

ANALYSIS OF STUDENT TEXT BOOKS FROM ECOLITERACY PERSPECTIVE IN INDONESIA

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Abstract

Children's awareness of the environment or well known as ecological literacy (ecoliteracy) is an interesting issue for many researchers around the world. Its implementation is considered crucial for the student of elementary school to encourage their awareness, feelings and willingness for protecting the earth from environmental damage and crisis. Unfortunately, the research on this issue is still rarely existing in Indonesia. Thus, the present study aims to investigate the Indonesian elementary school textbooks to find out whether the textbooks have been encapsulated ecoliteracy-related materials. The investigation was conducted using narrative analysis method to the four of Grade 1 textbooks content with Indonesia's new 2013 curriculum. The instrument was designed from the four core competencies suggested by The Center for Ecoliteracy, namely: cognitive, emotional, active, and connectional which those competencies were redeveloped into 15 indicators. The results of the analysis revealed that those textbooks had embraced ecoliteracy concepts. There were three most important ecological values identified from the books such as Turning convictions into practical and effective action, and apply ecological knowledge to the practice of ecological design; Feeling concern, empathy, and respect for other people and living things; and understanding the fundamental of ecological principles (harmony, interdependence, diversity, and interaction). Those textbooks were suggested to be good tools that can help the children to enhance their ecoliteracy competencies as well as improve their sensitivity to environmental issues.

Keywords: ecoliteracy, elementary school textbooks, Indonesia.

1. INTRODUCTION

Ecoliteracy is an intelligence that describes one's awareness and ability to act in harmony with nature. This environmentally intelligent concept needs to be grown in elementary school students to ensure the sustainability of life. Ecological sustainability is too important a concept to be potentially muddled with the ideology that has led to unsustainability. Education for sustainable development should surely be reconceived as education for ecological sustainability (Hampson, n.d., 2012). Through ecology teaching

students are expected to be able to realize, feel, and act for protecting the earth. Student actions that have ecological intelligence can be seen from their habit. Cushman (2012) said that as a green behavior, which is good things, avoid bad things. Good things, i.e: turn the light off when leaving a room, Use daylight whenever possible, not elevator, recycle paper, etc. Avoid bad things: Let the water run when brushing teeth and other water wastafel habits, leave computers and peripherals 'on' overnight, drink water from individual plastic bottles, etc. That was expected that one day when the student have grown into adulthood they will have three principles of life which were the basic principle of ecologically intelligent people. Three of tenets are particularly imperative to ecoliterate living: 1) Ecoliterate people recognize that they are members of a web of diverse relationship within their communities and beyond, 2) they tend to be more aware that systems exist on various levels of scale, 3) they collectively practice a way of life that fulfills the needs of a present generation while simultaneously supporting nature's inherent ability to sustainable life in the future. (Goleman, 2012, p. 16).

Ecoliteracy is highly important to be applied in teaching-learning activity. The students would not have a sensitive awareness, feelings, and desires to protect the earth from natural damage or environmental crises if ecoliteration teaching does not exist. Although the environmental crisis is a very dangerous problem. It may seem impossible to imagine that a technologically advanced society could choose to destroy itself, but that is what we are now in the process of life(Elizabeth Kolbert, dalam Kahn & Humes, n.d., 2008). The environmental crisis was a difficult thing to avoid because it was a result of the advance of technology. Some environmental problems that occur in Indonesia include of floods, air pollution, water pollution, landslides, sudden weather changes, waste problems, deforestation, drought, and narrowing of water absorption. These were disputed by human unconsciousness in dealing with the natural surroundings, such as littering, illegal building, dumping waste into rivers, illegal logging, etc. Thus in the effort to reduce those crisis, people needed to be awakened and taught as early as possible through the teaching of ecology or ecopedagogy.

Ecopedagogy is an academic movement to awaken students into an individual who has understanding, awareness, and life skills in harmony with the interests of nature conservation (Khan in Supriatna, 2016, p. 9). Ecopedagogy should be taught in schools not only through the lessons of Environmental Education, but also integrated in various subjects through the tools and materials available, one of which is a student textbook.

Student textbooks are one of the teaching materials that students use in the classroom as a guide for daily activities. This book is officially enacted by the government for all parts of Indonesia using the new curriculum in 2013. This book contains a number of instructions and exercises that are designed specifically for students according to their level. Please note that the 2013 curriculum uses an integrated learning model. Integrated learning is a learning method that combines several basic competencies subjects in one theme. Therefor this student textbook is printed partially base on the theme, which one theme consists of 4 subthemes.

This study aims to investigate the four Indonesia elementary school textbooks regarding it content of ecoliterary. This is necessary as recommendation for Indonesia government to evaluate the educational curriculum in the future. Thus, the government of teacher will know that those textbooks need to be revised, or require other textbooks that contain ecoliteracy as an existing book companion.

2. LITERATURE REVIEW

Ecoliteracy is a concept, paradigm, or new value of education that carries messages about the welfare of the earth. Ecological literacy or ecoliteracy was described as a human image that has reached a high level of awareness of the importance of the environment (Capra in Supriatna, 2016, p. 233). This ecological intelligence is the result of a combination of cognitive intelligence with empathy towards all life forms (Goleman, 2012, p. 10). The Center for Ecoliteracy (2016) was divided ecoliteracy to four competencies, namely: "...a set of 'core competencies' relate to the head (learning to know), the heart (learning to be), the hands (learning to do), and the spirit (learning to live together). The four competencies are described as follows:

1. Head (Cognitive)

- Approaching the issues and situations from a systems perspective (indicator 1)
- Understanding the fundamental of ecological principles (indicator 2)
- Thinking critically, solving the problems creatively, and applying knowledge to new situations (indicator 3)
- Assessing the impacts and ethical effects of human technologies and actions (indicator 4)

- Envision the long-term consequences of decisions (indicator 5)
2. Heart (Emotional)
- Feeling concern, empathy, and respect for other people and living things (indicator 6)
 - Seeing from and appreciate multiple perspectives; work with and value others with different backgrounds, motivations, and intentions (indicator 7)
 - Commit to equity, justice, inclusivity, and respect for all people (indicator 8)
3. Hands (Active)
- Creating and use tools, objects, and procedures required by sustainable communities (indicator 9)
 - Turning convictions into practical and effective action, and apply ecological knowledge to the practice of ecological design (indicator 10)
 - • Assessing and adjust uses of energy and resources (indicator 11)
4. Spirit (Connectional)
- Experiencing the wonder and awe toward nature (indicator 12)
 - Revering the Earth and all living things (indicator 13)
 - Feeling a strong bond with and deep appreciation of place (indicator 14)
 - Feeling a kinship with the natural world and invoke that feeling in others (indicator 15)

The competencies are then developed to develop the teaching of ecological intelligence, including developing it in teaching materials, one of which is the book. Introduction of ecoliteracy through the book actually has begun to get the attention of several countries, including New Zealand, Australia. However, in the current version of the Australian Curriculum, sustainability is one of three cross-curriculum priorities embedded in all learning areas. Within the Australian Curriculum: English (ACARA, 2014), the “priority of sustainability provides rich and engaging contexts for developing students’ abilities in listening, speaking, reading, viewing and writing”. This priority area provides opportunities for students to investigate texts that will help to shape their decision-making abilities in relation to sustainability (Taylor et al., 2013, p. 196). This book was printed as a picture book which was suitable for stimulate the child's imagination and help the children to understand and interest to read the reading textbook. One way to engage children in environmental issues was through the picture books. There are several examples of textbooks based on ecoliteracy that have been created and used in learning in Australia such as: *The Rabbit* (by John Marsden, 2000), *Two Summer* (by John Heffernan, 2003), and *One Small Island* (by Alison Lester, 2011).

3. METHOD

The investigation of the textbooks was done using narrative analysis method which one of the content analysis methodology. The four core competencies of ecological intelligence were the main instruments in the analysts. The investigation was conducted using narrative analysis method to the four of Grade 1 textbooks content with Indonesia’s new 2013 curriculum. Steps in the analysis: Identification of book sets, Identification of the ecological values on the books, coding and data collection.

4. FINDINGS

This paper addresses the main question: Does the student’s textbook in Indonesia currently contain the concept of ecoliteracy?

4.1. Identification of Book Set

Student textbooks which is analyzed is the four of Grade 1 textbooks, namely: *My Self*; *My Hobby*; *My Activities*; and *My Family*, the author by Lubna Assagaf and team that officially published by the Ministry of Education and Culture in 2014. The detail can be seen in Table 1.

Table 1. Identification of Textbooks

Profile	Textbook Title			
	My Self	My Hobby	My Activities	My Family
Length	114 pages	114 pages	110 pages	110 pages
Year of publication	2014	2014	2014	2014
Authors	Lubna Assagaf, Nurhasanah, Iba Muhibba, Sonya Sinyanyuri, Yusfina Hendrifiana, Setiyo Iswoyo, Munif Chatib, Irene Maria J. Astuti, Supriyanto, Sri Hermawati Dwi Arini, dan Kuat Andriyanto.			
Reviewers	Taufina, Delviati, Ekram Prawiroputro, Tri Hartiti Retnowati, M. Jazuli, Amat Komari, Vincentia Irene Meitiniarti, Masrukan, Harmanto, Taufina, Elindra Yetti, Amat Komari, Heri Tjahjono.			
Publisher	Kementerian Pendidikan dan Kebudayaan (Ministry of Education and Culture)			

4.2. Identification of the ecological values

The ecological values contained in the student textbook was revealed in Table 2. It shows the competences have been identified and existed in the textbook.

Table 2. Ecological Values in Books

Competencies/Titles	My Self	My Hobby	My Activities	My Family
Cognitive (Indicator 1, 2, 3, 4, 5)	NONE	NONE	YES -Indicator 2 (twice)	YES -Indicator 2 (4 times)
Emotional (Indicator 6, 7, 8)	YES -Indicator 6 (4 times) -Indicator 7 (one time) -Indicator 8 (one time)	YES -Indicator 6 (one time) -Indicator 7 (one time)	NONE	YES -Indicator 6 (4 times) -Indicator 8 (twice)
Active (Indicator 9, 10, 11)	YES -Indicator 11 (twice)	YES -Indicator 11 (3 times)	YES -Indicator 10 (5 times)	YES -Indicator 10 (4 times)
Connectional (Indicator 12, 13, 14, 15)	YES -Indicator 12 (twice) -Indicator 13 (one time)	NONE	YES -Indicatot 12 (one time)	YES -Indikator 12 (one time) -Indicator 13 (one time)
Proportion (C/B)	3/4	2/4	3/4	4/4

Table 2 reports that the students textbook have seen the existence of ecological values. These can be seen from the indicators on each competence, although not all indicators were visible. There were indicators that appear on each competency such as indicator 2, 6, 7, 8, 10, 11, 12, and 13. The most remarkable indicator on each competence are indicator 10 (Active), 6 (Emotional), and 2 (Cognitive). There are: turning convictions into practical and effective action, and applying ecological knowledge to the practice of ecological design (indicator 10); feeling the concern, empathy, and respect for other people and living things (indicator 6); understand fundamental ecological principles (indicator 2).

There were same indicators that did not existed in the textbook such as indicator 1, 3, 4, 5, 9, 14, and 15. Its mean that this textbooks show less environmental issues (environmental crisis). Cognitively, students have not been invited to think about what is going on with the natural environment. Students have not been invited to consider the impact of human actions and application of technology to the environment. Students were not taught about how to campaign for environmental awareness, preserve nature, and keep nature balanced. However, as a whole that this book still contains the ecological value, because there are other indicators already visible.

4.3. Coding and data collection

Based on the analysis data above, this textbooks has been had an ecological values. However, only the fourth book (My Family) that contains all core competencies, namely: knowledge, emotion / emphatic, action, and spirit. The following is explained in more detail about the content of competence in each book in table 3, table 4, table 5, and table 6.

Table 3. The Core Competence of Book: My Self

Cognitive	Emotional	Active	Connectional
In this book there is no knowledge of environmental issues; understanding of ecological principles (harmony, dependency, diversity, and interaction); knowledge of the effects and effects of human actions; and understanding of long-term consequences.	In this book there are several indicators that appear. This book teaches students to pay attention, empathy, respect, and appreciate differences. As: - Know the name of a friend (p.32) -How to listen to friends telling stories (p.32) -Reserving others (p. 86) -Reserving differences between individuals (p. 95, 107)	In this book there are several indicators that appear, this relates to students' actions on the environment. Such as caring for the cleanliness of the limbs; such as bathing, cutting nails, hand washing, and hair washing; and orderly in action (p. 62)	Admiration for nature is shown from the text: Sweet corn flavors, fragrant flowers, favorite fruits and respect for the earth and all living things (p. 95).

Table 4. The Core Competence of Textbook: My Hobby

Cognitive	Emotional	Active	Connectional
In this book there is no knowledge of environmental issues; understanding of ecological principles (harmony, dependency, diversity, and interaction); knowledge of the effects and effects of human actions; and understanding of long-term consequences.	In this book students are taught to give attention, empathy, respect, and respect for difference. As: - Asking friend's favorite song (p.35) - Appreciate the differences between regions (p.35)	In this book students are taught about the behavior of maintaining order and togetherness (p. 79), keeping things in place (p. 81), wrapping bookcases neatly (p. 103)	In this book there is no indication of admiration for nature, respect for the earth and all sentient beings, feeling strong bonds to nature, and delegating the same feelings to others.

Table 5. The Core Competence of Book: My Activities

Cognitive	Emotional	Active	Connectional
In this book, we find the ecological principles of harmony. Students observe the afternoon and observe nature at night (p. 81)	This book does not contain: inspiration, empathy, appreciation, and respect for all people.	In this book students are taught to act orderly when waking up (p. 8), order in a class where one should throw the garbage in its place (p.34), make the picket assignment to cleanse the class and take care of the plant (p. 43), water the plants (p. 67, 74), and be nice (p. 85, 98)	In this book found admiration indicators in nature, students are asked to observe the environment (p. 21).

Table 6. The Core Competence of Book: My Family

Cognitive	Emotional	Active	Connectional
In this book found the principle of harmonization and interdependence about the placement of objects to fit the place (p.40). Students are also taught about the beautiful village, the beach, and the nature of the plant as something that must be preserved.	In this book, we find indicators for empathy, attention, mutual love between creatures. For example, on page 61 in this book written about affection to grandparents. Compassion is directed not only to the family but also to all of God's creatures (p.75), including plants (p. 84).	In the book (especially in the 4th sub-theme of the book), it is found an indicator of action for environmental care through practical actions. Like, eat enough (p.28), tidy up the house, water the plants, sweep garbage, wash dishes (page 38), gardening activities (page 48), and home gardening activities (p. 86).	It is found in this book that students are taught to marvel at the natural appearance of the countryside (p.44), to honor the earth and all beings (p. 84).

Table 3, table 4, table 5, and table 6 explain that the fourth book is the book that contains the most ecological values. Clearly, in this book (The title: My Family) was written:

Plants are God's creatures.

Plants should be treated daily.

Plants watered with enough water.

Honey and keep the living beings around you (p. 84).

Based on the analysis, those sentences have been contained all the core competitiveness of ecoliteracy, such as the cognitive, emotional and active and connectional. Cognitively, students are given an understanding of the nature of plants as God's creatures, emotional students had been guided to affection of plants. An active students were required to care of water, and keep the plants. While, a connectional students were invited to honor / revering the Earth.

In the first book (The title: My Self) contains a lot of emotional side, students are taught to care for themselves, and care about the environment. In the second book (The title: My Hobby) and third book (The title: My Activities) contain a lot of active side (action), students are taught to do something for the environment, such as cleaning up the class, throwing garbage, watering the plants, and others. And, the last in the fourth book (The Title: My Family) contains four competencies completely, is also there project sheet in the home that is making a garden, which in the sheet was written schedule watering the plant.

The illustrations in these books were sufficiently reflective of the students' textbooks that contain ecoliteracy. The images shown are natural scenery, such as a school with a large yard, a shady playground, a village atmosphere, and a beach. Although the composition of the illustrations is not balanced because of the number of text per / page is too much, but overall, this student textbook already contains the concept of ecoliteracy.

5. CONCLUSION

This study aims to investigate the Indonesian elementary school textbooks to find out whether the textbooks has been encapsulated ecoliteracy-related materials. Based on the results of the analysis, obtained the data that the student textbook contains the concept of ecoliteracy. Especially the textbook entitled "My Family" (theme 4) contains four core competencies ecoliteracy (cognitive, emotional, active, and connectional). There were three most important ecological values identified from the books such as: turning convictions into practical and effective action, and apply ecological knowledge to the practice of ecological design; feeling concern, empathy, and respect for other people and living things; and understanding the fundamental of ecological principles (harmony, interdependence, diversity, and interaction). The results of this study can be used as recommendation material for Indonesia government to evaluate the educational curriculum in the future (specifically to enter environmentally conscious themes into classroom teaching materials). The government of teacher will know that those textbooks need to be revised, or require other textbooks that contain ecoliteracy as an existing book companion. The textbook should show environmental issues in Indonesia, such as floods. It makes the student's critical and responsible attitude (able to explain the long-term consequences of his decision) on the environment, can grow. Thus, textbooks were suggested to be a good tools that can help the children to enhance their ecoliteracy competencies as well as improve their sensitivity to environmental issues.

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