

The Development of Integrative Theme Based Instructional Materials Containing Characteristics Values of Fifth Grade Elementary Schools in Surakarta, Indonesia

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ABSTRACT

This research is aimed to 1) develop theme based instructional materials containing characteristics values which are appropriate to be used as supporting learning materials and to improve students' comprehension; 2) find the effectiveness from the development of integrative theme based instructional materials containing characteristics values. The developed instructional materials are in the form of student books. The research method employed here was research and development which was arranged in three stages, namely experts' validation, limited try out, and wide tryout. Data analysis using quantitative descriptive analysis. Meanwhile, the subjects of the research are expert validators and elementary school students in grade V SD in the city of Surakarta. The research was carried out at the fifth grade of elementary schools which have implemented theme based learning of Curriculum 2013 in Surakarta. Limited try out was carried in SD Negeri Kleco, while wide try out was carried out in 2 school in SD Negeri Kratonan and SD Negeri Bulukantil. The instruments of the research were the instructional materials' properness assessment, questionnaire, and questions sheet. The result of the experts validation for the instructional materials is 91,6%. The result of the limited try out of instructional materials gets the average of 88,7%. The result of the instructional materials wide material' test has the average of 96,36%. the value of Sig The computation of simple paired t-test acquire. = 0,000 in each sample, where the value of $\alpha=0.05$, since the value of $\text{Sig.} < \alpha$, it can be concluded that the data of pretest and post-test are really significantly different and there is significance influence of the use of integrative theme based instructional materials towards students' comprehension. The result of the research are (1) the instructional material contains developed characteristics values which are appropriate to be used; (2) the developed the instructional material are effective to be used in the learning process.

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Keywords:¹ instructional materials, integrative theme based, characteristics values

INTRODUCTION

The theme based learning in Indonesia has begun since 2005. This theme based learning was implemented for the 1st-3rd of elementary schools. In the Curriculum 2013, the theme based learning begins to be implemented. This curriculum combines attitudes, skills, and knowledge that come from core competencies that must be mastered by students (Ministry of Education and Culture, 2013). In the Curriculum 2013, it implements integrative theme based learning with scientific approach. It was based on Permendikbud No. 65 about the Standard Process of Elementary and Middle High Education which has hinted the needs of learning process guided by scientific approach rules. (Permendikbud No. 65 year of 2013) to strengthen the scientific approach, integrated theme based (theme among subject matters), and theme

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based for one subject matter are needed to be implemented discovery/inquiry theme based learning Kemdikbud (2013). Integrative theme based learning considered as learning approach which integrates various competencies from various subject matters into a specific theme. M. Hosnan (2014) states that scientific approach is supposed to give comprehension to the students in knowing, comprehending various materials by using scientific approach that information can come from anywhere, anytime without depending on the one-way information from the teacher. Thus, the learning expected condition is directed to encourage the students in exploring from the various sources through observation and does not only being told by the teacher. So, it can be concluded that this scientific approach is aimed to give comprehension for the students in case of knowing, and then comprehending various materials in order to get information. By conducting this lesson, it is expected the students can think as a whole without being separated.

Kucer (1991) cited in Min, et.al. (2012) reveals that the thematic advantage is to utilize the basic knowledge of students to begin to learn so that all students participate actively in learning process, provide opportunities for students to learn independently, train students to solve problems, and teach students to make choices and take risks. This is in accordance with the opinion of Chen (2012) who said those thematic learning strategies using ideas and associated with the life experience of students, it raises the students' interest in learning so that students are actively involved in learning. In addition, the thematic learning has benefits and also it has a weakness.

Finzh (1997) explains that thematic is a set of organized learning experiences such as programs, courses, and other school-sponsored activities that provide students with exposure to a broad, predominant content theme. Integrative theme based is a learning approach where in the learning process; it integrates various competencies from various subject matters into a theme with a meaningful learning which is adjusted to the students' development. Through direct experience in the learning process, the students are expected to be able in comprehending the learnt concepts and then connect it with the understood other concepts.

Finch (1997) states that there are some advantages in theme based learning, namely: 1) opportunities to learn through more contextualized learning experiences, 2) exposure to linkages between school-based learning and learning that occurs in the workplace and the community, 3) opportunities to explore a wide range of authentic experiences, 4) n-depth exposure to a broad field of interest, 4) opportunities to examine what a wide range of occupations has to offer, 5) greater academic potential in preparation for both higher education and employment and 7) ability to determine exceptional/unusual interests.

According to Rusman (2015), theme based learning has characteristics as follow: 1) students centered, it means the object of the lesson is students, while the teacher plays as facilitator; 2) gives direct experiences; 3) the separation among subject matters are not clearly seen, the lesson's focus is focused on learning themes which are the closest to the students; 4) presents the concept from various learning concepts, thus the students can comprehend the concept as a whole. It is needed to enable the students to solve the rising problems; 5) it is flexible where the teacher can relate among subject matters and even to relate with students' experiences and environments; 6) the students are given opportunities to optimize their own potentials based on their passions and needs; 7) it uses the principal of learning by playing and fun learning, thus it is not boring and surfeited.

Every learning activity needs instructional materials. Prastowo (2014) states that instructional materials in general as a basis is all materials (information, means, texts) arranged systematically which present the whole figure of competency going to be mastered by the students and to be implemented in the teaching and learning process with the purpose to plan and to select learning implementation. Meanwhile, the role of instructional materials is basically to reach the determined basic competencies. The easy and interesting instructional materials will help the teachers in facilitating the students in learning and comprehending the materials.

In the Curriculum 2013 integrative theme based instructional materials in Indonesia, it always been introduced and given special treatment in the case of characteristics education. It is stated in the constitution of Sistem Pendidikan Nasional Article 36 paragraph (3) which said "*Kurikulum disusun sesuai dengan jenjang pendidikan dalam kerangka Negara Kesatuan Republik Indonesia dengan memperhatikan : a. peningkatan iman dan takwa; b. peningkatan akhlak mulia; c. peningkatan potensi, kecerdasan, dan minat peserta didik; d. keragaman potensi daerah dan lingkungan; e. tuntutan pembangunan daerah dan nasional; f. tuntutan dunia kerja; g. perkembangan ilmu*

pengetahuan, teknologi, dan seni; h. agama; i. dinamika perkembangan global; dan j. persatuan nasional dan nilai-nilai kebangsaan". It becomes the objectives of education especially in the Curriculum 2013 which focuses on improving belief and piety and also having good characteristics.

Gunawan (2012) reveals that characteristics education is the natural state laying on each individual in which differentiates between one and another. In addition, Salahudin (2013) explains in his book that character is a unique feature of someone or a group which contains values, capabilities, moral capacity, and rigidity in facing difficulties and challenges. Additionally, character is a thinking way and behavior which becomes the unique feature of each individual to live and working together in the family, society, and country. According to Samani and Hariyanto (2012) who define character as basic value of human being, formed by the influence of heredity or environment which differs one to another and also being projected in attitude and behavior in daily life. From some definitions above, researcher concluded that character is values or basic instinct of human behavior which rises in the daily life that includes nature, behavior, or moral which can be formed from the influence of heredity or environment of each individual.

Characteristics education is aimed to develop values that produce nation's character that is Pancasila. It includes (a) developing students' potentials to become good hearted, good thinking, good behaving human; (b) building the nation with Pancasila's character; (c) developing citizens' potentials to have confidences, to proud of the nation, and caring human being (Kemendiknas, 2011). The purpose of characteristic education is to produce good behavior and nature of the students who care each other based on Pancasila. Darsono, Winarno, and ST. Y. Slamet (2017) revealed that Moral education and character is used for strengthening human relationships within a framework of a broad organizational system that is state or government. The arrangement is clustered and intertwined with each other, then it takes commitment in the process of reaping the success of character education.

The teaching and learning process in the classroom, the teacher books and the students' books became the references in a teaching and learning process. The result of the book study of the theme, it was found out that the learning material in the students books were not deep enough thus the students' knowledge were less broad and when they tried to solve the assignments, they got difficulties since the used materials were limited to the students books. When they needed exercises, the exercises on the book were not enough to cover students' needs.

Based on the result of the interview with some teachers about the conditions of the instructional material, it revealed that the recent themed based instructional materials were less deep. The teachers still needed additional instructional materials which were appropriate with the themes as the supporting and various other references from various sources, such as: internet, the past curriculum books, and other references that support and needed by the teachers. Besides as references of instructional materials, it was also needed the introduction and deepening of characteristics values

The activities in the developing stages are carried out through some try outs, with both limited try out and wide try out. This research belongs to developing research.. The objectives of this research are to 1) develop theme based instructional materials containing characteristics values which are appropriate to be used as supporting learning materials and to improve students' comprehension; 2) find the effectiveness from the development of integrative theme based instructional materials containing characteristics values

METHOD

The research is conducted in descriptive-quantitative model. Quantitative model aims to measured using a research instrument which then the data of research results are analyzed in accordance with statistical procedures. The subjects of the research are expert validators and elementary school students in fifth grade in the city of Surakarta. The research was carried out at the fifth grade of elementary schools which have implemented theme based learning of Curriculum 2013 in Surakarta. Limited try out was carried out of 28 students, while wide try out was carried out in 2 school ind SD Negeri Kratonan with 35 students and SD Negeri Bulukantil with 40 students.

Material

For data collection instruments of the research were the instructional materials' properness assessment, questionnaire, and multiple choice question. For expert validation, the researcher involved six experts,

namely: 1) two language experts, 2) two Media expert, and 3) two Material expert. Expert validators use materials' properness assessment which revealed single factor on four-point likert type scale. For limited tryout, researcher used properness assessment for teacher as user book and questionnaire for students as user to respons book legibility. In the wide tryout, researcher used properness assessment, questionnaire, and multiple choice question. Properness assessment was given for teacher for rate instructional materials. Questionnaire, and multiple choice question was given for students. Questionnaire was given for student to respons book legibility dan multiple choice question untuk measure student comprehensoin material of the book. Multiple choice question was validated using aiken scale with 5 experts. Researcher used iteman to calculated the value of alpha and get 0.848.

Data Analyses

For data analyses, SPSS 16.0 Statistical Package Program was used in wide tryout. The items of multiple choice model, if the answer is true students get one point, if wrong answer student didn't get point. The data analysis is used to find the effect and effectiveness before and after treatment, that is by using a paired sample t-test analysis technique and analyses of variance were performed in order to investigate whether the scores differed according to the variables. 0.05 was accepted as the significance level in the research.

FINDINGS

EXPERT VALIDATION

The initial product before being tried out needed to be validated by the experts. experts, namely: 1) two language experts, 2) two Media expert, and 3) two Material expert. The data acquired from the questionnaire fulfilled by the experts became the guidance to judge whether the product of theme based instructional material can be used in limited try out and wide try out. Based on the questionnaire result of the content and material experts' validation, it acquire the data that the instructional material has been appropriate to be used after conducting some revisions based on the suggestion and input from the experts' validators. The validity of the instructional material reaches the stage of very valid. Below is the recapitulation of questionnaire result from the experts in the Table 1.

Table 1. The Validation Recapitulation of Instructional Material

Validator	Percentage (%)
Language expert	87,5
Material expert	96,6
Media expert	90,8
Average	91,6

Based on the Table 1, it can be seen that the validity average of student book acquired from language experts, material experts, and media experts is 91,6%. The suggestion in general is that the student book and teacher book are appropriate to be used for product try out after conducting revision according to the note on the experts' validation sheets

LIMITED TRYOUT

After the product being validated by the experts and revised based on the experts' suggestion, and then the product is tried out limitedly in SD Negeri Kleco 1 with the total number of 28 students. This limited try out was aimed to find the presence of weaknesses and strength of the developed product. The data was collected by using response questionnaire both from the teacher and students. The result of the limited try out data is presented in the Table 2.

Table 2. Recapitulation of Teacher' and Students' Response towards Instructional Material

Respondents	Percentage (%)
Teacher	85,3
Students	92,1
Average	88,7

Based on the Table 2, it can be seen that the average is 88,7%. The suggestion and comments of the limited try out are used as the background for revision of the theme based instructional materials being tested in the wide try out.

WIDE TRYOUT

After the product of learning module being tried out in the small scale and being revised, and then the product is tried out on the wide scale in 2 elementary schools, they are SD Negeri Kratonan and SD Negeri Bukukantil with the total number of 75 students. The average recapitulation result from wide try out is presented in Table 3.

Table 3. Recapitulation of Teacher’s and Students’ Response toward Instructional Material

Respondent	Percentage (%)
Teacher	94,85
Students	98,22
Average	96,36

Based on the Table 3, it can be seen that the average of the student book is 96,36%. The suggestion and comments acquired from field try out are used as a basic to revise the final product.

In finding the effectiveness of the integrative theme based instructional material, it employed experiments by using design before-after or pretest-posttest with paired sample t-test analysis. The experiment was carried out with twice treatments where the first treatment, that is the beginning learning process was conducted without using integrative theme based instructional material, and then the test was conducted to acquire the initial score (pretest score). After that, the second treatment is conducted by using integrative theme based instructional material and then the test was carried out to acquire final score (post-test score). From the analysis of the data by using SPS, it got the result as follows:

(Sample 1 SDN Kratonan Surakarta)

Table 4. Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	72.4857	35	6.57254	1.11096
	Posttest	84.6000	35	7.45654	1.26039

Table 5. Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Pretest & Posttest	35	.749	.000

Table 6. Paired Samples Test

		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Pretest - Posttest	-1.21143E1	5.03384	.8509	-13.8435	-10.3851	-14.237	34	.000

Sample 2 SDN Bulukantil Surakarta

Table 7. Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	70.6000	40	6.48391	1.02520
	Posttest	84.0500	40	5.31543	.84044

Table 8. Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Pretest & Posttest	40	.655	.000

Table 9. Paired Samples Test

		Paired Differences		95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	Lower				Upper
Pair 1	Pretest - Posttest	-1.34500E1	5.01255	.7926	-15.0531	-11.8469	-16.97	39	.000

Based on the Table 4 and 6, it can be seen that the average score in each sample of pretest is 72.48 dan 70.60 while the average of post-test is 84.60 dan 84.05. From the Table 6 and 9, it can be seen the score of Sig.=0.000, where the score of $\alpha=0.05$, since the score of Sig.< α , thus it can be concluded that the data of retest and post-test score are correlated. The correlation score is 0, 0.749 or 74,9% in sample 1 and 0.655 or 65,5% in sample 2.. Meanwhile, from the Table 6 and 9, it can be seen the score of Sig.=0.000, where the score of $\alpha=0.05$, since the score of Sig.< α , thus it can be concluded that the data of pretest and post-test score are very significantly different. If it is seen from the marginal average, it can be concluded that there significant effect of the use of integrative theme based instructional material towards students' comprehension. In another word, the integrative theme based learning is effective to be used in the learning process.

Result, Discussion, and Suggestions

The product being developed in this research and development is thematic student book of the fifth grade. On thematic book contains characteristics values taught in the second semester at the fifth grade elementary school which implemented Curriculum 2013. The thematic book was chosen since the researcher wanted to introduce further how to keep the environment. The data resulted on this research and development is the data of instructional material's effectiveness and appropriateness. It is acquired from the result of experts' validation, namely language experts, material experts, media experts, students' response questionnaire, and teachers' response questionnaire.

The try out conducted in this research was carried out in two stages, which are limited try out and wide try out. The limited try out involved 28 students and the teacher of the fifth grade in SD Negeri Kleco 1. Meanwhile, the wide try out involved of the fifth grade in SD Negeri Kratonan with 35 students and SD Negeri Bulukantil with 40 students and 2 teachers in each sample The collected data is used to find out the appropriateness degree of the instructional material.

Before being tried out, the product of theme based instructional material containing characteristics values which has been arranged was validated by the language experts, material exerts, and media experts. The language experts gave judgment about the use of language feature in book's composing. Meanwhile, the material experts gave judgment, suggestion, and input about the accuracy of the material in the developed book. Last, the media experts gave judgment about the book's design in general. The purpose of this

validation is to find out the appropriateness degree of the theme based instructional material going to produced.

The result of the validation for the theme based instructional material showed that the validity average is 91,6% with the very appropriate criteria. As for the suggestion and the comments from the validation result as a base to revise the product going to be tested in limited try out. The data from limited try out showed that the instructional material tested was very good. The average score of this instructional material was 88,7%. Meanwhile, the suggestion acquired from the limited try out is used as a based to revise the theme based instructional material. The result of this revision was tried out in the wide try out stage. The result of the wide try out showed that the average score is 96,36% with the very good criteria. The suggestion and comments in the wide try out was used as a base to revise the final product.

Based on the data from the validation result and conducted try out, both the student and teacher books reach the criteria of appropriate to be used as supporting book. In is showed from the paired sample t-test statistical computation. The score of Sig.=0.000, where the score of $\alpha=0.05$, since the score of Sig.< α , thus it can be concluded that the data of pretest and post-test score are very significantly different. If it is seen from the marginal average, it can be found that the post-test score was higher than retest score, thus it can be concluded that there is significance effect of the integrative theme based instructional material's use towards students' comprehension.

It is in line with the research of Puspitasari (2015) who develop the theme based learning model which shows that thematic based integrated science learning can increase of critical thinking skills and character of the seventh grade junior high school students with good category. In addition, the research result of Srikandi Oktaviani (2017) which develops theme based instructional material for the fourth grade shows that the developed instructional material has been very appropriate to be used as supporting material since the statistical computation shows the increase of students' learning achievement become way better after using activity book. Ekowati (2016) The result of the research on The Development of Thematic Mathematics Book Based on Environment with a Realistic Approach to Implant the Attitude of Caring about Environment at Students almost all the students is very active and have a positive response. The attitude of caring about the environment begin to appear after using the thematic mathematics book developed, as a guide book for the teachers and the practice book for the students. Next, the research conducted by Ninik (2017) which develops theme based instructional material focuses on local culture shows that the developed book is valid, effective, and practical to be used in the learning process. Srikandi (2017) who develops theme based instructional material in the Curriculum 2013 implementation for the first grade elementary school shows that the developed instructional material is valid and proper to be used.

Based on the research result, the conclusion are (1) the developed theme based instructional material containing characteristics values and (2) the developed theme based instructional material can improve students' comprehension towards the integrative theme based learning material.

The contextual material stated in the theme based instructional material can be developed more to add students' knowledge towards environment, for example the appropriate basic competence material explanation, exercises, students' story about environment, and exercises about learning material containing environment characteristics. The students' learning activities can be arranged more various to improve more students' comprehension. The book resulted from the development can be used for the elementary schools in Surakarta after being revised.

Based on the research conclusion, it needs development which can be carried out by the teacher. As stated by SIMSEK, 2017 that a teacher should have a wide range of professional competencies and skills. A teacher must have skills in managing his class. In addition, the skills a teacher must possess are skills for evaluating and assessing his or her students. Furthermore, the teacher can develop various learning materials with various learning media. Teacher regular meeting also can be used to share information in developing learning materials. The seminar or workshop in learning materials redaction is also needed to be carried out for the better education.

The limitation of this research was the researcher just developed learning material in the form of supporting book. In fact, there were many other developments related to the educational quality

development, like learning media development, asesment development, test development which come forward to High Order Thinking. It was also needed research in large scale which enabled to conduct research in state and private schools in Center Java in order to broaden the result.

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