DEVELOPMENT OF SELF-REFLECTION INSTRUMENTS OF RIAS LEARNING MODEL IN STUDENTS OF ENVIRONMENTAL EDUCATION COURSE

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Abstract
It is necessary to measure student spiritual and social attitudes to find out their attitude development in students of environmental education course. The research aims to develop instruments utilized in measuring student spiritual and social attitudes in RIAS (Reading, Identification, Analysis, and Self-reflection) learning model implementation. The research procedures consist of 1) needs analysis and literature study; 2) instrument design; 3) instrument development; 4) expert assessment; 5) instrument revision; and 6) instrument dissemination. The research instruments utilized include content validity sheets and construct validity instruments with assessment scale score of 1-4 consisting of (1) not feasible; (2) less feasible; (3) feasible; and (4) very feasible. The research results indicate that 1) the instruments of spiritual and social attitudes measurement in the RIAS learning model implementation are feasible to be utilized in measuring student spiritual and social attitudes. It is indicated by validation score of 3.8 and 2) further research and development includes portfolio development to measure spiritual and social attitudes. The research implications become a practical reference for teachers and lecturers in measuring spiritual and social attitudes in learning.

Keywords: self reflection, environmental education course, RIAS learning model
INTRODUCTION

Character is a nature that influences human behavior in daily activities. It affects by intrinsic and extrinsic factors of each human individual. The intrinsic factor that influences individual character is motivation that includes responsibility and belief (Eriany et al., 2014; Anisa & Djastuti., 2015). The extrinsic factor influencing one’s character includes model generated from daily experiences (Elsap, 2018).

Indonesia as a heterogeneous nation has diverse culture and characters that differentiate it from other nations. Values contain in the nation character consist of religious, nationalist, integrity, independent, and gotong royong (mutual assistance) (Peraturan Presiden Republik Indonesia Nomor 87 Tahun 2017 tentang Penguatan Pendidikan Karakter). The values become the education objectives in Indonesia.

Education has an obligation to improve the nation’s intelligence and create character human resources to be able to compete in global level. Efforts to establish character human resources involve various methods, such as education and training, defend the country, and integration into formal and non-formal education. Integration of character education into science learning process is effective in improving students’ characters (Dianti, 2014; Latifah, 2014). There are three sources of character values, namely olah hati (spiritual and emotional development), olah pikir (intellectual development), olah raga (physical and kinesthetic development), and olah rasa karsa (effective and creativity development) (Marzuki, 2012).

A combination of the four sources of character outlines as follows. Character values of olah hati consist of fear the creator, honest, discipline, empathy, and courage. Character values originated from olah pikir include critical thinking, innovative, creative, and reflective. Character values sourced from olah raga comprises cooperate, maintain cleanliness, and maintain health. Character values from olah rasa dan karsa such as respect, gotong royong, tolerance, and hard work (Rubei, 2015; Wakid, 2018).

Integration of character education conducted in the learning process could start from planning, implementation, and evaluation (Suwito, 2012). The learning planning stage that integrates character values by preparing learning framework will affect character value improvement (Afandi, 2011). The learning implementation stage is conducted by facilitating students’ activities so that they could connect learning content to characters or attitudes in daily life (Dishon et al., 2017). In the end of learning, the character values could be measured through self-reflection on what have been done with the characters (Momennasab et al., 2019). The results of a preliminary research suggest that the current assessment process of spiritual and social attitude characters in science learning has not been measured properly as indicated by the recording of class activities and has not been connected to daily activities conducted.

One of the learning models that integrate characters into learning is RIAS learning model. The RIAS learning model is a learning model that consists of several main steps, namely: reading, identification, analysis, and self-reflection. Reflection activity in the reflection step is students self-reflect on their attitudes in life that relate to study materials that have been conducted. The self-reflection activity could improve individual characters as it facilitates students to perform self-assessment (Nursobah et al., 2019). The essence of the RIAS learning model is students perform self-assessment to evaluate their characters so that they could improve their character. Hence, it requires instruments to measure students’ spiritual and social attitudes in the learning process as an evaluation in character education.

METHOD

The research and development method referred to Borg and Gall’s (1989) research and development with a modification. The research had characteristics of developing and validating the developed product. The modification in the research step was as an adjustment to the need of methodology in self-reflection instrument development. The research procedures consist of 1) needs analysis and literature study; 2) instrument design; 3) instrument development; 4) expert assessment; 5) instrument revision; and 6) instrument dissemination. The research and development procedure is illustrated in Figure 1.
FINDINGS AND DISCUSSION

The research aimed to develop instruments utilized in measuring student spiritual and social attitudes in RIAS (Reading, Identification, Analysis, and Self-reflection) learning model implementation. The spiritual attitudes encompassed indicators of praying before and after activities, answering greetings, being grateful, and maintaining good relationship with others. The social attitudes covered indicators of honest, discipline, responsible, polite, self-confidence, and caring. The research results are explained as follows.

Needs analysis and literature study

Needs analysis on spiritual and social attitudes measurement carried out using analysis of natural sciences education learning material documents of Universitas Tidar. The analysis results are presented in Table 1.

| No       | Material       | Result Description                                                                 |
|----------|----------------|------------------------------------------------------------------------------------|
| 1.       | Semester lesson plan | There were attitude elements in the learning achievement. The attitude elements, however, had not yet integrated character values in the learning process |
| 2.       | Textbooks       | The textbooks had no yet integrated character values                                  |
| 3.       | Evaluation sheet | Evaluation carried out aims to measure knowledge                                       |
Table 1 indicates that the learning material documents used in the IPA Education department had not yet integrated character values in the learning as well as evaluation. Therefore, students’ characters had not been planned for development. Efforts by educators in developing students’ characters should be integrated into the lesson plan and evaluation must be conducted for students to be able to reflect character values in daily life (Bachtiar et al., 2018).

In addition to learning material analysis, character values carried out by students in the learning included: 1) students are late for a lecture; 2) students submit their assignment behind schedule; 3) students are cheating in evaluation; 4) students are less capable of cooperating in a team; 5) students are against the random group division; 6) students plagiarize in working on assignment and evaluation; 7) students lack self-confidence in working on evaluation and expressing opinion; and 8) students care less about their surrounding environment because they are busy with their work.

The learning material analysis and observation results suggest that character education had not been implemented properly from learning planning, process, and evaluation so that several indications of problem related to students’ character were found. Therefore, it is necessary to implement learning that integrates character values in the learning and evaluate students’ character values, especially those relate to the learning study materials. Learning that connects character values to study materials in daily life is capable of enhancing learning outcome and characters (Bachtiar et al., 2018).

**Instrument design & development**

Instruments of spiritual attitude and social attitude measurement in RIAS learning implementation with conceptual framework are illustrated in Figure 2.

![Figure 2. Conceptual Framework of National Character Values](image-url)

Based on Figure 2 the framework of national character values included spiritual and social attitudes developed in the self-reflection instruments in the implementation of RIAS learning. The spiritual and social attitudes in the indicator grid and statements to measure the spiritual and social attitudes are shown in Table 2.
Table 2. Grid of Indicators and Statements

| No | Character      | Indicator                                      | Statement                                                                 |
|----|----------------|-----------------------------------------------|---------------------------------------------------------------------------|
| 1. | Spiritual Attitudes | Praying before and after activities           | Praying before and after activities according to the respective religions and beliefs |
|    |                 | Answering greeting                            | Answering greeting to those who greet according to the respective religions and beliefs |
|    |                 | Being grateful                                | Being grateful when you succeed in doing something                        |
|    |                 | Maintaining good relationship with others    | Maintaining good relationship with lecturers and other students           |
| 2. | Social attitudes | Honest                                        | Not cheating or plagiarize when working on learning assignment            |
|    |                 |                                                | Prepare a report based on facts and data                                  |
|    |                 |                                                | Confess and apologize for mistakes committed                              |
|    |                 |                                                | Arrive on time or not late                                               |
|    |                 |                                                | Submit assignment within the specified time                               |
|    |                 |                                                | Carry out individual assignment well                                     |
|    |                 |                                                | Carry out group assignment well                                          |
|    |                 |                                                | Don’t blame others                                                       |
|    |                 |                                                | Respect the lecturers and other students                                  |
|    |                 |                                                | Say thanks for others’ assistance                                        |
|    |                 |                                                | Ask permission when leaving the room or using other people’s belongings |
|    |                 |                                                | Use polite communication language                                         |
|    |                 |                                                | Not interrupting other people’s conversation                              |
|    |                 |                                                | Dare to argue, ask, or answer questions                                  |
|    |                 |                                                | Have the courage to present before class                                 |
|    |                 |                                                | Help others who are needed regardless their background                   |
|    |                 |                                                | Throw garbage in its places                                              |

Source: Modification (Presidential Decree of the Republic of Indonesia No. 87/2017 on Strengthening Character Education)

Expert assessment
This activity measured instrument quality based on its content as well as construct validity level. The instruments were developed to measure spiritual and social attitudes. The validation results by character education experts are presented in Table 3.

Table 3. Results of Expert Assessment

| No | Assessment Aspect     | Average Score | Category |
|----|-----------------------|---------------|----------|
| 1. | Identity              | 4.0           | Valid    |
| 2. | Content component     | 3.7           | Valid    |
| 3. | Construction component| 3.5           | Valid    |
| 4. | Language              | 4.0           | Valid    |
| Average |                   | 3.8           | Valid    |

Table 3 suggests that the validation resulted average score of 3.8 with valid category; therefore, it can be inferred that the instruments were feasible to be used to measure spiritual and social attitudes. Next, validity and reliability tests carried out using SPSS 23 for windows. The results are shown in Table 4.
Based on the results of the instrument validity test in Table 4, it was obtained 20 questions in the valid category and 1 question that was declared invalid, so that the questions that were declared invalid were not used in the instrument for measuring spiritual attitudes and social attitudes. Furthermore, a test is conducted to see the level of reliability of an instrument. The results of the instrument reliability test through the Cronbach's Alpha test were 0.828 > 0.6, so it was concluded that the instrument was declared reliable as a measure of spiritual attitudes and social attitudes.

CONCLUSION

Based on the analysis and development results, a conclusion could be drawn that the self-reflection instrument of the spiritual attitudes that consisted of indicators of praying before and after activities, answering greeting, being grateful, and maintaining good relationship with others as well as social attitudes that comprised indicators of honest, discipline, responsible, polite, self-confidence, and caring were feasible to be used to measure the spiritual and social attitudes. Further research and development will include development of portfolio to measure the spiritual and social attitudes. Recommendation of the instrument development is that in the learning process students are asked to connect study materials that have been learned to spiritual and social attitudes in daily life. The practical benefits of the research is that it can be used as an alternative by educators to measure students’ spiritual and social attitudes in the classroom or in their daily neighborhoods.

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