 < \bar{X} \le 2,6$	Fair	Valid enough	Practical enough
$\bar{X} \le 1,8$	Poor	Not valid	Not practical

The module practicality sheet is in the form of an implementation learning questionnaire based on the observer's assessment and the student's response to the developed module. Each answer item criteria analyzed by using a Likert scale with the category; strongly agree (5), agree (4), neutral (3), disagree (2), and very disagree (1). Then, add the total score as well as calculate the validation score and make a percentage. Determining the criteria for observing the implementation of learning using modules is in table 2.

Table 2. Criteria for implementing learning

Range of Score	Criteria
<40%	Failed
40% - 55%	Poor
56% - 79%	Fair
80% - 89%	Good
>90%	Excellent

Implementation of products on a large scale using the design of the experimental group and the control group (Nonequivalent Control Group Design), namely in this design the experimental group and the control group were not randomly selected (Sugiyono, 2016). The control group was treated using a module product and the control group was taught as usual without the help of modules.

Determine the practicality criteria as in table 1, if it has a practical or high range of X scores. If the achievement of $\bar{X}$ is under practical or high, it needs to be revised based on recommendations from the user. Then the practicality assessment is carried out again until a practical module is obtained. Measuring students' learning independence using the indictors of independence according to Knowles in (Fisher, et al, 2001) which is interpreted as a process in which a student is able; 1) take the initiative, either with or without the help of others to diagnose their learning needs, 2) formulate their learning goals, 3) identify learning resources, whether in the form of humans, or goods/materials, 4) choose and implement learning strategies suitable for themselves, 5) evaluate the learning outcomes. The total score obtained for the independence indicator is then made a percentage. To calculate the increase in student learning outcomes in learning using normalized gain (N-Gain).

The suitability of a product of development was able to be applied and beneficial to the user. The development of the result module to fulfill the characteristics of a good module (Daryanto, 2013). Making module designs, setting, implementing small-scale trials, large-scale revisions, and trials, then final revisions. As with the stages of research conducted by (Plomp, 2010), small-scale implementation is then carried out improvements and to get a more precise understanding of why development is carried out, then applied in a broader context. Module

development results are appropriate to be used in learning if they comply with request valid, practical, and effective requirements (Yulastri, A., et al, 2017).

A must-have characteristic of the self-instruction module, self-contained, stand-alone, adaptive, user-friendly. The modules produced in this study have gone through an expert validation process, where there are 2 material validation experts, 2 media expert validations, and 2 people validating religious integration. The results of the material validation data in stages 1 and 2 can be briefly. Revision of module stage 1 validator 1 about display the teaching material adapted to the learning objectives, Improve the learning activities adapted to RPS, fix the summary adapted learning objectives, Connect images with teaching material. Revision of module stage 1 validator 2 about fit discussion activities and evaluation questions with learning objectives and the concept map has been clarified based on RPS. Recommendation stage 2 Modules. The percentage of average score material validation results can be tested seen in table 3.

Table 3. Material validation results in stages 1 and 2

Material validation result	Percentage and criteria
Percentage of Average score	97,03 %
Criteria	**Very good/ Valid**

Learning innovation products through research and development (R & D) through the validation stage before the product used (Iriti, J., et al, 2016). Media or design expert validation aimed to test module presentation or display. Validators of this module design expert were lecturers who master the IT (Technology Information), media, and Biology learning techniques. Revision stage 1 from design validator about repair the layout into two columns, adjust the image and each picture is given a table and change the font to *Book Antiqua.* No repairs stage 2 and recommendation the module can be tested. The results of percentage of validation by media experts can be seen in table 4.

Table 4. Results of design validation in stages 1 and 2

Design validation result	Percentage and criteria
Percentage of Average score	92,11 %
Criteria	Valid

The validation of the value of Islamic integration or religious validation aimed to examine the suitability of the relationship between the subject matter of the material with the verses of the Qur'an and hadith that have been published in the module material. The Qur'an and Hadith are used as the main sources to show evidence of these values based on Islam (Wahab, M.A., et al, 2016). High plant botanical material contained the theoretical and literary foundations in the Qur'an and Hadith as a form of integration with Islamic values. Based on the input from the validator, the religious expert provided input on the interpretation of Al-Qur'an from Ibn Katsir and the selection of verses related to the module material. As for validator value of Islamic integration that is appointed is the lecturer of *tafsir* (interpretation). Revision from validator of Islamic integration stage 1 about improving the Qur'anic verses from Quraish Shihab to Ibn Katsir, add several hadiths to the teaching material in the module and making improvements by replacing the selection of verses of the Qur'an which are more related to the material of the

module. Recommendation stage 2 the module can be tasted and revision no repairs. The results of the validation expert data on Islamic integration were seen in table 5.

Table 5. Validation results of Islamic integration in stages 1 and 2

Islamic integration validation result	Percentage and criteria
Percentage of Average score	**94,14%**
Criteria	**Good/Valid**

During the learning activities, the implementation or application of learning using modules was observed by the observer. Implementation of implementing on learning data uses direct observation was done by (Sudarmana, D., et al, 2017) and saw the implementation of learning services using field observations (Chien, C.W., 2017). The observer in this study amounted to 3 people, each observer observed the implementation of student learning in the experimental class during the learning process. Observers' assessment of the applicability of learning using modules can be seen in Table 6.

Table 6. Implementation of learning using modules

	Observer		
	1	2	3
	98,36	98,77	98,97
Average	98,70		
Criteria	Successful		

After studying the material in the module, students were asked to fill out questionnaires on student responses to the developed modules. The results of the response of small scale students showed an average score of 3.71 or 92.75% with practical criteria while the large scale experimental class showed an average score of 3.79 or 94.75% with practical criteria.

The effectiveness of the developed module can be seen from the effect of using the module on student learning outcomes and effective for achieving learning goals (Yulastri, A., et al, 2017). The data of student learning outcomes using modules shown that student cognitive learning outcomes in the experimental class, it can be seen that there was an increase in student learning outcomes after using the module. The results of the student pretest and posttest data were shown in Figure 1. The value graph of the learning outcomes of the following experimental class.
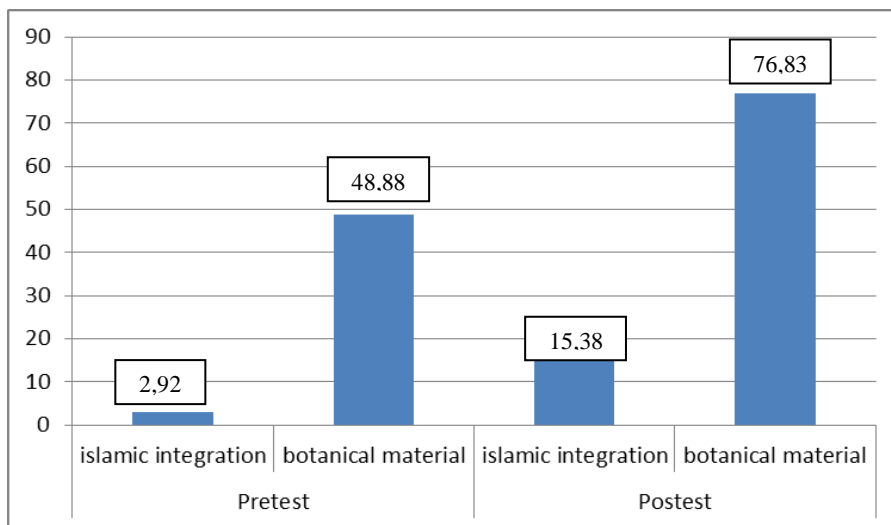

Figure 1. Value graph of experimental class learning outcomes

The developed module can be used independently because it contained material clarity accompanied by a map of concepts, exercises, assignments, and evaluations (self-instructional). Measuring student independence using five criteria in the form of a questionnaire consisting of 20 positive and negative questions, each question has a score of 1 to 5. The results of the acquisition score of student independence aspects can be seen in table 7.

Table 7. The average score of student independence

No.	Criteria	Average Score	Percentage of Total Score
1.	Take the initiative, both with or without the help of others to diagnose their learning needs	4,41	17,40
2	Formulate learning goals	4,43	13,30
3	Identify learning resources, whether in the form of humans or goods/materials	4,50	13,30
4	Able to choose and implement learning strategies that are suitable for him/her	4,23	13,70
5	Evaluate learning outcomes	4,37	16,90
	Total	26,43	87,70

The criteria for independence student learning according to Knowles in (Fisher, et al, 2001). The percentage of independence student learning obtained 87.70% has an impact on high satisfaction with personal efforts, uninterrupted interest and attention, and a stronger self-confidence compared to students who only learn passively. Students who have high independence learning tend to learn better, we're able to monitor, evaluate, and manage their learning effectively and efficiently, so that they get high scores on their learning outcomes.

The resulting module gives influence to students, able to provide benefits and master the learning objectives or activities in the module by Madihie, A., & Noah, S.M (2013). Student learning outcomes are increase and able to carry out activities and evaluations after using high-tech integrated botanical plants independently of Islam. Improved learning outcomes are shown in the acquisition of N-Gain values. The N-Gain value is obtained from increasing student learning outcomes between the pre-test and post-test in the experimental and control classes. The difference between the N-Gain control class and the experimental class can be seen in Figure 2. The N-Gain control and experiment class graph.
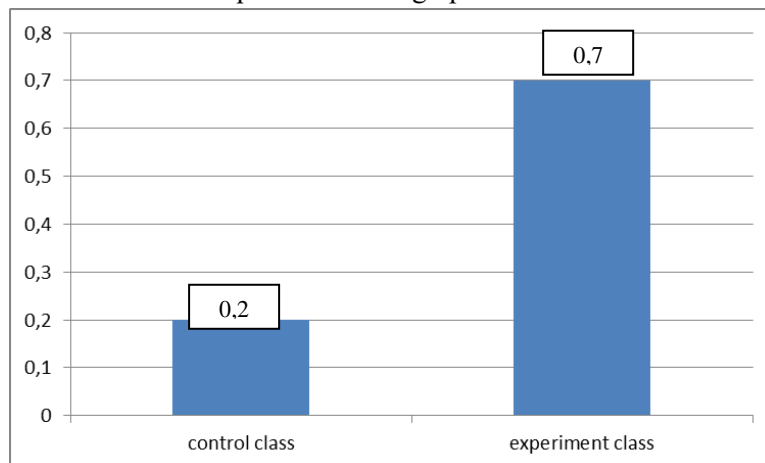

Figure 2. The N-Gain control and experiment class graph.

The difference in N-Gain values shows that there is a significant increase in learning outcomes in the experimental class using integrated Islamic modules. The N-Gain value of the control class 0.2 is included in the low category. The experimental class 0.7 N-Gain values are included in the high category.

CONCLUSIONS

Based on the results of research and development of integrated high botanical modules on student learning independence, it can be concluded that:

1. Modules were declared valid by material validators with validity values of 97.03% with very good or valid categories because they contain material that accordance with the learning outcomes or basic competencies outlined in the indicators of achievement of course learning. Modules declared valid by media or design experts obtained a validity value of 92.11% with a valid or good category because the module contains aspects of the media including clarity of the instructions for using the module, readability of text or letters, quality of image display, use of attractive images, and proper color selection. Modules were declared valid by experts in Islamic integration with validity values of 94.14% with good or valid categories because the module contains the compatibility of the verses of the Qur'an and Hadith with high plant botanical material. The developed module was declared valid based on the validation provided by the validator.

2. Modules were stated to be practically based on the assessment of the feasibility of learning with the acquisition of a percentage of 94.75% observed by the observer that was done very well because students are actively involved in learning. Modules were also stated to be practically based on students' positive responses in terms of the level of convenience students use.

3. Modules were declared effective from the acquisition of the value of applying the module based on improving student learning outcomes with the N-Gain value of 0.7 with a high category compared toward the control class of N-Gain 0.2 with a low category.

4. The independence of students learning using questionnaires was obtained an average of 87.70%.

ACKNOWLEDGMENTS

REFERENCES

Ahmad, A., Sulan, N., & Abdul Rani, A. (2017). Integration of learning organization ideas and Islamic core values principle at university. *The Learning Organization*, *24*(6), 392-400. DOI:10.1108/TLO-05-2017-0051

Branch, R. M. (2009). Instructional design: The ADDIE approach (Vol.722). Springer Science & Business Media.

Chien, C. W. (2017). Undergraduates' implementations of learning stations as their service-learning among elementary school students. *Education 3-13*, *45*(2), 209-226. DOI:10.1080/03004279.2015.1074601

Daryanto. 2013. *Compiling the Teaching Materials Module for Teacher Preparation in Teaching*. Yogyakarta: Gava Media

Fisher, M., King, J., & Tague, G. (2001). Development of a self-directed learning readiness scale for nursing education. *Nurse education today*, *21*(7), 516-525.

Hoffman, K., Leupen, S., Dowell, K., Kephart, K., & Leips, J. (2016). Development and assessment of modules to integrate quantitative skills in introductory biology courses. *CBE—Life Sciences Education*, *15*(2), ar14.

Iriti, J., Bickel, W., Schunn, C., & Stein, M. K. (2016). Maximizing research and development resources: identifying and testing "load-bearing conditions" for educational technology innovations. *Educational Technology Research and Development*, *64*(2), 245-262. DOI:10.1007/s11423-015-9409-2

Ismail, M., Rahim, P. R. M. A., & Yusoff, M. S. M. (2013). Educational strategies to develop discipline among students from Islamic perspectives. *Procedia-Social and Behavioral Sciences*, *107*, 80-87. DOI:10.1016/j.sbspro.2013.12.402

Latifah, S. 2015. Development of Integrated Integrated Science Module Al-Qur'an Verses on Water Material as a Source of Life. *Jurnal Ilmiah Pendidikan Fisika Al-*Biruni 4 (2): 155-164.

Lestariningsih, N., et al. (2017). Integration of Islamic Values in Curriculum and Lectures in the Biology Tadris Study Program. *Edu Sains: Jurnal Pendidikan Sains & Matematika*, 5(2), 39-49.

Madihie, A., & Noah, S. M. (2013). An application of the Sidek module development in Rebt counseling intervention module design for orphans. *Procedia-Social and Behavioral Sciences*, *84*, 1481-1491. DOI:10.1016/j.sbspro.2013.06.777

Plomp, T., & Nieveen, N. M. (2010). *An introduction to educational design research: Proceedings of the seminar conducted at the East China Normal University, Shanghai (PR China), November 23-26, 2007*. Stichting Leerplan Ontwikkeling (SLO).

Purwati, N., Zubaidah, S., Corebima, A. D., & Mahanal, S. (2018). Increasing Islamic Junior High School Students Learning Outcomes through Integration of Science Learning and Islamic Values. *International Journal of Instruction*, *11*(4), 841-854.

Sudarmana, D., & Sutopoa, Y. (2017). The formation of conservation-based behavior of mechanical engineering students through the contextual learning approach. *International journal of environmental & science education*, *12*(4), 617-627.

Sugiyono. (2016). *Metode Penelitian Kuantitatif Kualitatif dan R&B*. Bandung: Alfabeta.

Wahab, M. A., Quazi, A., & Blackman, D. (2016). Measuring and validating Islamic work value constructs: An empirical exploration using Malaysian samples. *Journal of Business Research*, *69*(10), 4194-4204. DOI:10.1016/j.jbusres.2016.03.005

Widoyoko, E. P. 2009. *Evaluation of Learning Programs Practical Guide for Educators and Prospective Educators*. Yogyakarta: Pustaka Belajar.

Yulastri, A., & Hidayat, H. (2017). Developing an Entrepreneurship Module by Using Product-Based Learning Approach in Vocational Education. *International Journal of Environmental and Science Education*, *12*(5), 1097-1109.

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