



Analyzing Thematic-Integrative Content, Scientific Approach Content, and Authentic Assessment Content on the Grade 2 Students' Theme 6 Textbooks

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Abstract

The study was detailing: (1) the thematic-integrative content; (2) the scientific approach content; and (3) the authentic assessment content in teacher's book and student's book. The study was a content analysis using a qualitative approach. The 2013 Curriculum textbooks for Grade 2 students on the theme of water, earth, and sun which consisted of teacher's book and student's book that had been the subject in this study, the thematic-integrative content, the scientific approach content, and the authentic assessment content were the objects in this study. The data analysis technique that had been implemented consisted of unit selection, sample selection, data recording, data reduction, conclusion drawing, and narrative. The results of the study show that: (1) the thematic-integrative contains the aspect of integration and centers on the students' integration; (2) the use of scientific approach is not always in sequence so that not all indicators in each aspect of scientific approach has been found in each sub-theme; and (3) in terms of authentic assessment content, not all indicators have been found.

Keywords: authentic assessment, scientific approach, textbooks, thematic-integrative

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Introduction

2013 Curriculum is an improvement from the Educational Unit Level Curriculum (KTSP, *Kurikulum Tingkat Satuan Pendidikan*). Although the implementation of the new curriculum has been considered flawed by the government, there are still several schools that implement it consistently. The implementation is strengthened with the results of 2013 Curriculum Evaluation by the Minister of Education and Culture Anies Baswedan and team prior to implementing a new policy. The new policy, as having been formulated in the Minister of Education and Culture Regulation Number 160 Article 2 Verse 1 (Menteri Pendidikan dan Kebudayaan Republik Indonesia, 2014b), mandates that the schools that have been implementing the new curriculum for three semesters (pilot project schools) will be the ones that may continue the implementation of the new curriculum.

Indonesian curriculum demands a curriculum that should be designed as a tool for shaping a learning culture. Setyawan & Mustadi (2015, p. 108) states that character education should be applied as early as possible. This education can be manifested through the most fundamental educational degree namely elementary school. As an effort to grow and develop students' potentials, a curriculum that centers on the students and that will be based on the characters should be implemented. Glatthorn, Boschee, Whitehead, & Boschee (2015, p. 4) stated, "The curriculum is plans made for guiding learning in the schools, usually represented in retrievable documents of several levels of generality, and the actualization of those plans in classroom, as experienced by the learners and as recorded by an observer; those experiences take place in a learning environment that also influences what is learned." This statement implies that curriculum contains a plan that has already been documented and that will be implemented later in the learning.

Through this learning, students get experiences in order to establish their knowledge.

The implementation of 2013 Curriculum should be in line with the aspiration of achieving the perfect educational level. The achievement of this aspiration is not a part of the quality of textbooks as the curriculum documents that play an important role within the implementation of 2013 Curriculum. Teacher's book and student's book in its implementation should be in unity. Teacher's book serves as the guideline in benefitting the student's book and the student's book is also necessary to possess by the teacher in performing the learning activities in front of the students.

The optimization on the competencies of spiritual attitude, social attitude, skills, and knowledge has been the prioritized matters in 2013 Curriculum. All of these competencies are related from one to another and are formulated in the Basic Competencies (KD, *Kompetensi Dasar*). Integrative-thematic content, in this case, has strong association to scientific approach and authentic assessment. The three contents are important to be understood in 2013 Curriculum textbooks. Integrative-thematic learning, scientific approach, and authentic assessment should not be separated from one to another because the three curriculum contents cannot stand alone and this is the peculiar characteristic of 2013 Curriculum.

The first peculiar characteristic of 2013 Curriculum is the implementation of thematic-integrative learning. Curriculum is a plan of encouraging students to learn in order to achieve the educational objectives. Integrating learning materials from several subjects in 2013 Curriculum mandates the use of thematic-integrative learning model. (Fogarty, 2009, p. 96) stated, "We use the integrated model as an inductive process for discerning the essential and enduring skills, concepts, and overlapping ideas." From this statement, the researchers might infer that integrative learning makes use of inter-subject approach. The integration is performed by finding skills, concepts, and attitudes that have been overlapping in several subjects. The inter-subject integration has caused the aspect of skills, concepts, and attitudes to be subtle.

The integration of these materials into the learning process demands themes. Ellis (2010, p. 263) has strengthened the definition of integrative thematic learning by stating that themes provide tools for different subjects and display the unique characteristics of these various

subjects but in the same time implement the same conceptual objectives. The aspects that may be chosen are free but the contents of these themes should refer to the integrated experiences from all subjects.

Based on several opinions that have been proposed, the researchers might infer that thematic-integrative learning is a learning that centers on the students and that makes of themes in integrating the competencies both the intra-subject ones and the inter-subject ones. Themes as an inter-subject umbrella are selected by adjusting them to the real environment around the students' real life. The study that will be conducted toward 2013 Curriculum textbooks will analyze the thematic-integrative learning within the textbook. The aspects of integration are focused on the connected model and the integrated model by Fogarty (2009). Both models are focused on integrating multiple skills in both the intra-subjects and the inter-subjects.

The characteristic of thematic-integrative learning is that this learning centers on students. Kahveci & Atalay (2015, p. 95) stated that the units of thematic-integrative learning are designed based on problems in the real world and on activities that students should perform with their higher order thinking skills such as critical thinking, creativity, decision-making, and problem solving. In addition, Apriani & Wangid (2015, p. 15) stated that thematic learning demands creative, innovative, and productive teachers in preparing learning sets, learning sources, and learning media in order to help students in the activities of discovering and establishing knowledge holistically. The elaboration of those opinions has strengthened that thematic-integrative learning is able to activate students within the learning process.

Students construct their knowledge through direct learning experiences. The knowledge that they have attained from their experiences will be retained longer. Piaget in Slavin & Samosir (2009, p. 45) explained that the achievement of students in 7-11 years old under their concrete operational stage will be improvement on logical thinking capabilities, new capabilities including the use of reversed operation, non-centralized thinking capabilities, problem solving capabilities that have been less limited by egocentrism, and low abstract thinking capabilities. In this case, learning will be effective by using concrete examples according to elementary school students' characteristics.

Learning by means of game will turn students to actively construct their knowledge. Berk (2013, p. 399) stated that all experiences in playing games will play enormous role for the students' social and emotional development. The games that students play rely on simple physical activities. These games do not serve as a tool for pursuing competition; instead, these games serve as a tool for trying multiple cooperation styles and for competing, winning, and losing with minor risks. Games can be a very good theme in thematic learning because they are closely attached to the children's world especially for Grade 2 students.

Thematic-integrative learning in 2013 Curriculum makes use of scientific approach within the learning process. Harrell (2010, p. 161) stated, "The use of an integrated curriculum is a powerful way to communicate scientific knowledge." Similarly, scientific approach learning also has associations to the student-centered learning. This opinion is in line with that of Zubaidah (2015, p. 51) who stated that scientific approach is an approach which learning process invites students to take active participation. Student-centered learning leads to the scientific approach because the learning process actively involves the students in attaining their knowledge.

The learning experiences in scientific approach that has been stated by the Ministry of Education and Culture in the Minister of Education and Culture Regulation Number 103 (Menteri Pendidikan dan Kebudayaan Republik Indonesia, 2014a) include the activities of observing, asking questions, gathering information/performing experiment, reasoning/associating, and communicating. Wangid, Mustadi, Erviana, & Arifin (2014, p. 177) stated that teachers' preparedness is very important in achieving the objectives of 2013 Curriculum. Teachers are expected to encourage students to be able to achieve better performance in performing observations, asking questions, reasoning, communicating, and presenting what they have attained after they retrieve their learning materials.

Observing activities refer to the use of students' five senses. This definition is in line with the opinion by Ward, Roden, Hewlett, & Foreman (2008, p. 35) who stated that in observation students and adults learn about the world by using all of their five senses including touch, vision, smell, taste, and hearing. These observing activities make use of the five senses

through activities that have been designed in the textbooks.

Asking questions activities expect the occurrence of question and answer sessions between students and teacher and from one student to another. Gerde, Schachter, & Wasik (2013, p. 318) stated, "Generating a question: Based on children's observations, create a question that they want to answer. Teachers scaffold children's language and help them take their ideas and make them into questions." Asking questions activities can be based on students' observation in which students create their questions in relation to the problems that they want to understand. Teachers can guide each student in creating their questions, starting from question sentences to ideas that they want to propose.

Performing experiments activities are the activities that enable students to perform experiments and explorations in order to find answers for their questions. Hosnan & Sikumbang (2014, p. 58) stated that performing experiments might be defined as an activity that has been planned in order to generate the data that will be necessary for solving a problem or for testing a hypothesis. Students should have process skills in order to develop their knowledge about the surrounding environment and should be able to use scientific method and to display scientific behaviors in order to solve the problems that they deal with every day.

Reasoning activities in 2013 Curriculum learning refer to the capabilities of grouping various ideas and associating them into various events in order to put them into memory segments. Wasik (2013, p.318) stated that reasoning activities are summarizing and analyzing results in order to draw conclusions. These activities involve grouping variously different findings from the experiment in order to find results that will answer questions. Reflection, therefore, is an importance of this step because in this step students will return to what they have hypothesized and will compare their hypotheses and their findings. In these activities, teachers help students in analyzing their findings and put their ideas together into concluding statements. 2013 Curriculum mandates the essence of scientific approach in learning. Scientific approach prioritizes more inductive reasoning than deductive reasoning. Inductive reasoning views specific phenomena and situations and draw conclusions in overall.

The last step in scientific approach is that teachers are expected to provide opportunities to each student to communicate what they have learned. In this step, students are asked to report/present the results of their work that have been compiled well in individual or in their group along with the conclusions that have been drawn together. Ward et al. (2008, p. 76) added some details in the form of communicating activity results that not all conclusions should be written. Based on this statement, communicating activities might be performed in oral or in written manner.

Scientific approach and thematic-integrative learning are not separated from assessment technique that includes the three competence domains and the materials that have been integrated into it. The Ministry of Education and Culture through the Minister of Education and Culture Number 2014 (2014, p.2) states that Authentic Assessment is a form of assessment that demands students to display attitudes, to use knowledge, and to use skills that they have attained from their learning process in performing tasks on real situations. This assessment emphasizes more on the overall learning activities starting from the beginning, the process, and to the results. Bensley & Murtagh (2012, p. 5) added that students' learning results assessment can be a potent instrument for improving the learning when the scientific approach is implemented. Based on this explanation, the researchers find that there has been a closed association between scientific approach-based learning and authentic assessment.

Gulikers, Bastiaens, & Kirschner (2004, p. 69) stated that "authentic assessment require students to use the same competencies, or combinations of knowledge, skill, and attitude, that they need to apply in the criterion situation in professional life." The implication of this statement is that authentic assessment evaluates students' multiple competencies, or students' combinations of knowledge, skill, and attitude, that they can apply on the situation criterion within the professional life. It might be defined that authentic assessment has been implemented in order to describe the activities that a teacher will perform in order to attain information regarding the development of students' attitude, skill, and knowledge competencies. The assessment activities themselves can involve data gathering activities by means of various assessment techniques.

Social competencies are derived from Core Competencies and social competencies are broken down into spiritual attitudes and social attitudes. Teachers perform attitude competencies assessment through observation, self-assessment, peer-assessment, and journal.

Students' daily activities are recorded by observation with using rubrics that contain a number of indicators for behaviors under observation, both the ones related to the subjects and the ones related to general aspects. Van Blerkom (2009, p. 138) added that teachers will be students' informal observers. Teachers will observe students even when they are teaching and explaining directions for performing various activities. Teachers will perform observation in order to see whether students truly pay attention to and understand what they have been explaining.

Self-assessment is performed in order to provide reinforcement toward students' learning progress through reflection toward the learning activities that have been taking place. Self-assessment is performed by students themselves toward the results of their performance. Tichonova & Schoroškienė (2013, p. 133) stated that the basis of assessment toward the learning achievement and the learning progress in elementary education is students' self-assessment. This assessment manner is interesting and is effective in terms of assessment that enables students to direct their own learning with responsibility, to become fair partners for teachers, and to personally observe their own progress.

Peer assessment is an assessment technique that asks the subjects, in this study the students, to assess one another in relation to their competence achievement. Miller, Linn, & Gronlund (2013, p. 333) stated, "Peer appraisal is especially useful in assessing personality characteristics, social relation skills, and other forms of typical behaviors."

Journal is a collection of teacher's records regarding positive and negative attitudes and behaviors inside and outside the learning process of a subject. Gronlund (2009, pp.314-315) stated, "Anecdotal records are factual descriptions of the meaningful incidents and events that the teacher has observed. Each incident should be written down shortly after it happens." Daily events and incidents have special meanings for assessing students' learning process and the students' development

enables us to determine how a student usually perform or behave in various situations.

Teachers assess the competencies of students' skills through performance appraisal, project, product, and portfolio. Miller et al. (2013, p. 261) stated that performance appraisal provides the basis for teachers to evaluate the effectiveness of both the process and the procedures that has been implemented and the product that has been resulted from the performance task. In this assessment, teachers focus mainly on the students' performance in accomplishing their tasks. On the other occasion, the teachers' assessment is focused on the results/the products that have been resulted by the students' activities.

Project assessment is conducted from planning to implementation and eventually to reporting. Teachers should also define matters or stages that should be assessed such as design, data gathering activities, oral/written report composition. Project assessment is conducted by teachers at the end of each chapter or theme. Nitko & Brookhart (2011, p. 250) stated that long-term projects might be combined with individual projects or group ones. Students' groups can work in long-term projects altogether. After the group activities have been done, individuals might prepare their own reports.

Product assessment includes students' capabilities in manufacturing products, technology, and arts. According to Sadtyadi (2008, p. 19), although the focus is on the results, the process should also be assessed and the aspects that should be assessed are the skills of operating working tools and performing working procedures as well as technical and esthetical quality of the performance results.

Portfolio is a collection of students' works that have been selected as the documentation of their progress. Teachers and students can identify the students' capabilities development and pursue the students' improvement as well. After portfolio assessment has been conducted, feedback should be provided afterwards by the teachers in order that students identify their strengths and weaknesses so they can improve themselves. Klein-Ezell & Ezell (2005, p. 21) has divided portfolio into three types namely process/job portfolio, trophy/exhibition portfolio, and documentation portfolio. The works that can be categorized into portfolio are as follows: compositions, poems, letters, musical composition, pictures, photos, paintings,

book/literary work reviews, research reports, synopses, and students' real works that have been attained from their experiences.

Teachers assess the knowledge competencies through written test, oral observation during discussion, question-and-answer session and conversation, and also assignment. The items in the written test that becomes the authentic assessment within 2013 Curriculum are the test items that demand students to formulate their own answers such as completion, short answer, and essay. For example, the essay test items demand students to propose or to express their ideas in the form of written answers using their own words in formulating their opinions, performing their logical thinking, and drawing their own conclusion. According to Salkind (2013, p. 120), essay items are the item of choice if you want an unrestricted response and want to assess higher-order thinking, such as the relationship between ideas and the process and cons of a particular argument.

The assessment toward students' knowledge might be performed through oral observation toward the activities of performing discussion, question and answer, and conversation. Van Blerkom (2009, pp. 138–139) stated that question is a simple tool for getting students involved into the learning. Teachers' questions are designed to attain the students' concept understanding in order to provide good starting point for explanation or for learning.

Assignment instrument takes the form of homework and/or project that should be completed individually or cooperatively according to the assignment's characteristics. Setiani (2013, p. 256) stated that homework is one of the assignment forms that has been defined as an exercise for completing test items and for training students' responsibility.

This study on the content analysis is performed toward the textbooks that have been published by the Ministry of Education and Art because these textbooks should be possessed by the schools that implement 2013 Curriculum. The textbooks that have been published by the Ministry themselves consist of teacher's book and student's book. This study is conducted toward the textbooks for Grade 2 students on the theme of water, earth, and sun. This theme invites the students to understand environment that includes water, earth, and sun and to understand the impact as well as the proper exploitation for their life. The introduction toward water, earth, and sun is appropriate to be

taught when children are in their preliminary stage of concrete operational.

The most general learning materials that students use are textbooks. What the students learn within the textbooks is heavily related to the learning objectives. This statement implies that textbooks have been very important learning materials. The Ministry of Education and Culture in the Government Regulation Number 32 regarding National Education Standards Article 1 Verse 22 (Presiden Republik Indonesia, 2013) states that Teacher's Manual is a guideline that contains learning strategies, learning methods, learning techniques, and assessments for each subject and/or learning theme. Article 1 Verse 23 mentions that Learning Textbook is the main learning source that should be used in order to achieve Basic Competencies and Core Competencies. Teacher's book and student's book consist of several themes, each theme consists of several sub-themes, and each sub-theme consists of six learning activities that describe the learning activities for the whole week.

The Government, in this case the Ministry of Education and Culture, still gives opportunities for performing content analysis. This content analysis is conducted in order to improve the content of teacher's book and student's book. In line with the speech delivered by the Minister of Education and Culture that has been written in the foreword for the teacher's book and the student's book, the Government expects criticisms, suggestions, and feedback from the readers in order to revise and to improve the future educations. The Ministry of Education and Culture has added several regulations in the Appendix of Ministry of Education and Culture Regulation Number 71 regarding Learning Textbooks and Teacher Guideline for Elementary and High Education (Menteri Pendidikan dan kebudayaan Republik Indonesia, 2013). These regulations entail the list of 2013 Curriculum textbooks that have been reviewed /assessed by the Institution of Educational National Standards (BSNP, *Badan Standar Nasional Pendidikan*). This situation implies that there has not been review/feasibility assessment that has been conducted by the Institution. Based on the above explanation, there should be an analysis toward teacher's book and student's book that should be feasible for the implementation of 2013 Curriculum.

Method

The study made use of qualitative approach using content analysis. The study was a library study so that in performing the review the researchers were not limited by certain locations. The study was conducted from April to May 2015.

The 2013 Curriculum thematic-integrative textbooks for grade 2 students on the theme of water, earth, and sun that consisted of teacher's book and student's book became the subjects in this study. Then, the integrative-thematic content, the scientific approach content, and the authentic assessment content became the objects in this study.

Careful reading and note taking toward the thematic-integrative textbooks of 2013 Curriculum for Grade 2 students on the theme of water, earth, and sun became the data gathering technique in this study. The researchers made use of content analysis sheet in order to assist the categorization toward the data that had been gathered. The analysis sheet was designed based on the theoretical review in relation to the thematic-integrative content, the scientific approach content, and the authentic assessment content. In order to assist the researchers in interpreting the analysis results, the researchers further implemented the analysis construct.

Document Validity

The validity in this study referred to the semantic validity. Semantic validity was pursued by reviewing the investigated data according to the concept in this study in relation to the thematic-integrative content, the scientific approach content, and the authentic assessment content. The experts, through the expert judgment, assisted the checking/inspection on the validity of the instrument and the data. Then, the reliability in this study referred to the stability and the reproducibility. The stability was performed by examining the data sources in the textbooks for three times in order to attain information which relationship had been consistent to the thematic-integrative content, the scientific approach content, and the authentic assessment content. Then, the reproducibility was performed by having discussions with colleagues, independent analysis, and referring to the recording directions for the same unit analysis.

Data Analysis Technique

The data analysis technique that the researchers applied in this study was the content analysis scheme by Krippendorff (2004, p. 81). This scheme consisted of unitizing, sampling, recording, reducing, inferring, and narrating.

Results and Discussions

Results

The data gathering activities in this study were performed by applying reading and note taking technique on the thematic-integrative content, the scientific approach content, and the authentic assessment in the 2013 Curriculum textbooks for grade 2 students on the theme of water, earth, and sun. The followings were the descriptions on the content analysis based on the findings in this study.

Thematic-integrative

The association between the materials that had been found in the learning indicators and the Basic Competencies (spiritual attitudes, social attitudes, skills, and knowledge) in the subjects was present in learning on four sub-themes. Each subject that had been integrated into the learning contained the four Basic Competencies. This matter was apparent from the mapping of Basic Competence 1 and Basic Competence 2 for each sub-theme and the mapping of Basic Competence 3 and Basic Competence 4 in the learning process of each sub-theme. The mapping of Basic Competence 1 and Basic Competence 2 was not separated/was focused toward the mapping of each learning process; as a result, there was an impression that the learning process should contain all of the four competencies in Basic Competence 1 and Basic Competence 2 within the subjects that had been integrated. The findings in this study explained that the textbooks that had been analyzed made use of connected model in their integration, namely integrating several competencies within the textbooks. The conclusion from the analysis toward the mapping of Basic Competencies was that these indicators had already been met with the presence of Basic Competencies integration (spiritual attitudes, social attitudes, skills, and knowledge) within the subjects.

The learning indicators integrated several Basic Competencies from several subjects into a theme that existed within each subject for the four sub-themes. The number of subjects that had been integrated was different, namely

between 3 and 4 subjects that had been integrated into a learning process for the four sub-themes. The themes that served as the Basic Competencies umbrella from these subjects were as follows: Water for Sub-Theme 1, Earth for Sub-Theme 2, Sun for Sub-Theme 3 and Surrounding Environment for Sub-Theme 4. However, the Basic Competencies of the attitudes that had been expected to develop were the social attitudes and the spiritual attitudes were not included into the learning scope. The textbooks that had been analyzed only focused on the development of social attitudes namely careful, confident, and responsible. These findings showed that the theme textbooks that had been analyzed made use of the integrated model within their integration by combining several inter-subject competencies. Unfortunately, the Basic Competencies of spiritual attitudes had not been included into the learning scope as the capabilities that should be developed.

Some of these inter-subject transitions were not begun with the texts that had been related to the themes and, therefore, it seemed that the subjects had been separated from one to another. Every inter-subject transition should be begun with the texts that had been related to the theme in order to achieve the thematic-integrative content itself. The presence of these connecting texts caused the transition characteristics to be vague. As a consequence, it would assist the students in understanding the information that they attained easier because the information had been in accordance with their cognitive development.

In each learning process on the four sub-themes it was apparent that students served as the learning subjects while teachers served as the facilitators. Students as the learning subjects might be defined that students had actively been involved into each learning activity. The integrative-thematic learning caused the students to actively learn so that the students became the learning subjects. Then, teachers' role as a facilitator was apparent from the instruction guidelines in each learning activity that might be implemented through the teacher's book. Teachers served as facilitators in each learning activity in order that the learning activity would be directed and be fluently implemented. Creative, innovative, and productive teachers might assist students in discovering and in establishing their own knowledge holistically. Therefore, teachers had great influence when

they facilitated the students in their learning process. The textbooks that had been analyzed had already been equipped with teacher's guideline in implementing the learning process and in evaluating the students' learning results.

The indicators of students' active learning that had associated the students' experiences to the concrete examples were apparent in each learning process on the four sub-themes. The students actively performed concrete activities. Through these activities, the students trained themselves to be able to understand learning matters in abstract manner. The thematic-integrative learning associated the concrete experiences to the students' daily life. Therefore, the learning was presented in accordance with the characteristics of the elementary school students' cognitive development because these students just entered the stage of concrete operation.

In each learning process, the researchers found the indicators that the students performed the learning activities that integrated games. The meaning of such learning activities was that the learning process would be easier to be conducted by the students because they performed it based on their willingness and their fun. Students' social and emotional attitudes would develop through the games because they learned by having interactions with their peers.

Scientific Approach

Within the textbooks that had been analyzed, in overall the aspect of observation within the scientific approach content had been covered. The results of analysis showed that these indicators had met the aspect of observation. The indicators of examination were also found in each learning process. Then, the indicators of review and of reading were found in each sub-theme whereas the indicators of touching were found only in Sub-Theme 1. The indicators of smelling were not found in this theme.

Based on the results of the analysis, the aspect of asking questions in the scientific approach content had also been covered in the textbooks. These results showed that these indicators had met the indicators of asking questions. The indicators of asking questions, of answering questions, and of discussing additional information were found in each sub-theme. The indicators of discussing additional information that had not been understood were not found in Sub-Theme 1. In addition, the

researchers also found the abstract questions that should be understood by grade 2 students.

Based on the results of this study as well, in overall the textbooks had covered the aspect of performing experiment from the scientific approach content that had been analyzed. The results of the analysis showed that these indicators had met the aspect of performing experiment. The indicators of performing activities and of imitating shapes were found in each sub-theme. The indicators of holding discussions were not found in Sub-Theme 1, while the indicators of performing simple experiment were not found in Sub-Theme 1 and Sub-Theme 4. On the other hand, the indicators of performing demonstration, of reading other sources, and of gathering data were not found in these themes. Furthermore, the researchers found that there had been experimental activities that involved the use of chemicals; such activities had not been understood by grade 2 students. These materials should not be included into the learning process for these students.

The aspect of reasoning from the scientific approach content had been included in the textbooks that had been analyzed. The results of the analysis showed that these indicators had met the aspect of reasoning. The indicators of processing information, of creating categories, and of associating phenomena were found in each sub-theme. Furthermore, the researchers found the questions that asked the students to discuss a problem and to draw conclusions. The students would have difficulties if the teachers did not always facilitate them in their reasoning process.

Based on the results of the study, in overall the aspect of communication from the scientific approach had been included in the textbooks that had been analyzed. The results of the analysis also showed that the indicators had met the aspect of communication. The indicators of composing reports and of presenting reports were found in each learning process. The indicators of presenting detailed reports were found in each sub-theme. The indicators of creating concept maps were not found in this theme. In addition, the researchers found that the activities of composing details had been detailed. Grade 2 students would have difficulties in completing this assignment if the teachers did not facilitate them in their thinking process.

Authentic Assessment

Based on the results of the study, in overall the aspect of attitude assessment had been included in the textbooks that had been analyzed. Both the suitability and the unsuitability between the learning indicators and the assessment indicators are apparent. The results of the analysis showed that the indicators had met the aspect of assessment for social attitudes with the absence of spiritual attitudes assessment. The indicators of observation assessment were found in each learning process while the indicators of self-assessment were found in each sub-theme. Meanwhile, the indicators of peer assessment and of journal were not found in this theme. Furthermore, the researchers found the self-assessment that had not been in accordance with the linguistic development of grade 2 students.

The aspect of skill assessment had been covered in the textbooks that had been analyzed. Both the suitability and the unsuitability between the learning indicators and the assessment indicators were apparent. The results of the analysis showed that the indicators had met the aspect of skill assessment. The indicators of performance appraisal were found in each learning process. On the other hand, the indicators of project assessment, of product assessment, and of portfolio assessment were found in these sub-themes. In addition, the researchers also found detailed performance appraisal activities so that the grade 2 students found difficulties in undergoing such appraisal.

In overall, the aspect of knowledge assessment had been covered in the textbooks that had been analyzed. Both the suitability and the unsuitability between the learning indicators and the assessment indicators were apparent. The results of the analysis showed that the indicators had met the aspect of knowledge assessment. The indicators of written assessment were found in each sub-theme. The indicators of observation assessment were not found in Sub-Theme 2 and Sub-Theme 3. Meanwhile, the indicators of assignment assessment were not found in this theme.

Discussions

The findings that have been attained during the study and that have been analyzed are reviewed by means of relevant theory. The followings are the discussions on the findings of thematic-integrative content, scientific approach

content, and authentic assessment content within 2013 Curriculum textbooks for Grade 2 students on the theme of water, earth, and sun.

Thematic-integrative

The findings on the thematic-integrative content reveal that the textbooks make use of connected integration model by Fogarty (2009, p. 31). This model connects one concept to another, one topic to another, one skill to another or one assignment to another that should be performed on the following day. Within the findings of this analysis, the connected integration model integrated the Basic Competencies of attitudes (social ones and attitude ones), skills, and knowledge. However, the Basic Competencies of spiritual attitudes are not found in the integration of each learning process. Based on the mandate of 2013 Curriculum, the Basic Competencies of spiritual attitudes should also be integrated. The teachers need information on the integration, which is contained in the mapping of Basic Competencies and learning instruction on the teacher's book.

The following analysis toward the thematic-integrative content on the aspect of integration is conducted toward the learning indicators; the learning indicators associate several Basic Competencies from several subjects under one theme. These findings implied that the thematic-integrative content in the 2013 Curriculum textbooks make use of integrated integration model by Fogarty (2009, p.95). This model makes use of inter-subject approach, which regards that curriculum has been designed based on the overlapping concepts. The theme that has been assigned as the umbrella for the integration of several subjects has been in accordance with the students' needs and characteristics. The scope of the theme has also been in accordance with the students' age and development, including their interest, needs, and capabilities. These findings have been in accordance with the theories that associate several inter-subject competencies. The learning process itself then will be able to provide meaningful learning experiences for the students.

The inter-subject indicators are not clearly separated as the form of learning package that will ease the students in their learning process. The subject coverage has caused the students to learn the subjects in overall instead of learning certain subjects. The linking texts pay attention to the students' surrounding environment. This

matter is expected to be the learning focus so that the learning can be directed to the discussion of the themes that have been the closest to the students' life. According to Ellis (2010, p. 263), theme provides tools for learning various subjects and to display the unique characteristics from the same subjects. The thematic-integrative learning is a unity of integrated subjects. Therefore, there should not be any separation from one subject to another. However, the absence of these indicators in Theme 2 Earth has caused the concept that should be taught to be fragmented. In other words, the students have difficulties in understanding the learning process because the learning process is not in accordance with their cognitive development.

Thematic learning puts the students more into the position of learning subjects, while teachers will play their role more as facilitator. Similarly, Kahveci & Atalay (2015, p. 95) states that students will be active in thematic learning so that the learning might develop their higher order thinking skills such as critical thinking, being creative, decision making, and problem solving. The role of teacher as a facilitator through the teacher's book is strengthened by the opinion by Apriani & Wangid (2015, p. 15) who stated that thematic learning demands teachers to be creative, innovative, and productive in preparing learning sets, learning sources, and learning media in order to help students in discovering and establishing their knowledge holistically. Teachers facilitate each activity so that the learning will be directed and be fluent. The textbooks that have been analyzed have already been equipped with the teacher's guideline in implementing the learning process and in evaluating the students' learning results.

The findings on the thematic-integrative content within the 2013 Curriculum textbooks have the characteristics of associating students' experiences to concrete examples. Piaget in Slavin & Samosir (2009, p. 45) stated that the students' achievement in the stage of concrete operation is as follows: the improvement of their logical thinking skills; the new knowledge that includes the use of reversed operation, the non-centered thinking skills, and the problem solving skills that have been less limited by their egocentrism; and the incapability of performing abstract thinking skills. The students construct their knowledge through direct learning experiences. The knowledge that has been attained from experiences will be retained longer. In this

case, the learning should make use of concrete examples according to the elementary school students' characteristics. Therefore, these textbooks have already been provided with the concrete concepts as the equipment for the students in performing abstract skills in the future.

The students' indicators of performing learning activities that integrate games are found in each sub-theme. The games that have been found in these textbooks are not only the conventional ones but also the ones that have been related to the activities of PJOK and SBDP learning. Learning physical skills through playing games becomes the developmental tasks of 6-12 years old children. Berk (2013, p. 399) stated that the essence of playing game is that game does not serve as a tool of inter-individual competition but, instead, game serves as a platform for performing collaboration, competition, triumph, and loss with a little bit fun. Learning will be more easily understood by the students because they perform it on their willingness and fun. The textbooks that have been analyzed integrate games so that the learning situations become more enjoyable.

Scientific Approach

The activities of performing observation are characterized by the use of the five senses during the interaction with the object in order to attain knowledge. In the textbooks, the researchers find the contents of performing observation namely examining, paying attention, reading, and touching. Examining activities make use of vision, paying attention activities make use of auditory, reading activities make use of vision and taste, and touching activities make use of tactile. The findings from these indicators are not quite in accordance with the opinion by Ward et al. (2008, p. 35), which stated that the observing activities make use of tactile, vision, smell, taste, and auditory. The reason is that from the analysis findings the researchers do not see any smelling activities.

The aspect of asking questions establishes communication between one student and another and between teachers and students through the activities of asking and answering questions. In this case, the question-and-answer activities are instructed in the textbooks within the learning process. However, the researchers find abstract questions that should be comprehended by grade 2 students. In line with the Gerde et al. (2013, p. 18), in the question-and-answer activities

teachers should guide their students in making questions starting from question sentences to ideas that they want to explore within the question sentences. Therefore, the presence of abstract questions in the textbooks will demand the teachers to guide their students through concrete matters.

The activities of performing experiment demand the students to possess the process skills in order to develop their knowledge regarding the surrounding environment and to be able to use scientific methods and scientific attitudes in order to solve the problems that they deal with every day. In line with the statement by Hosnan & Sikumbang (2014, p. 58), experimental activities might only be defined as detailed activities that have been planned in order to attain data for solving problems or testing hypotheses. In addition, the researchers also find experimental activities that make use of chemicals and these activities have not been comprehended well by grade 2 students. These materials should not have been included to the learning process for these students.

The aspects of reasoning are in line with the opinion by Gerde et al. (2013, p. 318) that in reasoning activities students gather different findings from the experimental stages in order to display the results that will answer the questions. These findings support the questions that ask the students to discuss a problem and to draw conclusions. The students will have difficulties in attaining proper understanding if the teachers do not always facilitate them in performing their reasoning activities. The reasoning process might be sharpened by the teachers by encouraging them in question-and-answer activities and by triggering them to perform complex thinking. The reasoning process in the scientific approach content refers to the inductive one because the students strive to find their own knowledge.

Communication, as having been explained by Ward et al. (2008, p. 76), is a form of presentation from the results of communicating activities; in this activities, not all conclusions should be written. This matter is in accordance with the indicators of this aspect. In addition, the researchers also find report composing activities that have been very detailed. Grade 2 students will have difficulties in completing the report if they are not facilitated by the teachers in their reasoning process. In performing the communicating activities, the students are expected to be able to present their findings in order to be

displayed in front of the public so that the students' courage and confidence will be enhanced more.

Authentic Assessment

The observation on the attitudes is conducted by the teachers during the learning process by using the guideline of attitude observation that contains several indicators of behaviors. From the textbooks that have been analyzed in this study, the researchers find that the textbooks make use of the following indicators of attitude: careful, self-confident, responsible, curious, and caring. According to Van Blerkom (2009, p. 318) regarding the teachers' role in this assessment, teachers will observe students even when they are teaching and explaining the directions for various activities.

In addition to the attitude observation, the researchers also find from the textbooks that have been analyzed that self-assessment is also implemented. The self-assessment is conducted by the students themselves when their learning has finished one sub-theme. Tichonova & Schoroškienė (2013, p. 133) stated that responsibility within the self-assessment becomes the basis of learning results and progression assessment in elementary education. From the findings of self-assessment in the student's book, the researcher might infer that the self-assessment in those books is more appropriate to be implemented by the teachers. The reason is that this assessment makes use of operational worlds which grade 2 students find it difficult to understand. The different word structure influences the level of difficulty in understanding the meaning and in associating the structure to the students' thinking skills. Teachers play their role in facilitating the students during the assessment.

The textbook analysis only contains the performance appraisal as the assessment for the domain of skills. Based on the findings and the discussion, the students will have difficulties if they perform performance task in details. Meanwhile, according to Van Blerkom (2009, p.120) teachers focus on the performance and the results of students' activities. On the other hand, teachers are expected to facilitate students in performing the detailed performance activities. The students need to be directed to think stage by stage in order that they will be able to accomplish the performance tasks.

The written test items that become the part of authentic assessment are the items that demand the students to formulate their own answers such as completion, short answer, and essay. The mandate of 2013 Curriculum is in line with Salkind (2013, p. 120), which stated that essay test item will be the item of selection if teachers want unlimited responses and want to apply higher order thinking skills such as the relationship among ideas and the pro and the cons of certain arguments. In addition to essay test item, the mandate also mentions the use of completion/short answer test item. The expectation is that students might establish their knowledge through the test items that facilitate the higher order thinking skills. However, in the reality the researchers find the knowledge assessment that asks the students to select the appropriate answer such as true-or-false test item and match test item.

Oral observation assessment in the discussion, question-and-answer, and conversation activities is the reflection of authentic assessment. Van Blerkom (2009, pp. 138–139) stated that teachers implement questions as a simple tool for getting students involved into the learning. From the findings in the textbooks, the researchers find this assessment when there are question-and-answer activities both among students and between teachers and students.

Conclusions

Based on the results and the discussions, the researchers might draw several conclusions as follows. The results of thematic-integrative analysis content show that the indicators in this content have met the aspect of being centered on students. In the aspect of integration, the indicators of subject separation are not found in Sub-Theme 2 Earth. These findings also show that the mapping of Basic Competencies of attitudes have not been focused on each learning process especially the spiritual ones. Then, the results of scientific approach content analysis show that the five activities that include observing, asking questions, performing experiment, reasoning, and communicating have also been found but these activities are not performed in sequence. Then, the activities related to the smell are not found in this theme. Although all aspects have been implemented in this theme, there are still several indicators from each aspect that have not been met. In addition, the researchers also find the experimental activities that make use of chemicals and these activities

should not have been included into grade 2 students' learning materials. Next, the results of authentic assessment content analysis show that in the aspect of attitude assessment the researchers only find the use of social attitudes assessment. The self-assessment that has been found is not in accordance with the students' linguistic development. On the aspect of skills assessment, the researchers also find the performance appraisal in each learning process. Furthermore, the researchers also find that the students will have difficulties if they perform the detailed performance tasks. On the aspect of knowledge assessment, the researchers also find the written assessment in each sub-theme. Last but not the least, the researchers find the type of knowledge assessment that demands the students to select the appropriate answer.

The results of this study might be made as a matter of suggestion for teachers in performing their learning process by benefitting 2013 Curriculum textbooks. Teachers should pay attention more on the scientific approach content so that they can complete the indicators that have not been met. To the textbook authors, the researchers would like to expect that they complete the spiritual attitudes assessment as part of authentic assessment because from the results of the study the researchers do not find any assessment for the spiritual attitudes. The textbook authors are also expected to complete multiple assessment techniques in the skills assessment and the knowledge assessment that have not been included into the textbooks. Eventually, the textbook authors should also pay attention to the students' developmental characteristics.

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