Validating the design of integrated science-tafseer learning model

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Abstract. The purpose of this study is to obtain the eligibility of integrated science-tafseer learning model design. The type of this research is descriptive research with data analysis using descriptive statistics. The respondents of this study are tafseer lecturers and science lecturers at IAIN Salatiga, Indonesia. The data was collected using the Likert scale questionnaire method. The technique of data analysis was by calculating the average research assessment score conducted by three experts then interpretation was done on the resulting categorized average score. The results showed the average score of assessment on the concept of integrated science-tafseer learning model, namely on the indicators of model rationality, model characteristics, elements of model stages, elements of personal tasks, psychological benefits and physiological benefits, by three experts (science, tafseer and model experts) was 4.58 (very well). Thus the design of integrated science-tafseer learning model is suitable to be used in learning because it has fulfilled the relevance and consistency aspects and contributes to the understanding of integrated science-tafseer for students of Natural science education study program.

1. Introduction

Tafseer is one of the religious courses that must be fulfilled by students, especially in the Natural Science Education Study Program, Faculty of Tarbiyah and Teachership Sciences at IAIN Salatiga. Based on the survey conducted by researchers, it showed that the ability of students in science-tafseer has not been maximized. The reason is because tafseer learning has not been taught in an integrated manner between the Qur’an and science. According to Forgaty [1], "Integrated models are involving interdisciplinary team discussion when planning curriculum". Forgaty's opinion strengthens that integrated learning involves interdisciplinary experts, including when planning the curriculum. According to Trianto [2], the basic principles of integrated learning are grouped as follows: exploring the themes, management of learning, evaluation and reaction. Based on the description of expert opinions above, the authors concluded that the learning of integrated science-tafseer should be preceded by the arrangement of learning plan involving tafseer lecturers and science lecturers in order to explore scientific cues, themes, management of learning, student evaluation and reactions, as well as direct meaningful learning. The
results of research by Saputro [3] explained that the integrated science-ta'feer learning model has its own stages in its implementation. The outline of the stages of integrated science-ta’feer learning model consists of four stages, namely: presentation of scientific cue concepts, exploring the integrated science-ta’feer materials, discussion and communication concerning the integrated science-ta’feer materials, and instructional impact of integrated science-ta’feer learning. In addition, the results of Saputro et al. research also showed that the study program-based integrated science-ta’feer learning is effective in improving the science-ta’feer learning outcomes of students at the Natural Sciences Education Study Program, Faculty of Tarbiyah and Teachership Sciences, IAIN Salatiga (paired t-test = 12.684, p = 0.00 < 0.05). It is also evident in Saputro [4] research that the stages of the concept of scientific cues in the development of integrated science-ta’feer learning model have been tested and can effectively improve the outcomes of integrated science-ta’feer learning on food themes of students at the Natural Science Tadrees, Faculty of Tarbiyah and Teachership Sciences, IAIN Salatiga.

Based on the real conditions, theories and results of research relevant to the learning of integrated science-ta’feer, this research, titled validating the design of integrated science-ta’feer learning model aims to obtain the eligibility of integrated science-ta’feer learning model product from the focus group discussion on the results of development that done by researchers through the assessment on model design by experts, namely model, ta’feer, and science experts. This is in accordance with the research of Dewi, et. al [5] which stated that the learning model developed in research needs to be validated by experts. Furthermore, according to research by Sulistiyani et al. [6], it stated that the results of validation are intended to determine the eligibility of a product and obtain suggestions for improvements from the validators. Susongko [7] showed that the adequacy of validity covers several aspects: content, substantive, structural, external and consequential. Thus the results of expert validation in this study can provide the eligibility of integrated science-ta’feer learning model design which can then be implemented factually and contribute to integrated science-ta’feer learning for lecturers and students of the Natural Sciences Education study program.

2. Methods

This descriptive-typed research used descriptive statistical data analysis. Descriptive statistical analysis is the presentation of data through tables, graphs, pie charts, pictograms, calculations of modes, medians, means, deciles, and percentiles, calculations of data distribution through calculations of averages and standard deviations, and calculations of percentages (Sugiyono, 2009) [8]. The respondents of this study were model, ta’feer and science experts. The research instrument was a Likert scale questionnaire to assess the integrated science-ta’feer learning model. The technique of data analysis was by calculating the average scores of results of the assessment on the model from three experts (model, ta’feer and science), determining the frequency distribution and interpreting in the categorization. This is in accordance with the research conducted by Puspitawati & Mawardi [9] which stated that the validity of integrated thematic learning design is analyzed using descriptive categorical expert tests and percentage tests.

3. Results and Discussion

Validation test on the design of integrated science-ta’feer learning model was carried out using a model design assessment by experts (model, science and ta’feer experts). Rahmawati & Irvan (2019), Widodo, Sudibyo & Sari (2018), Rahmawati, Rustaman, Hamidah & Rusdiana (2018), Sjaifuddin, Hidayat, Fathurrohman, Ardie, & El Islami (2019), Widiyatmoko & Shimizu (2019) show the validation of research products is the role of the expert [10-14]. The results of validation test on the design of integrated science-ta’feer learning model are as follows.
3.1 The results of assessment on the design of integrated science-tafseer learning model by model, science and tafseer experts.

The results obtained from the assessment on the design of integrated science-tafseer learning model by education model/management expert from Semarang State University, science expert from Semarang State University and tafseer expert from IAIN Salatiga are shown in Table 1.

**Table 1.** The Results of Assessment on the Concept of Integrated Science-Tafseer Learning Model

| No | Assessment Aspect            | Average (n=3) | Explanation   |
|----|-------------------------------|---------------|---------------|
| 1  | Rationality of the model      | 4.67          | Very Good     |
| 2  | Model characteristics         | 4.78          | Very Good     |
| 3  | Elements of model stages      | 4.00          | Good          |
| 4  | Elements of personal tasks    | 4.33          | Good          |
| 5  | Psychological benefits        | 5.00          | Very Good     |
| 6  | Physiological benefits        | 4.67          | Very Good     |
|    | Average                       | 4.58          | Very Good     |

Source: Research Data of the Authors (August 2018)

Based on Table 1, the average score of assessment on model design with assessment aspects of model rationality, model characteristics, elements of model stages, elements of model tasks, psychological benefits and physiological benefits is 4.58 (very good). The highest average score of expert assessment on the design of integrated science-tafseer learning model is on the aspect of psychological benefits, namely: 5.00 (very good). While the lowest average score is in the aspect of elements of model stages, namely: 4.00 (good). As for the frequency of average scores of assessment on model design is shown in Table 2.

**Table 2.** Frequency of Average Scores of Assessment by Model, Tafseer and Science Experts

| Frequency | Percentage | Valid Percentage | Cumulative Percentage |
|-----------|------------|------------------|-----------------------|
| Valid     | 4          | 16.7             | 16.7                  | 16.7                  |
|           | 4.33       | 16.7             | 16.7                  | 33.3                  |
|           | 4.67       | 33.3             | 33.3                  | 66.7                  |
|           | 4.78       | 16.7             | 16.7                  | 83.3                  |
|           | 5          | 16.7             | 16.7                  | 100.0                 |
| Total     | 6          | 100.0            | 100.0                 |                       |

The average scores of assessment on learning model design by three experts are clearly shown in Figure 1.
The field test results of the integrated science-tafseer learning model in order to obtain the eligibility of the model in the field are as follows: (1) assessment on the concept of the model by tafseer, science and model experts with indicators of model rationality, model characteristics, elements of model stages, elements of personal tasks, psychological benefits and physiological benefits generated an average value of 4.58 or included in the very good category, so it can be stated that the design of integrated science-tafseer learning model is eligible to be implemented in the field. This is in line with Muliyati et al. [15], Indramaji et al. [16] which stated that the results of validation on learning devices fall in the good category and are feasible to be implemented in learning. Whereas Asrizal et al. [17] showed that the high-quality product validity has met the criteria of relevance and consistency.

4. Conclusion

Based on the results of research and discussion, it can be concluded that the validation of integrated science-tafseer learning model design meets the eligibility criteria. This implies that the design of integrated science interpretation learning model is eligible to be implemented in integrated science-tafseer learning for students of Natural Science education study program. The eligibility of integrated science-tafseer model is shown by the results of assessment conducted by science, tafseer and model experts with indicators of model rationality, model characteristics, elements of model stages, elements of personal tasks, psychological benefits and physiological benefits generated an average value of 4.58 (very good category). The results of eligibility of integrated science-tafseer learning model design can contribute to the understanding of students of Natural science education study program in learning integrated science-tafseer.

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