

## Thematic Learning Book with Local Wisdom Insight of Boyolali Municipality for Primary School Students

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### Abstract

2013 curriculum regulates learning to be adjusted to surrounding living environment of students. Therefore, thematic Textbook with local wisdom insight should be developed by providing contextual examples. This research aims to develop thematic Textbook with local wisdom insight oriented to science literacy and environmental care characteristics. This mixed method research used explanatory design. The quantitative data was analyzed by pre-experiment typed one shot case study. The qualitative data was analyzed by flow analysis, consisting of reduction, presentation, and conclusion of the data. The data collection was done by interview, questionnaire, and test. The findings were, an interesting thematic Textbook with local wisdom insight to be learned by students since it provides contextual and detailed examples based on the materials and learning by using thematic Textbook with local wisdom insight could improve learning outcome as proven by t test. It showed  $t_{\text{count}} > t_{\text{table}}$   $5.661 > 1.67469$ . Thus a thematic teaching book with insightful local wisdom can be interesting to use in learning. The learning book have valuable benefit to introduces, students to the natural potential in its environment.

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## INTRODUCTION

2013 curriculum is the latest implemented curriculum in Indonesia. It is continuously revised to create qualified learning. It is so by considering regions of Indonesia have homogeneous cultures. The framework of the curriculum underlines that in composing and developing learning activities should consider the arrangement principles and regional oriented development for each educational unit started from the capabilities, interests, motivations, talents, potencies, social powers, emotions, learning styles, specific needs, learning speeds, cultural backgrounds, norms, values, and surrounding environments of learners (Kemendikbud, 2013). In respond to the demand, it is important to take into account local wisdom concept in arranging learning source of a lesson to optimize local natural potencies.

Local wisdom is a value internalized in a local life society. By existence of local wisdom, it adds unique features of a region, especially when it is optimized in using it. Hidayati (2016:40) explains that local wisdom as socio-cultural order realized into knowledge, norms, regulations, and skills of a certain local society to support their lives together in which is inherited. Local wisdom is a social capital developed by society to create regularity and balance between socio-cultural life of society to surrounding natural source sustainability.

This research were employed thematic learning through local wisdom by considering science literacy and environmental care characteristic. A relevant research was done by Khusniati (2014) discussing about local wisdom based science learning model through indigenous science reconstruction into western science or scientific science. Local wisdom based science learning model application is done by observing a certain culture in a society to be reconstructed in terms of its science concepts. Thus, it could foster conservative character values of learners.

The next relevant study discusses environmental care characteristic. According to

Rahmawati (2015), environmental care or awareness could be done by respecting and loving natures as shown by keeping its sustainability, not littering, promoting environmental care activities. Environmental care behavior could be fostered through environmental care character education.

Local wisdom, science literacy, and environmental care character as contained in the book within a theme - is arranged by various related lessons. By having purpose to introduce learners about local wisdom of their environments, it requires the students to know and keep it. A study stating the use of local wisdom on thematic Textbook is Laksana (2016). He recommended his findings and developments, such as to use relevant local wisdom content and context to thematic learning materials of fourth graders of primary school. It was "My Living Place". Meanwhile, the characteristic to develop was in the form of learning indicators, learning activities - such as hand on and mind on activities, discussion, latest information, and question exercise.

From the explanation, it could be concluded that there is a need of thematic Textbook with science and environmental care characteristic oriented local wisdom insight done systematically and facilitates learning process. The book was developed from core competence under a theme. It was connected to actual life context of the students and their environments as well as used by students in the learning to create meaningful learning. The local culture values were integrated in learning so students could learn based on their obtained experience previously from their daily lives.

## METHODS

The research model is sequential explanatory design. The obtained data would be analyzed quantitatively and qualitatively. The quantitative data was analyzed by pre-experiment typed one shot case study. The qualitative data was analyzed by flow analysis, consisting of reduction, presentation, and conclusion of the data.

The data collection is done by live interviews, polls and tests. Research subjects are teachers, students and parents in 3 elementary schools: SDN Randusari with 10 students, SDN Cemoro with 25 students, and SDN Mojolegi with 53 students. Qualitative analysis is used to determine the initial conditions of learning with thematic books from the government. Quantitative analysis is used for the processing of poll and test data, the result of data is described through qualitative analysis to strengthen the research data.

**RESULTS AND DISCUSSION**

An excellent and meaningful learning is a learning arranged by careful preparation and plan based on the needs and abilities of the users. This research was done to analyze the needs of the users in learning so it could be developed into appropriate textbook to optimize the learning. Andayani (2013:34) stated that a developmental research has purpose to: (1) mediate gaps of an occurrence in educational field research and educational practice, and (2) produce research products to improve educational quality and effective learning.

In learning process, students are not employed as learning object. However, they are employed as the subjects. It is important for learning to connect students' environments to make them observing, understanding, and experiencing the surrounding natural resources. Thematic textbook with local wisdom insight becomes an important complementary book as the development of adjusted learning to students' surroundings.

The developed textbook should be based on reasoning ability of students, cover authentic and actual materials based on moral and social values in the society. Therefore, textbook should be presented completely, clearly, systematically by providing examples of the current inhabiting living place to facilitate students in learning and applying the learning to their lives. Students could do the task independently and discuss them with their peers in solving it. The teaching

book is insightful with local wisdom developed with cover in Figure 1.



**Figure 1.** Thematic book Cover

The selection of cover image students are planting plants with hydroponic media based on the theme of the book about the surrounding natural environment.

Regarding the local wisdom Boyolali is associated with the natural environment modeled on Figure 2,



**Figure 2.** Learning related to local wisdom in Boyolali

Figure 2 on learning 1 is modeled after the tradition of gratitude with the alms of food that

is later eaten together for the abundance of water in the area of Selo Boyolali.

The science literacy developed on the thematic books is modeled on Figure 3.



Figure 3. Get to know Cengklik reservoir to explain the process of recycling science literacy phase

Figure 3 students are introduced with Cengklik Reservoir, the reservoir in Boyolali for further information about the process of water recycling.

Furthermore, to increase students' awareness of the environment is shown in Figure 4,

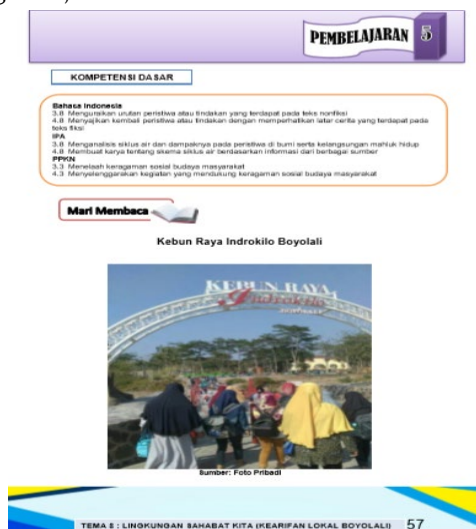


Figure 4. Environmentally caring character planting

Selection of learning by introducing students to the Botanic Garden, so that students can understand about how to safeguard the surrounding natural environment. The Indrakila Botanical Garden is loaded because the botanical garden is in the Boyolali neighborhood and is close to the student's neighborhood.

### Science Literacy and Environmental Care Characteristic Oriented Learning Book with Interesting Local Wisdom Insight

The development of the book needs to be done by meeting scientific development standards. It is supported by Wahyudin (2015) who stating that developing learning activity based on local wisdom contributed positively to improve competence based literacy of the students. Integration of local cultural values in curriculum development, such as determining learning objectives, designing learning source, determining learning strategies, learning media, and learning evaluation are important for the sake of qualified learning (Northcote et al., 2014).

The scientific development was done by developing the book with Boyolali local wisdom insight by being validated by the experts and it could be used based on graphic, linguistic, and material aspects. The validity results of the experts reached 80.83%, categorized applicable with minor revision and it has been through revising stages based on the development of students. The practicability of the book based on the teacher's response showed that the book with local wisdom insight was interesting since the book had contextual and detailed examples related to the materials.

### Contextual Based Thematic Learning Book

Local wisdom is important to be added in thematic Textbook because learners need to learn based on their surrounding environment to be connected in the class. According to Akbar (2015:72) thematic learning material should accommodate and use real situation in the students' environment to be meaningful learning practices for the students' lives. Local wisdom plays important role in thematic learning to

enrich students' knowledge and to connect it to their natural environment situations.

The book with local wisdom insight, from the teacher's response showed that it was interesting because it provided actual experience for the students in learning. The book was also qualified because the learning sources were taken from surrounding natures where the students lived. It was consistent to Su'udiah (2016) stating that contextual based thematic textbook which was developed was effective to use in learning. Therefore, it is suggested for teachers to use contextual thematic textbook as complementary in learning. Teachers could make the book as examples or reference to develop thematic Textbook on other themes or sub themes.

#### **Textbook Containing Detailed Examples Related to the Materials**

The textbook with local wisdom insight consisted of several specific examples. The responses of the findings showed that the book with science and environmental care characteristic orientation on fifth grade, themed 8 - Environment is Our Buddy, obtained positive responses. The teachers responses were (1) the figure was interesting. The material was simple and easy to learn and the cultures had been taken from several parts of Boyolali which could represent the city; (2) the learners knew and understood the local wisdom in their city so that it was expected to be able to develop Boyolali's cultures; (3) there had not been any complementary book with local wisdom insight materials. Thus, the students were interested to find out the cultures and potencies in their environments. The responses were in line with Tamalene (2014) research that local wisdom is a part of local culture knowledge fostered from learning process by observing, testing, practicing, and distributing to every person. Local knowledge is formed through reasoning pattern of the inhabitants both individually and collectively.

The readability of a book is important to find out whether it is worth to develop, to improve the book's quality as information, content, or meaning source in which are

delivered from the books and must be considered and presented not only visually but also easy to be understand. That is readability aspect from a reading book or textbook. Thus, to prove the reliability of thematic textbook with interesting local wisdom insight oriented to science literacy and environmental care characteristic, there was a need to collect the data in the form of questionnaire to 10 students of Randusari Public Primary School.

The readability of the fifth graders of Randusari Public Primary School, Teras district, Boyolali municipality was 3.6. The score was categorized very excellent. Thus, within readability aspect, the book was said to be reliable for learning uses. Duncan (2014) in his research revealed that initial experience became the principle of promoting learning. Teacher who have different cultural context would have difficulties in giving learning experience based on the cultural context.

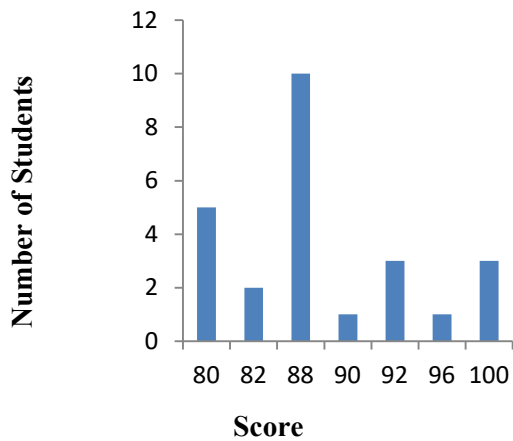
Other findings were revealed by Laksana and Wawe (2015), finding that science learning assisted by media, especially local culture based media, showed satisfying outcomes. The improved learning activity was followed by empowerment of science concepts of the students. Thus, local wisdom review study should be integrated into learning as an effort to improve learning quality.

The test of fifth grader of Public Primary School Cemoro skill by using the textbook could be seen on Table 1.

**Table 1.** Posttest Scores of Public Primary School Cemoro at Fifth Grade

Students' Numbers	Average	The Highest	The Lowest	Total Score
25	88.24	100	80	2206

Based on the table, it could be seen that the students' achievements on post test in Figure 1.



**Figure 5** Frequency Distribution of Post test Scores

Figure 1, the test after treatment was done by providing essay for 25 students with average 88.24. The average was higher than the minimum passing grade, 70. Thus, it could be concluded that the book made learners interested by having satisfying scores.

**Effectiveness of the Textbook in Learning**

The effectiveness of the book was done by using pre-experimental research design typed one shot case. The textbook was used as treatment. Then, there were 10 questions given for the post test. Based on the analysis of t test statistic of One Sample Test, by hypothesis formulation  $H_0 =$  Learning by using the textbook did not improve learning outcome, and  $H_1 =$  learning by using the textbook improved learning outcome. It could be seen on Table 2.

**Table 2** One Sample t Test Result SPSS Test

School	Class	df	t tabel	t count
SDN	V	52	1.67469	5.661

**Mojolegi**

From the Table 2, it could be seen that t count > t table. Thus, the hypothesis was accepted. Therefore,  $H_0$  was denied. It meant that  $H_1 =$  learning by using thematic textbook with local wisdom insight could improve learning outcomes.

**CONCLUSION**

From the findings and discussion, it could be concluded that the thematic textbook with local wisdom and science literacy and environmental care character orientation which was developed. The textbook obtained average score 3.6, categorized very excellent. From readability aspect, the textbook was easy to understand. The t-test result showed that t count > t table. Therefore, the learning by using thematic textbook with local wisdom insight could improve learning outcome and the textbook was interesting for the students in learning because it provided actual examples from their surroundings.

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