The Development of Integrated and Adiwiyata-Based Thematic Textbooks for the Fourth Graders Of Primary Schools in Ngawi Regency, East Java, Indonesia

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Abstract: The existence of integrated thematic textbooks published by Kemdikbud, Erlangga and Yudistirashows important weaknesses. It is based on observations and interviews of students and teachers in several schools in Ngawi Regency. Therefore, we need an alternative solution using the integrated thematic textbooks depending on the needs analysis, integrated thematic textbooks development as required in the light of integrated thematic and Adiwiyata-based textbooks. Results of the development of these textbooks are expected to lead to improvements tailored to the needs of students, teachers, and communities. Accordingly, the results show that integrated thematic and Adiwiyata-based textbooks are developed to fulfill the needs of the fourth graders in elementary schools.

Keywords: development, integrated thematic textbooks, adiwiyata-based, literatute solution, needs analysis

1. Introduction

A nation's human development can be viewed from the quality of its education. Quality education requires good textbooks quality. Textbooks used as references for teachers in teaching should be regulated so as to have a strong legality. Legal textbooks can be used to produce superior human resources as stated in the Government Regulation No. 19/2005 on National Education Standards of Textbooks. Other educational facilities are set to focus on the quality standards. Other educational facilities are set to focus on the content standards, process standards, competency standards, training and education standards, standards of facilities and infrastructure, management standards, financing standards and assessment standards of education.

Furthermore, textbooks play a significant role in education, for example, they are used as references for teachers in teaching. Classes from primary school to secondary education are required to use textbooks as a guide for teachers in teaching stipulated through the Ministry of Education and Culture Regulation No. 71/2013 on textbooks and teachers' guides for primary and secondary education.

Textbook is one of the commonly used learning resources for teachers in teaching. Textbooks become increasingly central to the learning processes. Teachers need textbooks in teaching. Textbooks allow teachers to teach lessons appropriately at the class level. Textbooks are also very useful for students. Students will increasingly focus on learning.

Textbooks are essential for students and teachers to support the success of the learning processes. Cunningsworth (1993: 24) argues that:

“...textbook will meet the need encountered by many teachers, course directors, teacher trainers, and trainees for an up-to-date textbook on this important subject, which is both accessible, practical, and addresses the main issues.”

Cunningworth’s explanation shows that the textbooks meet the needs required by many teachers, directors, teacher trainings and resources to update important textbooks on the subject, which are both accessible and practical in discussing major issues.

Textbooks are useful for teachers and resources considerably ranging from the primary school to higher education. As a source of learning, textbooks play the most important role in developing sciences. Sciences, information, and entertainment can be obtained from textbooks. Mandatory components that must exist in educational institutions are both formal and informal educational institutions and one of them requires a textbook. Educational institution is a place of execution, the learning process and a process of interaction between learners and educators in a learning environment. Likewise, a textbook is also a source of practical learning, because of its flexible use, low maintenance, and easy availability.

The use of textbooks is not restricted by time, place, and the user's age, but there is a provision in the preparation or use. Textbooks can be used a source of students’ learning and a reference for teachers in classroom teaching. Students can also use the advantages of textbooks as well as the possibility to develop the imagination. A textbook can help students (a) increase interest and motivation to learn, (b) provide varieties in learning, (c) provide the structure that facilitates learning, (d) present the core of information to learn, (e) provide examples more concretely in each theme,
(f) stimulate thinking analysis, (g) provide fun learning situations without pressure.

A textbook becomes a recognized learning component that functions well. In terms of usefulness, it is a book that has an important role for students and teachers to use as a handout in learning. It is also a learning resource that can be used as a source of inspiration, the formulation adapted to the purpose of teaching based on the provisions in the curriculum. Obrazovni (2009: 16) states that textbooks teaching instrumentalities in the curriculum. This can obviously be viewed in the following statement.

"Textbook is a teaching tool (material) wich present the subject matter defined by the curriculum”.

Textbooks are books for teaching materials that support important subjects in the curriculum. Textbooks are used by teachers to teach in all grades and are easier for students to understand them in mastering achievable competencies.

Textbooks used for the fourth graders in the elementary school are integrated and thematic in nature. They have been circulated and used by primary school children in Ngawi Regency issued by Kemdikbud, Yudhisthira, and Yudistira. According to Pusbuk (2005), the selection or utilization of textbooks as a source of learning is a supporting factor of success in learning. Teachers in primary schools today are learning to use textbooks that refer to the 2013 curriculum. Textbooks can affect the success of teaching in schools. Quality textbooks can bring about change in qualified learning; otherwise textbooks are not qualified resulting in unoptimal results of learning activities. Thus, current textbooks are strongly needed in accordance with integrated and thematic demands of the 2013 curriculum. In line with these needs, researchers tried to develop textbooks of Adiwiyata-based and integrated thematic learning for the fourth graders of elementary school in Ngawi Regency.

2. Literature Review

The Essence of Textbooks

Textbooks are references required for use in units of primary, and secondary education or higher education including learning materials in order to increase faith, piety, character, and personality, mastery of science and technology, increased sensitivity and aesthetic ability, capacity and aesthetic health based on national education standards (The Ministry of National Education Regulation No. 2/2008, Section 1 of Article 1).

Tarin and Tarin (2009: 13-14) defines textbooks as texts in the field of study which are standard books, compiled by experts in the particular field for the purposes and instructional purposes, equipped with a means of teaching and matching easily understood by the users in schools and colleges so as to support a teaching program.

Meanwhile, Tomlinson (1998: 18) states, “materials design to be used in addition to the core materials of a course. They are usually related to the development of skills of reading, listening, or speaking rather than to the learning of language items”. Arifin (2008: 58) states that the textbook is a handbook for a particular field of study, written or compiled by experts in related fields, and meets the standards of textbooks and officially released for circulation. Textbooks are records of rational minds prepared for certain purposes and instructional purposes. Based on these opinions, the textbook can be used as a learning resource for teachers and students in schools.

Bacon in Tarin (2009: 63) argues that textbooks are designed, manufactured for use in the classroom, carefully prepared, and well-prepared by experts in the field and equipped with a means of appropriate teaching. Elmaghfirah (2009: 46) argues that textbooks are a learning tool used as a guide for schools and universities to support a learning program in the modern and commonly understood sense. Textbooks must be in accordance with the national curriculum and serve to support the establishment of a graduate’s competence.

Results of Ivonne Garcia Monteiro’s research entitled Analogies in high school Brazilian chemistry textbooks emphasize the use of chemistry textbooks for secondary schools in Brazil. The main purpose of this analysis is to discuss models of good textbooks for teaching use. Monteiro’s research has a similarity with this research in terms of textbooks as the object of research. The difference is that, while Ivone Garcia Monteiro analyzed chemistry textbooks used for secondary schools in Brazil, researchers developed an integrated, thematic and Adiwiyata-based textbook in Ngawi Regency.

The Essence of Integrated and Thematic Textbooks

An integrated and thematic textbook is combined with a basic competency among subjects to form a theme. In line with this view, Loveridge (2003: 28) points out that the integrated and thematic learning has a theme that contains ingredients combined with a theme to be selected among the particular field of study, and written to meet certain requirements in learning activities, systematically arranged to be assimilated.

The same insight delivered by the Directorate General of Secondary Education (2004: 3) affirms that the integrated and thematic collection of the writings is made systematically containing a subject matter that is associated with a coherent theme. An integrated and thematic curriculum uses the applicable benchmark. The integrated and thematic relevance of a theme is set to enhance competence to be developed in learning. The theme is derived from competencies to be mastered by students.

According to Muslich (2004: 68), being thematic and integrated is a benchmark study which contains a description of the lesson material bound up with basic competencies and themes in each subject or field of study, arranged systematically and have been selected based on certain goals, learning orientation, and development of students to be assimilated. Moreover, a thematic and integrated textbook is significantly designed for the standards of subjects, prepared by experts in the field and has the sole purpose of instructional design, equipped with a means of teaching the match, and easily understood by the users in schools to support the learning program.
This program is a tool for introducing different thematic concepts within a more integrated and meaningful context. Simplicity and clarity are also important to highlight in that elementary schools are made up of several types of learning themes selected by teachers to deliver to students such as the themes of people, family, environment, transport, health, hygiene, safety, animal, plant, work, natural phenomena, events, recreation, state, and communication tools.

Muslich (2004: 68) mentions that an integrated and thematic textbook is a mix between basic competencies of at least two or more subjects and a related theme to provide meaningful experiences to students. An integrated and thematic textbook basically allows students (individuals and groups) to actively seek, explore, and discover scientific concepts and holistic, meaningful, and authentic principles that encourage students to gain direct experience in the learning processes.

The Essence of Adiwiyata

The Environmental Research Center (Puslit, 2013: 8) outlines that adiwiyata is derived from two words, namely the word adi and wiyata. Adi means big, grand, good, ideal, and perfect. Wiyata means the place, the surroundings where a person gets knowledge, norms, and ethics in social life. Thus, adiwiyata is a place or a good and ideal environment where various science, norms and human ethics towards the creation of the welfare of sustainable development can be obtained. In learning processes, adiwiyata means learning environment and if it is associated with integrated and thematic textbooks, it becomes adiwiyata-based that essentially contains material-based on the learning environment.

Some Indicators of Adiwiyata

Table 1: The Curriculum Structure in Elementary Schools

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*Pancasila is the five basic principles of the Republic of Indonesia: the belief in one God Almighty, humanity that is just and civilized, the unity of Indonesia, democracy guided by the wisdom of representative deliberation, social justice for all Indonesians.

The 2013 Elementary School Curriculum

The government regulation No. 19/2005 articulates that curriculum is a set of plans and arrangements regarding the objectives, content and learning materials as well as a means used to guide the implementation of learning activities to achieve specific educational objectives. The curriculum used today in essence has improved the competency-based curriculum (CBC) namely the School-based Curriculum (SBC). The essence of this curriculum has been stated and implemented in the Decree No. 20/2003 on the national education system translated into a number of regulations, namely the government regulation No. 19/2005 on the national education and curriculum standards just revised in 2013. This government regulation provides guidance on the need for the development and implementation of eight national education standards, namely: (1) standards of content, (2) standard of processes, (3) competency standards, (4) standards of teachers, and (5) standards of facilities and infrastructure, (6) management standards, (7) standards of financing, and (8) educational assessment standards.

The Curriculum Structure

The government Regulation No. 32/2013 emphasizes the curriculum structure in which a number of subjects can be mentioned. In order to achieve the needs of graduates’ competencies, some subjects need to be mastered. Organizing basic competence in various subjects is done through an integrated curriculum with the integration of processes as previously described. Expenses of study subjects and study load every week are defined in the table of curriculum structure in elementary schools, as follows.

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3. Research Methods

Types of research

In terms of the nature of its activities, this is a research development (Sukmadinata 2005: 23) based on the development of existing materials and specific rules. This is also a descriptive qualitative research because the data are collected in the form of words, pictures, and not numbers (Moleong 2010: 11). Based on its object, Sukmadinata (2005: 23) states that research on the textbook development is closely related to the curriculum and the learning processes. This research is categorized as an educational research in that the research and development are based on the strengths and weaknesses of existing textbooks and scientific principles that are relevant in an attempt to produce superior textbooks and appropriate to the context of their use. Thus, this research is categorized as a research and development.

Volume 5 Issue 8, August 2016

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Paper ID: ART20161225
DOI: 10.21275/ART20161225
1690
Borg and Gall (1983), and Gall, et al. (2003) classify this kind of research into education research and development (R & D) defined as a process used to develop and validate educational products... that are ready for operational use in the schools. According to Sugiyono (2012: 297), research methods in the English language development or research and development are used to produce a particular product, and test the effectiveness of these products.

Research Subjects
The research subjects were teachers and students of the fourth grade in Ngawi Regency. The study involved 10 teachers and 200 students. The sampling technique used was purposive sampling, i.e. the sampling adapted to the purpose of the research (Sukmadinata, 2012: 254). A limited trial was taken in SDN Gemarang 6 followed by 1 teacher and 20 students of the fourth grade. Extensive trials were undertaken in SDN Margo Muliyu 1 followed by 2 teachers and 30 students of the fourth grade. Extensive trials were taken in SD Muhammadiyah followed by 2 teachers and 30 students of the fourth grade. At this stage, the role of observer researchers was to observe the learning activities, as well as conduct research, and provide actions.

Data Collection Technique
Data collection techniques in this research correspond to the required data. Techniques taken refer to Sukmadinata’s concepts (2012: 216) by accentuating observations, interviews, and questionnaires. Observations were carried out in a planned and controlled technique. Researchers observed learning activities implemented during the teaching and learning processes. The observatory phase was also equipped with a blank notecard checklist to be filled by the informants. Then, structured interviews were conducted.

Data collected from respondents (students and teachers) were associated with the data analysis. Therefore, textbook documents were used to map out thematic and integrated domains of data in Ngawi-based elementary schools. Integrated and thematic textbooks published by Kemendikbud, Erlangga, and Yudistira were used in the fourth grade and the data collection technique was a questionnaire undertaken to obtain information on the integrated and thematic textbooks.

Data Analysis Technique
The data in this qualitative descriptive research are all things that can be used to describe the problems under study. Analysis of the data was an interactive model. Therefore, researchers’ activities started with collecting and reducing the data. This activity focused on simplifying the data obtained from the field records. This process was performed to remove things that were unimportant and organize the data in such a way done continually to find a proper conclusion. Such a process was carried out continually until the research was completed.

Data that had been reduced was presented in the form of a series of sentences arranged in a logical and systematic order. After the data presentation was prepared in accordance with the expectation, then the data were easy to understand and take action (Miles and Huberman, 1992: 15-21). Data verification provided conclusions. The implementation of interim conclusions was retrieved done by tracing back the data presented.

The data checking was repeatedly done because an emergent new thought could possibly happen. Researchers conducted a final verification by initiating discussions with informants. The verification was conducted by researchers for the purpose of getting validity measurement, so the conclusion is more accurate and meaningful (Creswell, 2012: 276-283). The data analysis technique performed in the textbooks development was integrated into this study. The results of an accurate analysis allowed action taken in further research.

Research Settings
The setting of place of the research at this stage was schools based on the following considerations: (a) a school located in the city with a pluralistic character of students, and the selected one was SDN Margomulyo 1, (b) a school located in the suburbs where students knew the inspiring influence of the learning environment, namely, SD Muhammadiyah Ngawi, and (c) schools where the majority of students living near the forest knew the ins and outs of the forest environment, and SDN Gemarang 6 met the criteria. Research setting of time at this stage took place for three months, February-April 2014.

4. Results and Discussions

The results of the survey conducted in five elementary schools in Ngawi Regency, namely SDN Margomulyo 1, SD Muhammadiyah 1, SDN Paron 1, SDN Geneng 1, and SDN Gemarang 6 showed that only a few textbooks used as references for classroom teachers of the fourth graders in teaching. In connection with the textbooks used in teaching, of five schools, two schools used integrated and thematic textbooks published by Kemendikbud. This means that the books used in teaching were still diverse in nature.

The results of questionnaires on the perception of teachers concerning textbooks used in teaching in the fourth graders show vary convincingly. Eight teachers (80%) stated that the textbooks used in teaching was in conformity with the 2013 curriculum. In terms of the use of syllabi and lesson plans, eight participants (80%) said teachers were in accordance with the use of books. Related to the materials, five teachers stated that the materials had been coherent. This means that 50% of teachers stated that the materials had not been coherent from easy to difficult levels.

Other perceptions are related to the use of language in the textbooks. Six teachers (60%) said that textbooks used decent language appropriately based on the revised spelling (EYD) standards. Related to the suitability of the materials in the textbooks with a theme, six teachers (60%) said that textbooks used in teaching were in accordance with the theme. While five teachers (50%) stated that the textbooks used in teaching were an ongoing inter-sub-themes.
Dealing with pictures in the textbooks, 60% of teachers stated obviously, so in accordance with the form of textbooks, five participants (50%) said that teachers were attractive. While 50% of teachers stated that the textbooks used in teaching were in accordance with the children's social level. Statements related to the textbooks used in teaching levels of emotional, psychological, and reasoning power of children reached 50% respectively.

Six teachers (60%) claimed that the figures in textbooks used to support teaching the children. While the teachers stated that textbooks used in teaching were in accordance with the needs and they motivated children to learn (40% and 50%). Related to the depth of the materials, six participants (60%) said that it had been adequately deep.

Four teachers (40%) stated that textbooks used in teaching refer to reading, writing, and arithmetics. Then, four teachers' perceptions (40%) related to textbooks used in teaching emphasized adiwiyata-based concepts. The results of a questionnaire completed by teachers highlighted perceptions on the use of adiwiyata-based textbooks.

Interviews results with teachers who taught the fourth graders confirmed certain facts evidently. First, the whole teachers interviewed had the same opinion that the adiwiyata-based materials were very important to teach the fourth graders of elementary schools. Second, the materials in the textbooks were expected to be used as the provision of students' life in the midst of society. Therefore, the concern for environment would have an impact on life in the midst of society. It is also expected that students could develop the materials that they had learned to increase their ability. Students’ creativity and inspiration were highly expected. This was confirmed by Mr. Kamsi, Bu Rahma, and Mrs. Sudarwati who said that language skills could encourage students’ creativity.

Third, the use of textbooks considered unoptimal. The materials were not based on adiwiyata, so the students’ insights related to problems existing in the surrounding environment remained lack of concern. The researchers attempted to develop textbooks based on adiwiyata in accordance with the content, systematic development using Dick & Carry’s model, which used 5 stages that had been simplified and adapted to the directives of the National Education Standards. The following components need to be considered in writing the textbook, namely core competence (KI), basic competence (KD), indicators, learning objectives, learning materials and evaluation.

Fourth, the use of integrated and thematic textbooks materials based on adiwiyata the future can (1) develop language skills, so that students’ productivity could be associated with writing and speaking scientifically, (2) enhance the textbook quality based on adiwiyata integral part of its integrated and thematic existence that had not been developed fully. This material in the future is expected to be the most needed one by students, teachers, and communities, (3) influence the learning activities using integrated and thematic textbooks and adiwiyata-based one that would increase the sense of responsibility, discipline, hard work, tenacity, creativity, and resilience. This is what makes it all successful. The results of interviews with students reinforced a questionnaire distributed by the researchers. The questionnaire was useful to know the students' perceptions of integrated and thematic textbooks used these days. As much as 90% of students stated that the adiwiyata-based materials needed to be taught to students, especially the fourth graders. While students who stated that it should not be taught reached only 10% of 200 students.

It also revealed that 90% of students considered the materials integrated and thematic in the textbooks and adiwiyata-based materials were important as well. In contrast, 10% of students stated that these materials were not to be taught. Nevertheless, 90% of students said that the adiwiyata-based materials could add to existing environmental perceptions, while 10% of students said it was not environmental oriented. Moreover, 90% of students stated that adiwiyata-based materials could enhance creativity, while 10% stated that they could not increase creativity.

In addition, 90% of students stated adiwiyata-based materials could improve the controlled aspects of language, such as listening, speaking, reading and writing. Meanwhile, 10% said it was not able to improve the mastery of language. The questionnaire result evidenced that adiwiyata-based materials could increase students’ environmental awareness, in this case, 90% of students agreed and 90% of students agreed that adiwiyata-based materials can be the solution of economic problems. Adiwiyata-based materials could improve morale and cohesiveness and 90% of students agreed to this point of view. Next, 90% of students thought that such materials were based on the needs of teachers, students and community. Thus, students’ perceptions of the materials are very important to be taught for the fourth graders of elementary schools. Conversely, only a few students slightly disagreed with such perceptions.

5. Conclusion

The analysis students’ needs, teachers and people is associated with the development of integrated and thematic textbooks including adiwiyata-based materials: (1) adiwiyata-based, integrated and thematic textbooks are very important to be taught starting from the fourth grade of elementary schools, (2) these textbooks become a necessary solution toward an issue of life in the community, (3) the materials in the textbooks can trigger insight and awareness of students to the problems in the surrounding neighborhood, (4) the same materials strongly support the creation of effective learning activities and (5) the development of the materials becomes integrated and thematic in nature so as to expect that students were able to adjust to the environment. Thus, by mastering the materials in these textbooks, students are able to develop themselves, increase their competence and awareness to the environment.
References