CONTENT ANALYSIS OF VALUE OF CHARACTER: A CASE STUDY OF PHYSICS TEXTBOOK IN REMBANG REGENCY

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Article Info

Abstract

Textbooks plays an important role in learning. One of its functions is to implement the value of character education. It is therefore important to analyze the content of the character values in a textbook. This research aims at revealing: (1) the characteristics of the character value content in physics textbooks of the 2013 curriculum at eleventh grade and conformity to map the value for high school students based material development of the nation's culture and character education, (2) the suitability approach to character education in textbooks within the framework of the comprehensive approach, as well as (3) the display characteristics of integration character values in the textbook. The research method is inferential content analysis with quantitative-qualitative descriptive approach. The subjects were two eleventh gradephysics textbooks on dynamic fluid material that refers to the 2013 curriculum and those widely used as the primary learning resources in the district of Rembang.The content analysis of character valuesinvolved three independent raters who were given the structured observation sheets. Book A contains 15 of 18 values with the most dominant responsibility of 14.81%. While book B contains 12 values and dominated by the value of curiosity of 16.67%. Both of the books have not fully implemented a comprehensive approach. The presentation of the value of characters in both books is integrated implicitly and explicitly.

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INTRODUCTION

The modernity of technology and information changes students' behavior and mindset. Recently, many immoral cases and delinquencies which are not in line to Indonesian culture done by students.

Character education is the effort to habituate students with good behavior that they can behave and act based on the good personality, not only able to distinct which things are good and bad (Rachmah, 2013). Character education is very important to do. Like in Tannir dan Anies (2013),

the intellectually able students who received character education showed a higher self-esteem rating than the intellectually less able. The character education program had benefited the intellectually able more than the intellectually less able students.

The implementation of 2013 curriculum which is based on competence and character is hoped to solve current educational issues. In this case, the characteristics of 2013 curriculum are: (2) to create a local-centered education, (3) to create a friendly and cheerful education. The Passing Standard of 2013 Curriculum explains that based on its principple, the development of students' character should be done by accepting, responding, appreciating, living, and implementing their knowledge (Wahyudin, 2013). In details, physics education also has important role in maintaining and directing students' character. Three aspects of physics education contain the elements of physics and physicist activities, curriculum of physics, and learning physics (Koes-H, 2012).

The Curriculum Centre from the National Ministry of Education (2010: 10) has distributed 18 values of characters which can be taught to elementary and middle schools education. These values originate from religion, Pancasila, cultural value, and national education goals. These values can be seen in this following table.

Table 1. The Mapping of Characters for Education (Curriculum Centre, 2010:10)

No	Values	Description
1	Religious	Behavior and action of obedience in following the religious path that students follow. Being tolerant to religious acts done by other religion's followers. Live in harmony with other religion's followers
2	Honest	Being trustworthy for every action, words, and works
3	Tolerant	Behavior and action of appreciating differences of religions, races, ethnics, opinion, and another people's action.
4	Discipline	The action of being orderly and obedient to every rule and regulation
5	Hardworking	Action of being serious in solving many obstacles in learning and working as well as putting the hardest effort in doing job.
6	Creative	Thinking and doing something new from the existing things.
7	Independent	Less dependent to other people in doing individual job.
8	Democratic	Mindset, action, and behavior which values the rights and responsibility of individuals and community.
9	Curious	Behavior and action of always attempt to know something deeper and wider from something which has been learned, seen, and heard.
10	Nationalist	Mindset and action to place national issues higher than individual or communal needs.
11	Loving the Homeland	Mindset and action of showing loyalty, careness, and appreciation to the nation based on its physical environment, social condition, cultural condition, economic condition, and political condition.
12	Rewarding Achievement	Behavior and action which motivate individual to produce something contributive to the society as well as reward other people's success.
13	Friendly / Communicative	Action of happy to talk, communicate, and cooperate with other people.

No	Values	Description
14	Love Peace	Behavior, words, and action which cause other people to feel happy and secure after individual's existence.
15	Joy of Reading	Habit of spending time to read something good for people's development.
16	Environmental Awareness	Behavior and action to always prevent the breakage of natural environment around and develop the efforts to recover the destruction of the nature.
17	Social Awareness	Behavior and action to always help other people.
18	Responsible	Behavior and action to always do task and responsibility for the sake of individual, society, environment (nature, social, culture), nation, and God the Almighty.

The textbook which contains the characters should be the tools of spreading the ideas and implementation of character education to the society without adding another specific subject separately. All subjects' textbook should be integrated to the value that it can be used in a long term to develop students' character (Khusniati, 2012; Kusumaningsih, 2013; Sasmito and Mustadi, 2015).

Character education should be done comprehensively which includes the unification of many aspects (Rukiyati, 2013). Comprehensive approach model from Kirschenbaum which is popular among educational experts is hoped to be able to give clearer problems' solution (Permatasari and Zuchdi, 2014). Zuchdi (2010: 36-37) opines that the comprehensive strategy in applying character education copes four aspects.

First, the content of the education should be comprehensive to include all problems related to character values. It can be related to personal problems or general ethics. Second, the method of character education copes the inculcation of value, give examples, and the preparation of young generation. Third, character education should happen in all process of education. Fourth, character education should happen in people's life.

According to the Regulation of Ministry of Education number 11 year 2005, learning textbook is the obligatory reference book for students to do at school which contain learning materials which can improve students' faith, obedience, behavior, personality, mastery of science and technology, awareness, and health based on national education standard. Muslich (2010) describes that textbook is a learning textbook at school which contains th selected

materials in certain subject in written form for the teaching and learning process and has been arranged systematically to be assimilated.

The choice of learning textbook is the initial step to achieve maximum learning outcome (Jatmika, 2014). Textbook as the learning source make students become independent to understand learing materials (Anisah, 2016). Therefore, the needs of doing content analysis to review the materials in character education is initiated. In this research, it was done to physics textbooks based on 2013 curriculum which were used in most schools in Rembang regency. The books were reviewed from the scoring map which has been arranged by the curriculum centre of Ministry of Education as well as analyze the approach which can be used to integrate character education comprehensively.

This research aimed to analyze (1) characteristics of content from the character education of physics textbook for XI grade students based on 2013 curriculum and its adjustment to the scoring map for the development materials of cultural education and national character building, (2) the adjustment of character education's approach in the book with comprehensive approach, and (3) characteristics of organization in integrating the delivery of content to character education in text.

METHODS

This research was a descriptive quantitative-qualitative research focusing on a content analysis. Krippendorff (2004: 18) explains that "content analysis is a research technique for making replicable and valid inference from data to their context".

Descriptive research is a research meant to collect information regarding a symptom of the

reality when the research is conducted (Arikunto, 2013:3). The subjects of this research were 2 textbooks for physics for XI grade students based on 2013 curriculum. The samples were taken based on purposive sampling consideration. In details, the consideration were a textbook based on 2013 curriculum, a textbook used as the main teaching and learning book, dan a textbook used in Rembang regency. Those books were:

1) Rufaida, S. A., Sarwanto. 2014. *Fisika peminatan matematika dan ilmu-ilmu alam untuk SMA/MA Kelas XI*. (Physics book for Mathematics and natural science class of XI grade Senior High School students) Surakarta: Mediatama (which was then called as book A)

2) Rosyid, Muhammad farhani dkk. 2014. *Kajian Konsep Fisika untuk Kelas XI SMA dan MA kelompok Peminatan Matematika dan Ilmu-Ilmu Alam.* (Study of Physic Concept for XI grade Senior High School students for Mathematics and Natural Science Class) Solo: Tiga Serangkai Pustaka Utama (which was then called as book B)

Krippendorff (2004: 52) explains that the steps of analyzing content includes the collection of data, the reduction of data, inference, and analysis. The data in this research was the material for dynamic fluid in the analyzed books. The instruments were the scoring sheets which was independently developed by researcher based on the existing category and validated by experts. The activity which was done to validate the data used source triangulation technique. The technique was used by utilizing other observers to recheck the trust level of the data. The researcher played roles of becoming the observer 1, while other observers, were physics teachers as the observer 2 and 3.

After doing inference, there was a data analysis using descriptive statistics method. The analysis was done by counting the percentage of character in the analyzed books. These were the steps of how the analysis was conducted.

1) Counting the appearance of indicator for every aspect of character in the textbooks.

2) Counting the percentage of the appearance in every analyzed textbook. The percentage of category to each aspect was symbolized by (p)

$$p = \frac{\Sigma \ indicator \ of \ category}{\Sigma \ total \ indicator \ of \ categories} \ x \ 100\%$$

3) Determine the reliability of observation
4) Collect the data in a checklist from 3 observers in the observation of science literacy indicators. The observers gave check sign (√) to the column. The format of the observation sheet contains data of "yes" and "no". The obtained data were inserted to a table of agreed contingency.
5) Determine the Coefficient of Observation To determine the difference of observation result, the testing of observation's reliability was used (Arikunto, 2013). After the contingency of the table was filled, the data was entered into a formula. The observed number which was matched was the number in the cells in diagonal position to the cell of total number. Then, the numbers were entered into the formula of Crude Index Agreement,

$$KK = \frac{2S}{N1 + N2}$$

Notes:

KK = Coefficient of Agreement

S = Agree, the number of code is the same to the same object (the matched number is the same to the numbers in the diagonal cells)

N1 = Total code made by observer 1

N2 = Total code made by observer 2 or 3

6) Tabulate the data in a table of recapitulation.

The categories of coefficient of agreement were adopted from Viera and Garret (2005: 362) as:

0.8-1.000 = very high

0.6- 0.799 = high

0.4- 0.599 = fairly high

0.2- 0.399 = low

0<0.200 = very low

RESULTS AND DISCUSSIONS

The physics books used by students and teachers of XI grade students in Rembang regency were various. After the initial observation, the researcher chose two books with certain criteria which were then called as Book A and Book B. After that, the researcher took the focus of analysis to the chapter of Dynamic Fluids, since the chapter is the chapter which discuss the closest material to students' life.

The data of the check list obtained from three observers were entered into the table of contingency of agreement. The recapitulation of content focused on the character materials for every book. The category of the content was very good in accordance with Coefficient of Agreement 1. It means that there was no difference regarding the appearance of indicator between three observers to both of the books. The percentage of the appearance of character education in both books were presented in Table 2.

Table 2. The Percentage of Character Value in Book A and Book B

No	Character Value	Average Level of Appearance (%)	
		Book A	Book B
1.	Religious	6.49	4.17
2.	Honest	10.18	12.50
3.	Tolerant	4.63	0
4.	Discipline	2.78	0
5.	Hardworking	9.27	12.50
6.	Creative	7.42	8.33
7.	Independent	6.49	4.17
8.	Democratic	5.55	0
9.	Curious	5.55	16.67
10.	Nationalist	0	0
11.	Loving the Homeland	0	8.33
12.	Rewarding Achievement	5.55	8.33
13.	Friendly / Communicative	8.33	0
14.	Love Peace	1.85	0
15.	Joy of Reading	5.55	8.33
16.	Environmental Awareness	0	4.17
17.	Social Awareness	5.55	4.17
18.	Responsible	14.81	8.33

The appearance of character education in every book was shown in different percentage.

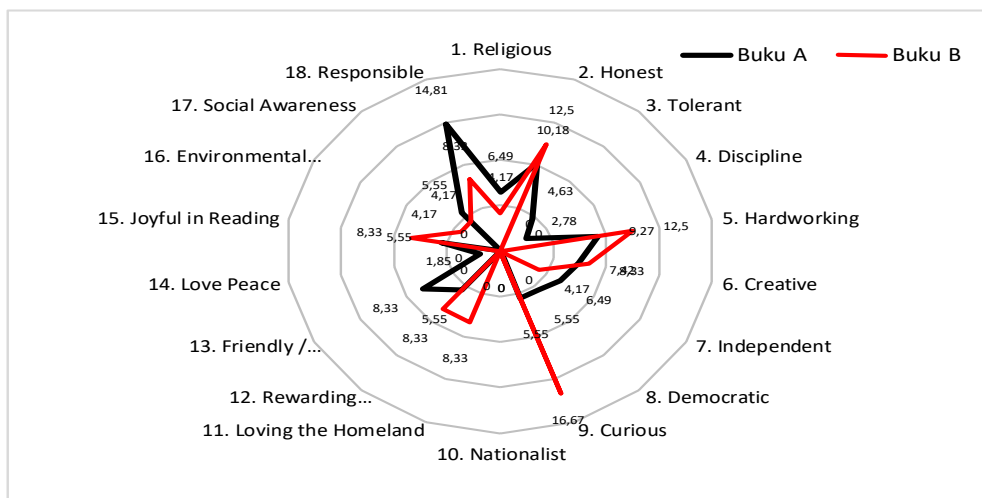The percentage of the appearance of 11 categories can be seen clearly in Figure 1.

Figure 1. The Percentage of Indicator's Appearance in Book A and Book B

Based on the description of the data, the content of character building in every book is different. Book A contains more character than Book B. Almost all of the characters in the map is integrated. The characters which are not inserted are nationalist, loving the motherland, and environmental awareness. The character with most appearance in Book A is responsible with 14.81%. The character appears in Book A mostly in students' activity. Almost oevery sub-chapter in the book is integrated to character education. Meanwhile, the characters which are not contained in Book B are tolerance, democratic, nationalist, communicative, and love peace. The most proportion of the character is curiosity with 16.67%. The disappearance of social values in the book is because the book does not have any activities involving students' discussion.

The study to the integration of characters in the textbooks has not shown the approach of character education comprehensively, because the aspect of exemplary did not appeared in both books. The percentage of values' integration in the book can be seen in Table 3 as follows.

Table 3. The Percentage of Integration of Characters to Book A and Book B

Method of Integration	Average Level of Appearance (%)	
	Book A	Book B
Inculcation or Insertion of Value	32.35	28.57
Exemplary	0	0
Facilitation	35.30	42.86
Skills Development	32.35	28.57

The content of character education does not merely content in the elaboration of physic material in Senior High School, since the material was dominated by knowledge. Affective learning materials or character was developed as a message which can be developed by students. The delivery of character education in book A can be organized as:
1) Narratives which is given in students' activity or homeworks
2) Narratives with implicit value entitled *'Seputar Tokoh'* or Notable Figure. It is related to a history of theory or invention which motivates students to appreciate the product or achievement of others.

3) Narratives in the initial parts or introduction reviews the materials in persuasive sentences.

Meanwhile, the delivery of character education in book B can be seen as follows.
1) Narratives with implicit message of Indonesia's potentials, Information of Physics, or Scientists. The materials are given in separate box presenting different information as well as character building.
2) Narrative of direct message given too students in special box.
3) Narrative in the Project Tasks.
Different values of character inserted in the textbook is hoped to be able to be attached to students whenever they use the book. Based on Susilo (2016), character value which is inserted in the learning process can grow students' positive behavior. The characters are important to be owned by the next generation in facing the Golden Generation of Indonesia in 2045 as the main power to build the country as a developed and sovereign country (Manullang, 2013).

CONCLUSION

Based on the research, it can be concluded that most of the character in the map of characters for middle school students has been integrated in the textbooks. As books which are based on 2013 curriculum, both books have fulfilled the core and main competences of character education. Book A contains 15 of 18 characters mapped by the curriculum centre with responsible as the most dominant values in 14.81%. Meanwhile, Book B contains 12 of 18 values and dominated by curiosity in 16.67%. The integration of values can be done through three of four methods of comprehensive approach, which are inclucation of value, facilitation, and the development of academic and social skills. The only method which has not been used is exemplary. The delivery of value insertion was organized through narratives which is explicitly or implicitly given to students in different component of textbooks' design.

Based on the result of the research, the suggestion which can be given for the research are:
1) For the author of the textbook: there should be a concern to the values which are going to be inserted into the book.

2) For other researcher: there should be a continuation of the research in the same books with an emphasis on the content analysis to know the strength and the weakness of the textbooks.

3) For the user of the textbook: it is better to be more selective in choosing textbook as the source of learning.

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