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# Development of Integrated Science Learning Module of Religious Value to Develop Independent Characters For Students

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## Abstract

*In learning activities that are the main focus is recognizing the character of students to determine learning resources or teaching materials that will be used in the learning process so that the objectives of the learning can be achieved. But in reality, there are still many parties who are not aware of this. So that the teaching materials used have not been able to develop the character possessed by students fully. One of the ways to develop the character of students in school is to integrate character education and religious values into integrated learning. The purpose of this study is to determine the feasibility of the learning module that will be used by students. The study uses the Research and Development (R&D) 4D model. The results of the study showed that the numbers obtained from design experts were 70.45%, material experts 75%, and linguists 75%, and student assessment results were 86.11%. At the testing stages, the average posttest has increased by 7.20690. Thus, the integrated IPA learning module is worthy of religious values used to develop students' independent character based on their level of feasibility.*

**Keywords***: Independent Character, Module, Religious Integration*

## 1. Introduction

Learning means any activity designed to help someone learn new abilities and values. The learning process that initially asks the teacher to know the basic abilities possessed by students include their basic abilities, motivation, academic background, and so on. The readiness of teachers to recognize student characteristics in learning is the main asset for the delivery of learning materials and is an indicator of the success of the implementation of learning (Huda, 2014: 4-5).

From this explanation, it can be seen that in learning activities, the main focus is to recognize the character of students to determine learning sources or teaching materials to be used in the learning process so that the objectives of the learning can be achieved. But in reality, there are still many parties who are not aware of this, so that the teaching materials used have not been able to develop the character of the students fully.

One of the written teaching materials that are included in the category of printed teaching materials prepared in paper form that can function for learning and conveying information is a module. The module is a teaching material that is systematically arranged in language that is easily understood by students according to their level of knowledge and age so that they can learn on their own (independently) with minimal help or guidance from educators (Prastowo, 2014: 106)

Modules that can be used by students in learning activities are modules that describe the basic competencies to be achieved by students so that they must be presented in language that is easy to understand, attracts interest in learning, and is equipped with illustrations; therefore, learning modules can be arranged and designed according to the needs of the teacher. And students.

Meanwhile, in the reality of education in the field, many educators still use conventional teaching materials, namely teaching materials that just buy and use without planning and arranging what targets or competencies the students will achieve. Educators also have not been able to keep up with the provision of material accompanied by the cultivation of moral and religious values so that this is often overlooked even though moral and religious values are equally important to continue to be given to students so that students do not deviate from predetermined religious teachings.

One way to develop student character in schools is to integrate character education and religious values into integrated science learning (Susanto, 2017). According

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to Listyawati (Izzati et al., 2013: 184), integrated science learning is a mandate of Permendiknas number 22 of 2006, which states that science learning is carried out by combining the fields of physics, chemistry, and biology studies. Through integrated science learning, students can be more active in the process of teaching and learning activities in schools. In addition, students are also trained to be able to find out for themselves various concepts that are studied thoroughly (holistically), meaningful, authentic, and active.

The results of research conducted by Nurjanah (Nurjanah et al., 2018) in the Scientific Journal of Basic Education show that integration in general subjects, especially science and Islamic values, is carried out to improve children's character. This integration is carried out through a product developed by the author in the form of a module as a supplement to the teacher's teaching materials in the learning process. The principle used to compile the product is to combine two different things between science as general science and Islamic values as provisions to improve the nation's children's character (Maryono et al., 2018), (Wuryandani et al., 2016), (Nasution, 2018).

Based on this explanation, the researcher conducted a feasibility test for the integrated science learning module of religious values to develop an independent character. The purpose of this study was to determine the feasibility of the learning modules that will be used by students. Three expert validators and students carried out the feasibility test as users of the integrated science learning module of religious values.

## 2. Method

This research uses the research and development method or commonly known as Research and Development (R&D). Research and development is a process or steps to develop a new product or improve an existing product, which can be accounted for (Sukmadinata, 2011: 184-187). To be able to produce certain products used research that is needs analysis and to test the effectiveness of these products so that they can function in the wider community, research is needed to test the effectiveness of these products (Sugiyono, 2014: 407). The Research and Development (R & D) research method used is a method simplified by Nana Syaodih Sukmadinata into three stages of research. The three stages include the preliminary study stage, the model development stage, and the model test stage. At the model development stage, the products that have been compiled are assessed by a team of experts (validators). The validator consists of three experts according to the required assessment aspects, namely the design validator, the material validator, and the language validator.

This research was conducted at SDN Menteng, Bogor City, in the even semester of the 2018-2019 academic year starting from March to April. The number of samples from this study was 62 grade 5 students who were divided into two classes, namely the experimental class with 29 students and the control class with 33 students. Before starting learning, the same pretest is given, and after completing the entire learning, the subject is also given the same posttest. The experimental class is a class that is given treatment by using modules in learning activities as well as assessing the feasibility of these modules, while the control class is a class that is not given treatment and only uses books provided by the government in learning activities. The technique of collecting data is by using a research instrument in the form of a questionnaire.

## 3. Result and Discussion

The feasibility aspect of the integrated science learning module of religious values, the researcher explained the results of the validation that had been carried out by the validator with expert validators, which included validation of design experts, validation of material experts, validation of linguists and the results of assessments from respondents or students. The calculation results of each expert are obtained based on the formula:

$$Percentage = (Score/\ maximum\ score) x\ 100$$

The eligibility criteria for the science learning module used are validity to revise the science learning module. This criterion is used by researchers as a guide to see the validity level of the learning module used.

**Table 1.** Score Interpretation Criteria

| Percentage (%) | Qualification | Eligibility Criteria |
|---|---|---|
| 81%-100% | Very Valid | No Revision |
| 61%-81% | Valid | No Revision |
| 41%-60% | Enough Valid | Needs Revision |
| 21%-40% | Less Valid | Revision |
| 0%-20% | Very Less Valid | Total Revisions |

Based on the table above regarding the feasibility level of the learning module, it is declared valid if the learning module meets the appropriate criteria with a score of 61-100% of all the elements contained in the questionnaire used to validate, namely the questionnaire for design experts, material experts, linguists and respondent assessments .

Before analyzing the data from the observations, the data was first tested for normality and homogeneity to

determine whether the data used was normally distributed or not with a α level of 0.05.

Ho: samples are normally distributed.

Ha: the sample is not normally distributed.

This conclusion is based on the significant level obtained is greater than 0.05, then Ho is accepted and if the significant level is less than 0.05, then Ha is accepted and Ho is rejected.

### 3.1. Design Expert Validation Results

The results of the design expert validation are in the form of module assessments as seen from the aspects of the design and appearance of the learning module. The results obtained from the design expert's assessment will later be used as material for revising the product before it is used in the validation trial stage. The design expert who became the validator was Mr. Muhammad Fahri, S.S., M.Pd.I. He is the secretary of the Madrasah Ibtidaiyah Teacher Education Study Program, Faculty of Islamic Studies, Ibn Khaldun University, Bogor and is also one of the lecturers in the study program.

Validation data obtained by providing a validation questionnaire in the form of design and appearance aspects. Design experts see and try the product being developed. The validator provides an assessment, and comments and suggestions to the developer which will later be used as evaluation material to revise the learning module product.

Based on the results of the assessment, the score obtained is 62 from the maximum score of 88. If the results are converted into a percentage, the results will be 70.45%. By rounding off the value to 70%. This rounding of values is done because in Table 1. the qualification level of the feasibility uses the percentage value using integer numbers, the results of this validation indicate valid criteria.

The next stage is that design experts provide comments and suggestions for the developer of the integrated science learning module with religious values such as, the color on the background is too dark, the use of image icons must match the basic color to make it look harmonious, and the use of fonts must be proportional. From some of these comments, the researcher made revisions according to the suggestions given.

### 3.2. Material Expert Validation Results

The material expert provides an assessment in the form of aspects of the feasibility of the content and presentation of the material contained in the learning module. The results of the assessment from the material experts obtained will later be used as material for revising the product before it is used in the validation trial stage. The material expert who became the validator was Mrs. Retno Triwoelandari, Ir., M.Pd. He is one of the lecturers of the Madrasah Ibtidaiyah Teacher Education study program, Faculty of Islamic Religion, Ibn Khaldun University, Bogor.

Validation data obtained by providing a validation questionnaire in the form of aspects of content and presentation feasibility. The material expert studied the learning material for 5th grade elementary school students and the verses of the Al-Qur'an which were in accordance with the 5th grade science material for the product being developed. The validator provides an assessment, and comments and suggestions to the developer which will be used as evaluation material to revise the learning module product.

Based on the results of the assessment the score obtained is 90 out of the maximum score of 120. If the results are converted into a percentage, the results will be 75%, the validation results indicate valid criteria. The next stage, namely the material expert provides comments and suggestions for the developer of the integrated science learning module of religious values, among others, the improvement of words (typos) and several meanings of words in the glossary. From these comments, the researcher then revised the module according to the advice given by the expert.

### 3.3. Linguist Validation Results

This linguist validation is in the form of an assessment that is seen in terms of language and writing in the learning module. The linguist who became the validator in the language assessment was Mrs. Salati Asmahasanah, M.Pd. Researchers choose language experts according to their fields of expertise. He is one of the lecturers of the Madrasah Ibtidaiyah Teacher Education study program at the Faculty of Islam, Ibn Khaldun University, Bogor.

The data from the validation results were obtained by providing a validation questionnaire in the form of aspects of the feasibility of the language in accordance with the rules of the Indonesian language. Material experts see and read the learning module products and then provide ratings and comments and suggestions to the developer which will later be used as evaluation material to revise the learning module products.

Based on the results of the assessment the score obtained is 36 out of the maximum score of 48. If the results are converted into a percentage, the results will be 75%, the results of this validation show valid criteria. The next stage, namely the linguist providing comments and suggestions for the developer of the integrated science learning module of religious values, among others, the sentence question number 1 on page 3 is not appropriate for elementary school students and it is suggested to add introductory sentences from the material presented to the verses of the Al-Quran. . From these comments and suggestions, the researcher revised

the learning module so that it could be used properly by the target.

### 3.4. Student Validation Results

After being assessed by the validators, the learning module is then assessed in terms of interest, material, and language by the students. Students who carried out the assessment totaled 29 students in the experimental class. This validation result data was obtained by providing a validation questionnaire in the form of aspects of interest, material, and language. The following is data from the results of student assessments:

**Table 2.** Student Assessment Results Data

| No | Statement | Score |
|---|---|---|
| 1 | The module display is interesting to look at | 108 |
| 2 | The instructions for each chapter are written clearly | 110 |
| 3 | The writing on the module is easy to read | 106 |
| 4 | The language used is simple and easy to understand | 106 |
| 5 | The material contained in the module is clear | 105 |
| 6 | Pictures and materials are presented clearly | 102 |
| 7 | There is a relationship between the images presented and the subject matter | 85 |
| 8 | The exercises and assignments are written clearly in the module | 100 |
| 9 | Experimental activities in the module are easy to do | 93 |
| 10 | Experimental activities and practice questions in the module can increase my knowledge | 98 |
| 11 | The verses of the Koran are presented according to the material | 103 |
| 12 | The material in the module is written in order and neat | 100 |
| 13 | Al-Quran verses and Islamic stories can add to my understanding of the greatness and power of Allah SWT. | 112 |
| 14 | There are practice questions at the end of each lesson | 92 |
| 15 | There is an answer key on each practice question | 97 |
| 16 | In this module there are several sections for me to discover my own concept | 88 |
| 17 | This module makes me enjoy studying science | 101 |
| 18 | Using this module can make learning science less boring | 92 |
| | Total Score | 1798 |
| | Maximum Score | 2088 |

The result of the calculation shows that the score is 1798 from the maximum score of 2088, then the result is converted into a percentage, the figure is 86.11%. This figure shows the validation results invalid criteria. Based on the results of this validation test, it can be concluded that the feasibility of the science learning module is integrated with religious values to develop independent character in the proper criteria.

To find out the improvement of students' independent character after learning using the learning module, the researcher conducted observations in two groups of class 5, namely the experimental class and the control class at SDN Menteng, Bogor City, with a total sample of 62 students who were carried out by means of observation in the form of data collection on the pretest and posttest values regarding the independent character of students by using the integrated science learning module of religious values. The real results of increasing the independent character can be seen with calculations using the SPSS 20 for window software. the calculation of the paired sample t-test in the experimental class can be seen that the average difference between the pretest and posttest results in the experimental class is -7.20690. The minus sign (-) means that the posttest result is greater than the pretest result. The result of the calculation of the "t" value in the experimental class is 28.274 with a p-value of 0.000 sig (2-tailed). This means that Ho is rejected and Ha is accepted. So it can be concluded that there is a statistically significant difference between the pretest and posttest mean results.

the calculation of the paired sample t-test in the control class, it can be seen that the average difference between the pretest and posttest results in the control class is -3.54545. The minus sign (-) means that the posttest result is greater than the pretest result. The result of the calculation of the value "t" in the control class is 10.098 with a p-value of 0.000 sig (2-tailed). This means that Ho is rejected and Ha is accepted. So it can be concluded that there is a statistically significant difference between the pretest and posttest mean results. The results of the mean difference between the two classes show the difference before and after. The assessment also increased, but the bigger increase was in the experimental class. This means that there is an increase using the integrated science learning module of religious values.

Based on the results of the pretest and posttest on the calculation of the paired sample t-test regarding the value of the experimental class and the control class, the analysis can be carried out using the independent sample

t-test to determine the results of the posttest calculations in the control class and the experimental class.

, the average experimental class and control class average is 4.31243. These results were obtained from respondents from the experimental class and the control class, totaling 62 respondents, and the sig (2-tailed) result of 0.000. Then Ha is accepted and there is a significant difference between the posttest of the experimental class and the posttest results of the control class which means that there is an increase in the independent character of the students. So it can be concluded that the integrated science learning module of religious values to develop independent character is feasible to use.

The product development in the form of a learning module has gone through an assessment process to determine the feasibility level of the learning module. The assessment is carried out by the validator in accordance with their respective expertise. This learning module is assessed by material experts, linguists, design experts, and student assessments and has been used in the testing phase in the experimental class. The results are then converted to a percentage scale based on the qualification level of the validity level listed in Table 1. This assessment is carried out for decision making in revising the learning module products that have been developed.

Guidelines for assessment criteria refer to the National Education Standards Agency (BSNP) by looking at several aspects of the assessment in terms of content feasibility and presentation feasibility assessed by material experts, language aspects assessed by linguists, and in terms of design assessed by design experts.

The results of this validation show that the learning module product falls into the valid or suitable category for use by looking at the score interpretation qualification guidelines. This module is declared valid if it gets results> 60. Even though it has been declared valid, this learning module is still revised according to comments and suggestions from experts.

Based on the results of the questionnaire that was given to the material experts, the percentage results were 75%, the linguists obtained a percentage of 75%, and the design experts obtained a percentage of 70.45% and respondents in the field test in the validation test stage obtained a percentage result of 86, 11%. This shows that the learning module falls into the valid criteria but needs to be revised according to comments and suggestions from experts. In addition, students are very enthusiastic about the learning module and the learning objectives are achieved with the assistance of using an integrated science learning module with religious values. This shows that with the validation results of 86.11% the learning module is designed so that learning objectives can be achieved. Based on the results of the explanation regarding the independent character of students using the integrated science learning module with religious values, it shows that there is an increase in the average result after using the integrated science learning module with religious values. In addition, with this learning module, students become active and do not depend on the teacher and can solve their own problems in learning activities, this is as explained by Prastowo (2014: 108) states that there are several objectives for the preparation or creation of modules, including: 1) So that students can learn independently without or with the guidance of educators; (2) So that the role of educators is not too dominant and authoritarian in learning activities.

## 4. Conclusion

Based on the results of the assessment of the validator experts and data analysis that has been carried out by researchers, it can be concluded that the appropriateness of the integrated science learning module of religious values to develop independent character can be said to be valid or feasible and can be used by students in the learning process. It based on result of the preliminary study stage, the model development stage, and the model test stage. The use of learning modules can improve the independent character of grade 5 elementary school students. Through learning using the independent character module, students are more visible than students who only learn using textbooks provided by the government.

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## Reference

Huda, Miftahul. (2014). *Model-Model Pengajaran dan Pembelajaran*. Yogyakarta: Pustaka Pelajar.

Izzati, N, dkk. (2013). Pengembangan Modul Tematik dan Inovatif Berkarakter pada Tema Pencemaran Lingkungan untuk Siswa Kelas VII SMP. Jurnal Pendidikan IPA Indonesia: Volume 2 Nomor 2 Oktober 2013.

Maryono, Budiono, H., & Okha, R. (2018). Implementasi Pendidikan Karakter Mandiri Di Sekolah Dasar. *Jurnal Gentala Pendidikan Dasar*, *3*(1), 20–38. https://doi.org/10.22437/gentala.v3i1.6750

Nasution, T. (2018). Kemandirian, Siswa dan Pendidikan Karakter. *Ijtimaiyah*, *2*(1), 1–18.

Nurjanah, F., Triwoelandari, R., & Nawawi, M. K. (2018). Pengembangan Bahan Ajar Tematik

Terintegrasi Nilai-Nilai Islam dan Sains untuk Meningkatkan Karakter Religius Siswa. *Pendas : Jurnal Ilmiah Pendidikan Dasar*, *3*(2), 178–181.

Prastowo, Andi. (2014). *Panduan Kreatif Membuat Bahan Ajar Inovatif*. Jogjakarta: DIVA Press.

Sugiyono. (2015). *Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta.

Sukmadinata, Nana Syaodih. (2011). *Metode Penelitian Pendidikan*. Bandung: PT Remaja Rosdakarya.

Susanto, T. Y. (2017). *Pendidikan karakter mandiri pada peserta didik pendidikan kader desa brilian banyumas skripsi*. Universitas Negeri Semarang.

Wuryandani, W., Fathurrohman, F., & Ambarwati, U. (2016). Implementasi Pendidikan Karakter Kemandirian Di Muhammadiyah Boarding School. *Jurnal Cakrawala Pendidikan*, *15*(2), 208–216. https://doi.org/10.21831/cp.v15i2.9882