

Thematic Text Book Development Based on Local Wisdom

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Abstract: Local wisdom based education is a part of the implementation of character building principles in education which enable students to prepare themselves for future. The local wisdom plays significant role since the implementation of real-life context in teaching learning activities is the best approach to initiate the lesson. Not only as a basis in teaching learning activity, the implementation of local wisdom will assist student to comprehend every concept in learning material, therefore students will be able to implement their cognitive ability in daily life. One of means of integrating local wisdom is by transferring it to the textbook. Research and development study need to be done in developing local wisdom based textbook. The aim of research and development study is to create a valid, interesting, practical and effective textbook. Thiagarajan's 4D model was implemented in this research and development study. The data analysis shows that this book is valid, interesting, practical and effective to use in teaching learning process.

Key Words: textbook development, local wisdom

Abstrak: Pendidikan berbasis nilai-nilai kearifan lokal adalah pendidikan yang menerapkan prinsip-prinsip pembentukan karakter. Kearifan lokal sangat penting karena terkait dengan penyiapan kualitas generasi yang akan datang. Proses pembelajaran haruslah dimulai dari lingkungan terdekat atau yang sering dijumpai siswa. Nilai-nilai kearifan lokal dapat membantu siswa memahami konsep nilai-nilai positif dalam materi buku teks. Kearifan lokal dijadikan basis dalam pengembangan buku teks tematik di sekolah dasar. Penelitian dan pengembangan ini bertujuan untuk mengembangkan buku teks tematik berbasis kearifan lokal yang valid, menarik, praktis, dan efektif. Model penelitian dan pengembangan dilakukan dengan menggunakan model 4D dari Thiagarajan. Hasil analisis data menunjukkan bahwa buku teks yang dikembangkan telah memenuhi kriteria kevalidan, kemenarikan, kepraktisan, dan keefektifan dalam pembelajaran.

Kata kunci: pengembangan buku teks, kearifan lokal

INTRODUCTION

In the current era of globalization, many people are deprived of their social environment. They are alienated from the surrounding environment and consequently they do not recognize the potential that exists in the environment around them. Education takes a role to prepare qualified human resources to solve the above problem. One way to optimize the quality of education is by applying local custom values. This is supported by Warigan (2012), a culture extracted from local wisdom does not hamper the progress of the global era, but it filters into the culture and transformational force of the nation.

Preliminary studies at several elementary schools in Purwakarta showed that the conditions were not in line with expectations. Mainly, the problem is due to the process of learning which does not emphasize on local wisdom values and real-world context. This is due to the absence of textbooks that facilitate teachers to instill the character of local wisdom values and material associations with the surrounding environment. Teachers tend to focus on the available textbooks (thematic textbook which does not adopt the environment around students and local knowledge from the local area). As a result, the learning process does not foster the character and interest of students to pay attention to the preservation and utilization of

the environment and the ability to solve problems that occur in real-life context.

Integration of local wisdom in the learning was designed by developing thematic textbook. Textbook serves as one of the essential instructional material. Mostly, schools use textbook as the primary source in learning. Textbook is one of the important learning source for students which is designed according to the applied curriculum. It is in line with Prastowo (2015) stating that textbook comprises of knowledge which is developed based on the basic competences of applied curriculum. According to Akbar (2013), favorable textbook should have eight characteristics as follows: (1) accurate, (2) suitable, (3) communicative, (4) complete and systematic, (5) student-oriented, (6) in line with nation's ideology, (7) linguistically appropriate, and (8) readable. Thus, integration of local wisdom into the thematic textbook is a strategic approach in learning.

This research develops thematic textbook which is used for thematic learning in school. It further aims at stimulating students to be actively involved in learning, experiencing delightful and favorable learning circumstance, receiving holistic (thematic) knowledge, and obtaining direct experience. It is in line with Prastowo's (2013) defining that thematic learning should be active, interesting, holistic, and authentic (giving direct experience to students).

This paper develops thematic textbook since in the current educational setting, elementary school students learn with thematic learning approach. Thematic learning according to Majid (2014) is a learning which is based on certain and particular theme for several subjects. Thematic learning approach is based on progressivism, constructivism, and humanism philosophy. Progressivism concept sees learning as a process in establishing individual's creativity by giving several activities, promoting natural learning atmosphere, and promoting direct experience in learning process. Constructivism philosophy emphasizes learning as individual's direct experience. Also, humanism considers student as unique individual.

Thematic textbook based on local wisdom facilitates students to have a learning which is associated with real-life context. In line with Utari (2012), meaningful and joyful thematic learning could be promoted by incorporating learning with the surrounding environment of students or by employing contextual teaching and learning. This research deals with local wisdom of Purwakarta Regency since it develops thematic textbook for students in Purwakarta Regency, West Java.

Local wisdom is a set of values applied in local community dealing with certain wisdom and concept and it is commonly followed by the local community (Sartini, 2004). Zulkarnain and Febriamansyah (2008) also define that local wisdom is a set of principles and concepts understood and applied by local community to interact and interrelate with the surrounding environment and it is commonly transformed into cultural values and norms. Kongprasertamom (2007) argues that local wisdom is a knowledge which was generated from the experience of local community and several accumulation of local knowledge. Local wisdom lies within local community and individual as the member.

The principle of learning development based on the local wisdom is an ethnopedagogy. This principle is an educational practice based on local knowledge. Ethnopedagogy sees local knowledge and wisdom as a source of innovation and skill for empowering local community. It deals with educational practice in the aspects of health, martial arts, environmental preservation, agricultural, economics, governance, calendar system, and etc. Local wisdom is suitable to be applied as one basis of education and empowerment (Noviana, 2014).

This research integrates values related to education (*cageur, bageur, bener, singer, pinter*), the philosophy of *silih asih silih asah silih asuh*, values related to social life such as *babasan leuweung ruk-sak, cai beak, manusa balangsak, babasan leuweung kaian, gawir awian, sampalan kebonan, legok balongan; babasan gunung teu meunang dilebur, legok teu meunang diruksak*, and the values of the utilization of *leuit* and *kendi*

The values related to education in the developed textbook take a role as the objective of learning which should be possessed by students. It is in accordance with the opinion of Samami and Hariyanto (2016) which state that main important characters of Sundanese people are *cageur* (healthy) physically and mentally, *bageur* (good) in talking and behaving, *bener* (correct) in achieving life's goal, *singer* (introspective) avoiding an incorrect behavior and attitude, and *pinter* (smart) in improving knowledge quality.

The philosophy of *silih asih silih asah silih asuh* should be applied within Sundanese community. As stated by Suryalaga (1998) *silih asih silih asah silih asuh* means to love, to advise, to share knowledge and experience, and to guide. In the context of education, *silih asih silih asah silih asuh* means cognition, affection, and psychomotor as stated by Ardianto (2013). The developed thematic textbook imposes the

philosophy of *silih asih silih asah silih asuh*. Each learning activity in the textbook will be incorporated with the philosophy of *silih asih silih asah silih asuh*.

According to the local proverbs, *leuweung ruk-sak, cai beak, manusa balangsak*, which means if the forest is destructed, water will be scarce and human will be suffered (Yulianti in Supriatna, 2016). The proverbs reminds us the importance of preserving forest as primary water source. Also, *babasan leuweung kaian, gawir awian, sampalan kebonan, legok balongan* reminds the local community to preserve forest by planting a trees and certain land must be refined as well, the lowest land must be made a pond (Supriatna, 2016). In addition, *gunung teu meunang dilebur, legok teu meunang dirusak* means that mountain should not be destructed as well as the lowland (Supriatna, 2016). The forest enroachers open the land in the forest by burn the forest which harms the ecosystem within. They need to learn from the Sundanese local wisdom. The above local wisdoms are integrated in Natural Science, Social Science, and Civic Education subjects.

In Sundanese local community, they commonly build a storage room for harvested crops called *leuit*. Supriatna (2016) explains *leuit* as a storage room which stores food crops as a reserved food source when famine period comes or during dry season when it is impossible to plant a food crops due to the limited rainfall intensity. This local values signifies a future-based perspective of Sundanese local community. In addition, Sundanese local community commonly use an eco-friendly households such as *kendi*. *Kendi* is a drinking water jug which is made of clay. The concept of *leuit* and *kendi* are integrated in Natural Science subject, particularly in natural resource topic.

The local folklore which is integrated in the developed textbook is entitled *Tanah Sunda*. The folklore tells the local community about their responsibility in preserving their homeland. In addition, the developed textbook also integrate *pencak silat* as traditional martial arts of Sundanese local community. The martial art is integrated in Sport education. In addition to the folklore and the martial arts, several traditional dishes also strongly correlated with the local natural sources. The most popular traditional dishes in Purwakarta are *sate maranggi, simping, peuyeum bendul dan borondong baseuh*. Traditional dishes signify as the identity of the local community. The traditional dishes are integrated in Indonesian Language subject.

Research and development of local wisdom-based textbooks have been carried out by previous

researchers including (1) Sukarno (2012) in the “Integrating Local Cultures In Teaching English as a Foreign Language For Character Building” study explaining that in learning English, local culture can be made as input to explore and elaborate local culture that contains local values and wisdom that are meaningful for character formation. In learning English, it is better not just linguistic elements that are included but elements of local culture to be included in learning English language skills; (2) Thresia (2015) in the research “Integrating Local Culture to Promote Character Education in Teaching Writing”. The research conclusions show that students have great interest and motivation in writing texts based on their local culture. In addition, students get moral values and characters from the material being studied so as to influence the character of students in everyday life. Students become more polite, honest, diligent, and religious; (3) Supiani (2016) conducted a research on “Development of Social Sciences Learning Material Supplements Based on Local Wisdom of the Dayak Kenyah Tribe in Environmental Management.” The development of this teaching material obtained the results of validation from material experts at 94.44%, 75% linguists and experts 76.56% design. The overall evaluation results received a percentage of 82%. Thus the supplementary teaching material developed is very feasible to use.

METHOD

This research employed 4D Model suggested by Thiagarajan, Semmel, and Semmel (1974). It consisted of define, design, develop, and disseminate. However, this research was only limited to the development stage since the researchers had limited duration of research.

During the stage of defining, the researcher performed front-end analysis, learner analysis, task analysis, concept analysis, and specifying instructional objectives. In addition, in this stage, the researchers observed the existing textbook and the learning process, performed interview and analyzed the curriculum. In this stage, the researchers obtained several problems and needs before developing the textbook.

During the stage of designing, the researchers designed the textbook by choosing the suitable media and format. In addition, evaluation test as learning target was arranged. In this stage, the researchers designed two version of the textbook, textbook for teacher and textbook for student. The initial drafts were developed through (a) expert appraisal followed by revision and (b) developmental testing. Assessment was

performed by three experts, content, language, and media using validity score. Validated media was then revised according to the experts suggestions.

The revised product was then tested in the small group. Six students and three teachers were asked to test the product. Small group testing was performed to identify how interesting the product is. Revision was also made after small group testing based on teachers and students suggestions.

Then, the newly revised product was tested by 24 students in field trial. Field trial aimed at identifying practicality and effectiveness of product. Product practicality were obtained through questionnaires distributed to the students and teachers. Meanwhile, the effectiveness of product was identified through pre-test and posttest score performed in the end of sub-theme.

This study employed descriptive quantitative and qualitative descriptive analysis. Quantitative descriptive analysis was used to analyze data in the form of scores obtained from the results of validation questionnaires, teacher and student response questionnaires, results of assessment of observations of student and teacher activities and student learning outcomes tests. Qualitative descriptive analysis was used to analyze descriptive data in the form of suggestions and responses from validators, teachers and students as well as learning observation results.

RESULTS AND DISCUSSION

At the define stage, the researcher obtained several problems in the teaching materials used and its impact on the learning process. These problems include (1) incompatibility between indicators and basic competencies; (2) material mismatch with basic competencies; (3) there is no link between the material and the environment where students live; (4) no concrete images that describe the surrounding environment in the textbook; (5) textbooks do not facilitate the character education encouragement. Based on these problems, a plan was made to develop a textbook consisting of student books and teacher books. This research develops thematic textbook for “My Neighborhood Environment” sub-theme of IV Graders.

The textbook developed contains the local wisdom of Purwakarta Regency which includes the use of natural resources and the environment that is integrated with Indonesian language, Natural Sciences and Social Sciences subjects; Sundanese folk songs

that are integrated with local cultural arts content; *pencak silat* martial arts that are integrated with the Sport subject; traditional food that is integrated with the contents of Indonesian language and Natural Science subjects. Sundanese philosophy that has educational character values that are integrated into the learning objectives and all learning content. The steps of learning activities are in accordance with the scientific approach. Scientific learning activities include observing, asking questions, digging up information, associating, and communicating (5M).

This local wisdom-based thematic textbook consists of six chapters. Chapter 1 contains the Indonesian language, Natural Sciences, and Social Sciences subjects. The teaching material is to conclude the text entitled Purwakarta Regency in which there is an explanation of natural resources, the geographical condition and its relationship with local people’s activities, local wisdom values on how to use the environment properly, namely *Leuweung kaian, gawir awian, sampalan kebonan, legok balongan*. Chapter 2 entitled Purwakarta is The Sundanese Land. The teaching materials are in the form of wind direction and borders of Purwakarta Regency, the obligation of the community to preserve the environment, a regional song entitled Sunda land as well as the character values of Sundanese local wisdom in protecting the environment, such as *babasan gunung teu meunang dilebur, legok teu meunang diruksak*. The content of lessons in learning is Mathematics, Civic education, and Cultural Arts.

Chapter 3 discuss the traditional food. It contains the subjects of Sports, Natural Science and Indonesian. The teaching material is to practice the basic movements of *pencak silat*, making traditional food based on instructions, the relationship of natural resources with technology and the character values of Sundanese local wisdom in maintaining the natural resources contained in *Leuit*. Chapter 4 discusses Purwakarta Tourism. The content of the lessons contained in this chapter is Mathematics, Indonesian language and Civic education. The teaching material contained is the route of travel, the text entitled Jatiluhur Reservoir, the structure of the question sentence, the character values of local wisdom in maintaining the cleanliness of the river and the obligation of the community to maintain environmental hygiene and the benefits contained in *babasan kiruh ti hulu kiruh ka hilir*.

Chaper 5 discusses the geographical condition of Purwakarta. The contents of the lessons contained in this chapter are Social Studies, Mathematics and

Table 1. Suggestions for Revision from the Experts

No	Suggestions	Revision	Remarks
1	Less contrast for background color and font color	Light blue for background color and dark blue for font color	Revised
2	Font in the map is too small	Increase the font size	Revised
3	Some grammatical errors	Grammatical errors highlighted by expert	Revised
4	Inconsistent term of address	Revising the term of address in the whole book	Revised
5	Comments for some language structure	Highlighted by expert	Revised
6	Images need to be more proportional and needs to be given number, caption, and source	Included number, caption, and source of the images	Revised
7	Header text is too big	Decreasing the font size	Revised

Cultural Arts. The material in this chapter is drawing a plan and route of travel, the natural waters in Purwakarta Regency, making crafts from used bottles and character values of local wisdom in maintaining water availability are in *Babasan leuweung ruksak, cai beak, manusa balangsak*. Chapter 6 titles is Purwakarta Istimewa. The contents of the lessons contained in this chapter are Sport, Civic education and Indonesian language. It teach students the basic motion of *pencak silat* (punch), the obligation to maintain cleanliness of public places, a text entitled Plered as the center of the ceramics industry, concluding the contents of the text and character values contained in traditional equipment (jugs).

The teacher's book developed is a teacher's book in the form of teacher guidelines in using student books. The teacher's book consists of elaboration of graduation competencies, core competencies, basic competency mapping, indicators and mapping of local wisdom material, elaboration of local wisdom values in learning objectives, elaboration of local wisdom values in discussion activities, elaboration of learning objectives, steps of learning activities, enrichment, remedial and assessment. The plan was then outlined in the form of an initial product draft.

The researcher designed a textbook using the 12 space Arial font size two. The Arial font was chosen because it looks simple and easy to read. The initial draft thematic textbook was then validated by three experts, material, language and media experts. The three validators are lecturers who have Doctoral degree qualifications. Based on the results of the validation by the material expert, the average percentage of student's book validity was 97.50% and the teacher's book was 96.67%. This percentage indicates that the textbook is on a very valid criterion. The material validator also provided suggestions for revising the textbook. The percentage of validity by linguists in student's book was 77.08% and teacher's book was 75.00%.

The percentage shows the textbook is included in the very valid criteria for the student's book and is valid for the teacher's book. Linguists also provided suggestions for revising textbooks. The results of the validation by media experts for the student's book was 80.00% and the teacher's book was 83.33%. These results indicate that the book developed is very valid. The researcher also paid attention to the suggestions from the media validator for further product improvements.

In general, the average percentage of student's book validity was 87.90% and teacher's book was 86.84%. This shows that the developed textbook is very valid and can be used at the next trial stage. The Table 1 shows the suggestions for revisions given by the three experts.

Textbook products that have been validated and revised based on expert advice were then tested on small group trials to test the level of attractiveness. The subjects were six students and three teachers. The results of the trial of students' book attractiveness were 91.66% and the teacher's books were 95.14%. This shows that the textbook developed is very interesting. Students and teachers in the small group test provided suggestions and comments that form the basis of improvement for the developed textbook. The improvements made are listed in Table 2.

After revising, the product was then tested with a subject of 24 students. The level of validity obtained from the observations of teacher activities was 91.44%, observation of student activities was 91.67%, questionnaires on students' responses to textbooks was 93.68% and teacher responses to textbooks was 89.06%. This shows that the practicality of the textbook is very practical.

The results of field trials that have been conducted show that local wisdom based thematic textbooks can improve student learning outcomes. This is evidenced by the average value of students at the

Table 2. Revision after Small Group Trial

No.	Suggestion	Revision	Remarks
Students' Responses to Student's Book			
1	Picture in page 43	Adding picture in page 43	Revised
2	Numbering in page 15	Putting number in page 15	Revised
Teaches' Responses to Teacher's Book			
3	Different cover for student's and teacher's book	Revising cover for both books version	Revised
4	<i>Tanah Sunda</i> lyrics must be typed italics	Revising the lyrics of <i>Tanah Sunda</i> song	Revised

Source: Researcher 2017

pretest of 66.67 with a percentage of completeness 37.5% and increased in the average value of students in the posttest that is equal to 81.50 with a percentage of completeness 91.67%. The average score of the competency test obtained by students has exceeded the Minimum Standard of ≥ 70 . Based on the increase in the average value at the posttest, it was concluded that the products developed in the form of local wisdom based thematic textbooks were categorized as very effective and could be used as supplements in learning activities. After the field trials were carried out, no revisions were made because no significant problems were found and the researchers did not obtain suggestions for improvements from both students and teachers.

Local wisdom-based thematic textbooks developed have met the criteria of valid, interesting, practical, and effective use in learning. This is supported by Akker's opinion (in Sofnidar & Sabil, 2012) which states that the quality of instructional media is at least seen from validity criteria, practicability, and effectiveness.

CONCLUSION

Based on the results of the study, it was concluded that the developed textbooks were categorized as valid, interesting, practical and effective. This is proven from the results of the validator's assessment of the three aspects, namely material experts, media experts, and linguists. In addition, this is proven from the assessment of students and teachers during small group trials. The results of observations of student and teacher activities, student and teacher response questionnaires after field trials also showed positive results. The development results can be concluded effective because the average score of student learning outcomes increases from the results of the pretest 66.67 to 81.50 at the posttest. In addition, the per-

centage of students who complete the Minimum Standard is expected, that is 70 to reach 91.67% of the maximum percentage of 100%.

Product development should be carried out until the dissemination stage, but this textbook cannot be used outside of Purwakarta Regency because this thematic textbook is specifically designed for elementary schools in the Purwakarta Regency. As a follow up, the next researcher can develop teaching materials based on local wisdom in other regions in Indonesia and on other learning themes.

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