Original Research Paper

Development of Authentic Assessment Instruments Based on Character Education in Elementary School

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Abstract: This study aims to develop an authentic assessment instrument for spiritual attitudes and social attitudes based on character education in grade IV SD Negeri 125138 Pematangsiantar. The research method uses research and development with a development model according to Borg and Gall. The development of the thematic average instrument based on character education and equipped with an authentic assessment instrument for spiritual attitudes and social attitudes based on character education has proven to be effective. The pretest learning outcomes of the control and experimental classes, namely the control class were 57.16 while the experimental class was 60.28. After the trial was carried out for 6 meetings, the average posttest score in the control and experimental groups increased to 71.36 and 75.56. The results of the t-test obtained tcount = 6.280 with a significance level of Sig. (2-tailed) $0.002 < = 0.05$. The control class students' learning activities reached an average of 52% in the good enough category and the experimental class reached an average of 88.6% in the good category. Thus, the increase in student learning outcomes was higher in the experimental group. The N-Gain obtained is 0.54 which shows the number <0.6 which means that it is very effective.

1. Introduction

Authentic assessment emphasizes assessing students objectively on what should be assessed, both process and results with various assessment instruments that are tailored to the demands of competencies in the Competency Standards (SK) or Core Competencies (KI) and Basic Competencies (KD). In fact, many elementary schools in Indonesia have used authentic assessment instruments, especially for 3 domains, namely: attitude or affective aspects, knowledge (cognitive) and skills (psychomotor), but they are still low so that the implementation of authentic assessments is also ineffective because classroom teachers have to assessing the 3 domains, doing class administration, carrying out daily tests, explaining learning material in class, and correcting each assignment, daily tests, mid-semester assessments, end-of-semester assessments that students do. Therefore, the implementation of authentic assessment cannot be carried out optimally. This is because the class teacher takes a long time to do it all [1].

The presence of a researcher in developing authentic assessment instruments, especially spiritual attitudes and social attitudes in this study, is very much needed by classroom teachers as innovation activities in the world of learning. This is in line with research conducted by Utari [2], showing that the implementation of authentic assessment for the affective domain is 52.8%, the psychomotor domain is 48.4% and the cognitive domain is 98.8% more dominant, which is 98.8%. It can be concluded that the implementation of authentic assessment is still not optimal. One of the efforts to overcome the problems mentioned above is to develop an authentic assessment instrument for spiritual attitudes and social attitudes based on character education in the fourth grade of SD Negeri 125138 Pematangsiantar. The Spiritual Attitude Assessment in KI-1 consists of: Obedience to Worship, Behaving Gratitude, Praying Before and After Doing Activities, and Tolerance in Worship. For the Authentic Assessment of Social Attitudes consisting of: Honesty, Discipline, Responsibility, Courtesy, Caring and Confidence [3] [4] [5] [6]. The reality on the ground is that the fourth grade of SD Negeri 125138 Pematangsiantar still lacks spiritual and social attitudes. The solution to this problem is that teachers can use authentic assessment instruments for spiritual attitudes and social attitudes based on character education for elementary school students in learning activities effectively and efficiently in order to improve student learning outcomes and student activities. This study aims to analyze and describe the effectiveness of developing an authentic assessment instrument for spiritual attitudes and social attitudes based on character education in grade IV SD Negeri 125138 Pematangsiantar. The theoretical benefits of research consist of: contributing to the development of educational science regarding the development of this authentic assessment instrument as a reference material for research conducted in the future, and to add studies on the development of this instrument to students grade IV SD Negeri 125138 Pematangsiantar.

Based on the results of previous research, researchers are interested in developing more in-depth research instruments that support the implementation of character education by taking the topic of the problem of "development of an authentic assessment instrument for spiritual attitudes and social attitudes based on character education in grade IV SD Negeri 125138 Pematangsiantar".

2. Literature Review

Milawati et al [7] in his research entitled "Cultivating Social Attitudes in Civics Learning at the KIP Maccini Makassar State Elementary School" shows that the way the teacher evaluates is by using a social attitude assessment sheet which includes interpersonal, namely oneself and interpersonal, namely between friends. Furthermore, Fadhilah et al [5] in his research entitled "Implementation of School Leadership on Character Education in Al-Azhar 34 Islamic Elementary School Makassar" shows that the survey conducted by researchers at Al-Azhar 34 Islamic Elementary School Makassar is that there are still some student behaviors that do not reflect character as students in Islamic schools, such as: speaking harshly to their teachers, disrespecting elders, school bullying, cheating and lying to parents and teachers. Other research results, Parida et al [8] in his research entitled "Leadership Patterns for Principals in Strengthening Character in Elementary Schools in Sintang City, West Kalimantan" showed that the dominant leadership pattern in the three schools tended to be dominant in the instructional leader pattern.

In order for the process of forming student character to be more optimal, the principal must combine his leadership patterns. Transformative leadership patterns and cultural leadership must be cultivated in character education by innovating strategic programs according to school conditions and abilities [9]. Character education programs that are integrated into students' subjects and extracurriculars must accommodate the six pyramidal stages of habituation of character values. Hafid,

et al [10] in his research entitled "Effectiveness of the Implementation of Character Education in the 2013 Curriculum for Thematic Learning in Elementary Schools Inpres 6/75 Ta' Tanete Riettang, Bone Regency" shows that the implementation plan of character education in thematic learning of the 2013 curriculum and the application of character education in thematic learning The 2013 curriculum at the Inpres 6/75 Ta'were Elementary School is categorized as very good. This study concludes that the planning and implementation of character education in the thematic learning of the 2013 curriculum at the Inpres 6/75 Ta' Elementary School is effective. Furthermore, this statement is supported by Setiawati & Royani [6] in their research entitled "The Effect of Bibliotherapy on Discipline Character Development in Elementary School Students" showing that strengthening character education as an effort to improve the quality of the nation's generation must continue to be carried out.

One of the character values that must be considered is the character value of discipline. Furthermore, Rukayah [11] in his research entitled "The Existence of Folklore as a Media for Character Building for Elementary School Students" shows that folklore has noble values in society. Therefore, it is very appropriate to be used as a medium in shaping character, especially for elementary school children. Various characters depicted in the story can be imitated or imitated by children, usually good characters are contrasted with bad characters, so that students/readers hate and are hostile to bad characters, even cursing them, on the other hand good characters are praised and even imitated their actions [8]. This shows that thoughts and feelings are directly involved naturally.

Therefore, it is recommended that the culture of fairy tales before bed continue to be preserved, because children can ask questions directly or provide feedback about what they have heard from storytellers, as well as help preserve the original culture of the archipelago. Lestari [12] in her research entitled "Implementation of Character Education for Street Children (Case Study at the Diponegoro Shelter and Learning House) shows that [3] the implementation of character education is carried out anywhere and anytime without a written plan about the character to be instilled. From this process there are several character values that are instilled including religious, responsibility, discipline, independence, honesty [4]. Efforts made by administrators or supervisors in instilling character are through tutoring which is carried out once a week for street children at home visits, while for street children in house the administrator or companion provides a daily schedule starting from waking up to sleeping again.

3. Methodology

This research method is research and development (R & D). The research design was used from the development model according to Borg and Gall. This research is based on correlation between variables [13] [14] [15] [16] [17]. In the procedure for implementing research and development (R & D) with the model according to Borg & Gall there are ten stages, consisting of: preliminary studies [3], planning [4], development of hypothetical models [5], field test of the hypothetical model [10], revision of the hypothetical model [18], limited trial [6], revision of the test results [7], wider model trial [8], revision of the final model [11], and dissemination and socialization [1].

Furthermore, the researcher simplified this stage into four stages, consisting of: preliminary study [3], model development and validation [4], field testing [5] and dissemination and socialization [10]. This was carried out due to the limitations of time, effort and cost in the research. In student learning outcomes, using the N Gain Test and t-test for differences in the improvement of student learning outcomes during the posttest of the control class and the experimental class in the broad trial.

The next stage is the t-test activity with the help of SPSS 22 which aims to prove that there is no significant difference in the results of the pre-test of the control group and the experimental group. Hypotheses that can be used in this test consist of:

$$H_0 : x_2 = y_2 \quad H_1 : x_2 > y_2 \qquad\qquad \text{Equation 1}$$

where,
x_2 : the average score of the experimental class y_2 : the average score of the control class
H_0 : the average score of the experimental class is the same as the average score of the control class
H_1 : the average score of the experimental class is higher than the average score of the control class

For the test criteria, H0 is accepted if Sig. > = 0.05 [14].

The N Gain test in this reliability test with internal consistency, was carried out by trying the instrument only once, after that what was obtained was analyzed using the Cronbach Alpha technique or the N Gain test [19].

$$ri = \frac{k}{\{k-1\}} + \left\{ 1 - \frac{\Sigma Si^2}{St^2} \right\}$$

Equation 2

where,
K = mean squared between subjects
2 = mean square of error
2 = total variance

Student learning activities use student activity observation sheets. The scoring starts from 1 to 4 with the category of implementation and description. The overall scoring formula uses the S formula. The percentages and criteria have been explained in the Table 1.

Table 1. Scoring Guidelines

Score	Execution Category	Information
1	$0\,\% \leq S \leq 25\,\%$	Not Good
2	$26\,\% \leq S \leq 50\,\%$	Pretty Good
3	$51\,\% \leq S \leq 75\,\%$	Good
4	$76\,\% \leq S \leq 100\%$	Very Good

4. Finding and Discussion

The results of the research and discussion in this study will be described as follows. Student learning outcomes at the time of extensive trials have increased. To increase student learning outcomes, it can be analyzed using the normalized N Gain average as follows Table 2.

Table 2. Recapitulation of Pre-Test and Post-Test Results for Control Class and Experiment Class

No.	Variable	SCORE	
		Controll Class	**Experiment Class**
		Pretest	
1	Lowest Value	32	38
2	Highest Value	86	88
3	Averages	57.16	60.28
		Postest	
1	Lowest Value	60	78
2	Highest Value	82	94
3	Averages	71.36	75.56
	Normalized N Gain	0.46 (enough)	0.54 (enough)

The results from Table 2 show an increase in learning outcomes for the experimental class and the control class both in the sufficient category. For the results of improving student learning outcomes both in the control class by 0.46 and in the experimental class an increase of 0.54. However, the results of the improvement scores were higher in the experimental class. Therefore, it can be concluded that the authentic assessment instrument of spiritual attitudes and social attitudes is based on character education and classroom learning with thematic learning based on character education is to improve student learning outcomes. The t test will be explained as follows. For the posttest data,

the t-test can then be used to determine whether there is a difference in the average learning outcomes in the control class and the experimental class after the field trial which has been presented in Table 3.

Table 3. Results of t-test Posttest Control Class and Experiment Class

t-test for Equity of Means				
		t	**Df**	**Sig. (2-tailed)**
Posttest	*Equal Variances Assumed*	6,280	228	0,002

In Table 3, the significance value is 0.002 = 0.05, which means that there is a significant difference between the average post-test learning outcomes between the control class and the experimental class. This shows that the post-test average of the experimental class is higher than the post-test average of the control class and thus H1 is accepted. In student learning activities when the results of the extensive trial of the experimental and control classes will be explained as follows. Student learning activities in the control group and the experimental group showed different results. The following summarizes the learning activities of the control class and experimental class students in Table 4.

Table 4. Recapitulation of Student Learning Activities in Control and Experimental Group Trials

Learning	Controll Class			Exeperiment Class		
	Score	**Percentage**	**Category**	**Score**	**Percentage**	**Category**
I	486,6	54,10%	enough	930	61.12%	good
II	506,8	56,4%	enough	957,04	63.6%	good
III	429,4	47,8%	Not enough	953,04	61.8%	good
IV	597,6	55,2%	Not enough	979,82%	63.18%	good
V	391,2	43,15	Not enough	988,20	64.18%	good
VI	498	55,4%	enough	1137,26	73.7%	good
Averages	2810	312:6=52	Pretty good	5900	657.6:6 = 100%	good

Table 4 shows the activeness of students in learning in the control class and the experimental class. The students' activities in the control class from the first meeting to the sixth meeting have been written in the table. For the experimental class, it can be seen that student learning activities are in good category. Then, the average percentage of student activity in the experimental class is in the good category as well. Based on the data, it can be seen that the activeness of students in learning in class increased, which occurred in the experimental group. Meanwhile, in the control group from meeting 1 to meeting 2 the score and percentage increased, continued to meeting 3 the score and percentage decreased, continued to meeting 4 the score and percentage increased, continued to meeting 5, the score and percentage decreased drastically compared to the meeting -previous meeting, and then the 6th meeting increased for the score and percentage. However, in the experimental class the increase was higher. For this reason, student learning activities in the experimental group have met the criteria for the effectiveness of thematic learning based on strengthening character education and equipped with authentic assessment instruments for spiritual attitudes and social attitudes based on strengthening character education.

5. Conclusion
Based on the results of processing and testing carried out for 6 meetings, it can be concluded that the average posttest score in the control and experimental groups increased to 71.36 and 75.56. The results of the t-test obtained tcount = 6.280 with a significance level of Sig. (2-tailed) 0.002 < = 0.05. The control class students' learning activities reached an average of 52% in the good enough category and the experimental class reached an average of 88.6% in the good category. Thus, the increase in student learning outcomes with the development of an authentic assessment instrument based on character education shows a number <0.6 which means it is very significant so that the hypothesis

which reads "Development of an authentic assessment instrument based on character education is effectively used in the learning process" is accepted. With the authentic assessment instrument based on character education that has been developed, teachers can take advantage of the authentic assessment instrument product for spiritual attitudes and social attitudes based on character education for the fourth graders of SD Negeri 125138 Pematangsiantar.

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