THE REPRESENTATION OF ENVIRONMENTAL ISSUES IN AN EFL MODULE FOR PRIMARY SCHOOL: A MULTIMODAL ANALYSIS

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Abstract: By using a qualitative textual analysis with a multimodal approach, this study explores how environmental issues are depicted in the relations of verbal and visual texts of an EFL module. The data were obtained from a fifth grade EFL module made by the EYL Course Design course students at a university in Bandung. In analyzing the data, this study utilized Royce's (1998) Ideational-intersemiotic Complementarity, Halliday and Mathiessen's (2014) Transitivity, and Kress and van Leeuwen's (2006) Visual Grammar. The findings show that the space between young learners and water is portrayed by depicting the characters as the Actors in which water is the Goal or the Means. The module portrays ways to save water by using Material and Relational processes. Meanwhile, the place given to water is an object to be saved since water

becomes an essential thing for human needs. It is portrayed by using Mental, Existential, and Relational processes. In terms of complementarity, most of the elements of verbal and visual texts are completed one another by the relations of Repetition, Synonymy, and Hyponymy. Hence, encouraging young learners' comprehension of the module, especially related to environmental issues, could be expanded by identifying both texts as a unit.

Keywords: *EFL materials, environmental issues, ideational-intersemiotic complementarity, transitivity, visual grammar*

INTRODUCTION

Nowadays, environmental issues have become a concern for the globe. People started to understand that taking care of the environment is the responsibility of all (Boca & Saracli, 2019). Hence, it is essential to increase the knowledge about the environment, including its problems and solutions. Education can be essential in communicating environmental issues, especially to school students. It is in line with Meilinda et al. (2017), who assert that education has the power to influence students' attitudes, including the attitude toward the environment. For further impact, students' consciousness about the environment would also affect the public consciousness (Nugroho, 2019), which can generate people to preserve the environment.

In the context of English Language Teaching (ELT), the teaching is believed to not only teach students language skills but also to be familiar with issues around the world (Alter, 2015), including environmental issues. The incorporation of environmental issues in ELT can help students understand about the issues and encourage them to take an active part to solve the problems (Dahniar et al., 2019). By allowing students to express themselves in language about environmental issues, students can develop a sense of responsibility about environmental care and at the same time have the opportunity to make language choices that can enhance their language development (Castillo & Rojas 2014).

In Indonesia, the education system has put emphasis on environmental issues. As stipulated in the 2013 curriculum, environmental themes are included in integrated thematic lessons for the primary school level. Furthermore, the new curriculum, *Kurikulum Merdeka*, also projects students to be more concerned about the issues around them by reflecting on *Student Profile of Pancasila (Student Profile of Pancasila)*. This profile is a form of elaboration of national education goals that has to be integrated in the school culture, intracurricular, co-curricular, and extracurricular learning (Merdeka Mengajar, 2022). "*Akhlak terhadap alam*" or Morals to the Environment as one of Student Profile of Pancasila elements under the dimension of Faith, Fear of God Almighty, and Noble Morals (Decision of Head of The Board of Standards, Curriculum, and Educational Assessment, 2022). This element projects students to embody their noble character in responsibility, compassion, and care for the environment. They have to understand that they are part of the environment so that they have the responsibility to preserve it. Therefore, as English is one of the intracurricular learning, environmental values should be integrated in the ELT in Indonesia.

Such phenomena have increased a focus on incorporating the content about environmental issues and their solutions or the action to take care of the environment in EFL materials. According to Emilia et al. (2017), the materials supposedly can unconsciously affect students in the context of EFL. Hence, it is crucial to focus on incorporating such content in EFL materials to subconsciously increase students' knowledge about environmental issues. In Indonesia, the usage of EFL materials is very generic. Schools, from the primary to the secondary levels, use EFL materials in many forms, like modules, textbooks, and so on for their ELT. The materials are usually provided by the government and commercial publishers or arranged by teachers themselves. Such materials also often represent environmental issues.

Nevertheless, environmental issues represented in EFL materials do not necessarily direct young learners to discuss how they save and preserve the environment. EFL materials typically represent environmental issues concerning human needs. It is in line with Akcesme's study (2013) that investigated 120 environmental texts from

seven ELT textbooks employed in EFL classrooms globally. The study found that nature in those texts is represented by how it can be used for human needs and desires. Likewise, Adugna (2015) indicates that environmental ideology represented in children's literature used in schools may either influence young learners to be more eco-friendly or the opposite. Therefore, it is vital to investigate how environmental issues are represented in EFL materials.

In doing so, by relaying to the nature of ecocriticism, Gaard (2008, p. 327-330) has formulated three basic questions as the guideline to expound how children's texts of the environment are written. The first one is "how does the text address the ontological question, 'who am I?' Is the human self-identity constructed in relation or in opposition to nature, animals, and diverse human cultures/identities?". This set of questions emphasizes the space between young learners and the environment that the texts try to build. The second is "how does the narrative define the ecojustice problem? Does the narrative conclusion offer an appropriate strategy for responding to the problem?". This set of questions highlights the roles of young learners in the context of the environmental issues presented in the texts. The third is "what kind of agency does the text recognize in nature? Is nature an object to be saved by the heroic child actor? Is nature a damsel in distress, an all-sacrificing mother, or does nature have its own subjectivity and agency?". This set of questions underlines the place given to the environment in the texts.

There are several researchers who have investigated environmental issues in their studies. Based on the studies analyzing six English textbooks for Iranian high schools (Faramarzi & Janfeshan, 2021), environmental issues are underrepresented. Meanwhile, Mliless and Laraouz (2018) who examined seven ELT textbooks for Moroccan high schools found that the euphemism used in the textbooks cuts the dangers of environmental issues in reality; the agency used in the textbooks does not obscure meaning; and the passive voice used in the textbooks hides someone's responsibility as a perpetrator of natural destruction. In the meantime, based on the studies exploring more than 50 Ethiopian children's narratives (Adugna, 2015) and Pakistani English textbooks for primary school (Zahoor and Janjua, 2019), most of the materials imply an

anthropocentric view or concentrate more on how nature can be used for human needs and desires.

Despite myriad studies investigating the existence of environmental issues in EFL materials, most of the studies emphasized this matter in verbal texts of the materials and less attention paid to the visual texts. According to Damayanti (2014), visual texts are not considered as just illustrations to go with verbal texts since meaning construction is multimodal. Moreover, in the meaning-making interpretation, it is important to investigate the relationships between both visual and verbal in making meaning (Damayanti & Febrianti, 2020). Therefore, it is crucial to explore how environmental issues are depicted in the relations of verbal and visual texts. To do so, Intersemiotic Complementarity can be utilized to comprehend the visual-verbal relationships (Royce, 1998).

Intersemiotic Complementarity is an extension of Halliday's Systemic Functional Linguistics (SFL). SFL has been defined as a social theory of language that focuses on the idea of language functions (Emilia & Hamied, 2015). The theory implies that language is the prime channel that transmits the life patterns that can be a medium for an individual to perform as a member of a community as well as embrace its culture, way of thinking and performing, and tenets and morals (Halliday & Mathiessen, 2014). Hence, how environmental issues are treated in the texts is also under the auspices of language transmissions that can influence an individual.

There are three language metafunctions that SFL claims that all-natural languages have such as ideational, interpersonal, and textual metafunctions (Emilia, 2005; Emilia, 2010). In the interest of space, this study will focus on the ideational-intersemiotic complementarity. The ideational metafunction has been considered as the way people represent experience in language (Alaei & Ahangari, 2016). This metafunction has been classified into two sub-functions; one of them is the experiential function that focuses on the content (Emilia, 2005; Emilia 2010), which in this study, the content will be related to environmental issues.

The SFL theory asserts that all natural languages encompass three fundamental language metafunctions: the ideational, the interpersonal,

and the textual metafunctions. The first step in analyzing ideational-intersemiotic complementarity is the identification of verbal meanings. Verbally, the representation of environmental issues in EFL materials can be analyzed based on transitivity. Transitivity, the realization of the experiential function, in SFL has been deemed as how meaning is portrayed in the clause (Emilia et al., 2017). Transitivity has been divided into three main components, such as processes (what is going on), participants (who/what is involved), and circumstances (additional information) (Halliday & Mathiessen, 2014). The predominant components appearing in the texts can indicate how environmental issues are construed. It is in line with the statement of Simpson (1993) who asserts that transitivity can be used to discover how certain meanings are highlighted and others are repressed, which in this case is related to environmental issues. The example of transitivity analysis can be seen in Table 1.

Table 1.
The example of transitivity analysis

I	like	the view of Pangandaran beach
Sensor	**Process: Mental**	**Phenomenon**

The second step is the identification of Visual Message Elements (VMEs). Visually, the representation of environmental issues in EFL materials can be investigated based on visual grammar. According to Kress and van Leeuwen (2006), in terms of ideational meanings, the visual texts can be narrative or conceptual representations. In the narrative representations, a process of interaction between participants can be visually recognized by a vector. The recognitions of the processes shaped by a vector are varied. These comprise action, reactional, projective, and conversion. Those processes are also delineated circumstantially based on the portrayed context of the situation, comprising setting, means, and accompaniment. This Kress and van Leeuwen's (2006) narrative representation can be seen in Table 2.

Table 2.
Narrative representation

Processes	

Action	Transactional:
	      a. Unidirectional: a vector connects two participants (i.e. Actor – Goal).
	      b. Bidirectional: a vector connects two Interactors (i.e. the participants where the vector could be said to emanate from and be directed, at both participants).

	Non transactional: a vector which emanates from a participant (i.e. Actor) is not 'done to' or 'aimed at' anyone or anything (no Goal); it represents events.
Reactional	Transactional Reaction: an eyeline vector connects two participants (i.e. Reacter-Phenomenon).
	Non-transactional Reaction: an eyeline vector emanates from a participant (i.e. Reacter) but does not point at another participant (no Phenomenon).
Projective	Mental: a vector formed by a 'thought bubble' connects two participants (i.e. Senser—Phenomenon).
	Verbal: a vector formed by a 'speech bubble' connects two participants (i.e. Sayer-Utterance).
Conversion	This process represents a change of state of its participants i.e. a participant is the Goal of one action and the Actor of another
Circumstances (secondary participants which relate to the main participants but not by means of vectors)	
Setting	a relation of other participants to a specific participant by a contrast between foreground and background.
Means	the tools used in action processes
Accompaniment	a participant which has no vectorial relation with other participant

(Kress & van Leeuwen, 2006)

Furthermore, a process can be visually recognized by a tree structure. in the conceptual representation However, a tree structure is not the only one to recognize a process in conceptual representation. There are three categories of conceptual representation, such as classificatory, analytical, and symbolical that can be seen in Table 3.

Table 3.
Conceptual Representation

Processes	
Classificatory	Overt: the participants are represented in a tree structure that indicates different levels of participants (i.e. Superordinates—Subordinates)

	Covert: the arrangement of participants (i.e. Subordinates) belonging to the same class
Analytical	It relates two kinds of participants: Carrier (the whole) and Possessive Attributes (the parts).
Symbolical	Attributive: relating a participant (i.e. Carrier) to another participant which represent the Carrier's meaning or identity (i.e. Symbolic Attribute)
	Suggestive: it represents one participant (i.e Carrier) which is analogous to Existential in Halliday's SFL.

(Kress & van Leeuwen, 2006)

After analysing the verbal and visual texts of the module, the verbal items in transitivity analysis are collated with the VMEs gained from visual grammar analysis, to determine the similarities or differences between verbal and visual texts in representing environmental issues. In determining its relationships, Royce (1998) recommends the utilization of cohesion analysis in a text as proposed by Halliday and Hasan. There are Repetition (R), Synonymy (S), Antonymy (A), Hyponymy (H), Meronymy (M), and Collocation (C) (see Table 4).

Table 4.
Ideational-intersemiotic complementarity

Verbal Meanings	Intersemiotic Complementarity	Visual Meanings
Lexical elements which relate to the visual meanings These lexical items arise according to:	Various lexico-semantic ways of relating the experiential and logical content or subject matter represented or projected in both verbal and visual modes through the intersemiotic sense of:	Variations occur according to the coding orientation. In the naturalistic coding we can look at:
Identification (Participants): who or what is involved in any activity or process?	*Repetition:* identical experiential meaning	*Identification:* who or what the represented participants (actor, recipient, goal)? Who or what are they interacting with? Are the participants interacting? (vectors)
	Synonymy: the same or similar experiential meaning	

Activity (Processes): what action is taking place, events, states, type of behaviour?	*Antonymy:* opposite experiential meaning	*Activity (Process):* what action is taking place, events, states, type of behaviour (gestures, facial expressions, stance, physical moves)?
Circumstances: where, who with, and by what means are the activities being carried out?	*Meronymy:* the relation between the part and whole of something	
Attributes: what are the qualities and characteristics of the participants?	*Hyponymy:* the relation between a general class of something and its sub-classes	*Circumstances:* where, who with, and by what means are the activities being carried out (setting, means, accompaniment)?
	Collocation: an expectancy or high probability to co-occur in a field or subject area	*Attributes:* what are the qualities and characteristics of the participants?

(Royce, 1998:31)

Considering the importance of exploring how environmental issues are represented in visual-verbal relations, this study investigates how environmental issues are depicted in the relations of verbal and visual texts of an EFL module for primary school.

METHOD
Research Context

To obtain the data, the study involved one of the EFL modules for primary school made by the EYL Course Design course students in one university in Bandung. In the course, the students learned how to design an English lesson for young learners. Moreover, throughout the course, the students were assigned to make English modules for primary school

level in different grades. They made the modules in a group of three students. Each group made one module for lower primary level and one module for upper primary level. The modules were designed to be suitable and appropriate to be implemented in the Indonesian education context. Furthermore, each module was developed based on integrated English skills and was made on the basis of story-based instruction. Therefore, all activities arranged in the modules relate to one specific story. Most of the stories available in the EFL modules were adopted or adapted by the students from other sources like picture books. Nevertheless, the students initially made or arranged most of the activities before and after the stories.

The rationale for choosing this context is because it is EFL teachers' role to assist students consider environmental global problems and lead them to find its solutions (Al-Jamal et al., 2014). Furthermore, as the prospective English teachers have been introduced with "teaching literature to children" and "introduction to literature" courses in their English Education Departments, they are expected to distribute and infuse the sense of loving the environment in the English classroom (Saiful, 2020: p. 62). Therefore, the findings of the study can be a valuable input for EFL teachers, especially the EYL Course Design course students as EFL pre-service teachers, in considering the representation of environmental issues when making, selecting, and arranging the teaching materials in the form of modules.

The Selection of the Module

In the interest of space, this study focused on analyzing one module for grade five that explicitly discusses environmental issues. The title of the module is "Why Should We Save Water?". As mentioned in the preface of the module, besides guiding young learners to learn four English skills, the module is intended to introduce one of the Sustainable Development Goals (SDGs), which is Climate Action, by employing a story. To be specific, the module includes a story from a picture book entitled "Why Should I Save Water?" written by Jen Green and illustrated by Mike Gordon (2005). The story spreads awareness of taking care of the environment by saving water. The story from the picture book is used for story sharing activity. In addition, the module also provides several

preparing for story sharing and post story sharing activities, which also become the data of the study. Each activity available in the module is annotated as A, B, C, D, E, F, and G (see Table 5). Due to time and space limitation, only three activities will be presented in the article - listening to a story, circling words, and telling experiences. Furthermore, due to the copyright issue, especially from the picture book, the corresponding module pages are not supplemented in this article. Instead, reproduced sketches of the pages are supplied.

Table 5.
The activities of the module

Stages	Activities	Total Pages	Annotation
Preparing for story sharing	Singing a song	1	A
	Learning vocabulary	1	B
Story sharing	Listening to a story	7	C
Post story sharing	Answering questions	1	D
	Circling words	3	E
	Telling experiences	3	F

Data Analysis Procedure

In exploring the representation of environmental issues in the selected EFL module, this study followed two steps, which are Ideational-intersemiotic analysis and environmental issues description.

The first step of the analysis is Ideational-intersemiotic analysis (Royce, 1998). In this step, verbally, each clause was identified by using the Transitivity system of functional grammar developed by Halliday and Mathiessen (2014) to examine its Transitivity features, which comprise Processes, Participants, and Circumstances.

Then, visually, the data was identified by the 'Visual Grammar' developed by Kress and van Leeuwen (2006) to investigate the ways visual texts represent experiences through the represented Processes, Participants, and Circumstances. According to Kress and van Leeuwen

(2006), in terms of ideational meanings, the visual texts can be Narrative or Conceptual Representations. In the Narrative Representations, a process of interaction between participants was visually recognized by a vector. The recognitions of the processes shaped by a vector are varied (see Table 2). Meanwhile, in the Conceptual Representation, a process was visually recognized by a tree structure. There are three categories of Conceptual Representation – Classificatory, Analytical, and Symbolical (see Table 3).

After that, the data was analyzed to determine the relationships between verbal and visual texts in making meaning. In the analysis, the verbal items in Transitivity analysis were collated with visual message elements (VMEs) gained when analyzing the visual texts, to determine its similar or different meanings. The relationships were, then, identified in Royce's (1998) work as cohesive mechanism embodied in Repetition (R), Synonymy (S), Antonymy (A), Hyponymy (H), Meronymy (M), and Collocation (C) between visual and verbal texts on the same page or activity.

The second step of the analysis is environmental issues description. In this step, the findings found in the first step were mapped and correlated with Gaard's (2008, p. 327-330) three basic questions as the guideline to expound how children's texts of the environment are written. The questions are focusing on the space between young learners and the environment that the texts try to build, the roles of young learners in the context of the environmental issues presented in the texts, and the place given to the environment in the texts.

FINDINGS

Based on the textual analysis with a multimodal approach, environmental issues are represented in the relations of verbal and visual texts of the EFL module "Why Should We Save Water?" produced by EFL pre-service teachers. It can be seen from the preface of the module that explicitly states that besides guiding young learners to learn four English skills, the module is intended to introduce one of the Sustainable Development Goals (SDGs), which is climate action. It specifically discusses climate action toward drought. As drought is one of the annual

environmental issues faced by Indonesia, the topic of saving water in dealing with drought is considered suitable for Indonesian young learners. How environmental issues represented in the module are elaborated in the following sub-chapters.

The Space between Young Learners and the Environment that the Texts Try to Build

The findings show that the space between young learners and the environment that the texts try to build in the module is mostly portrayed by depicting the characters of the module as the Actors in which water is the Goal or the Means. The relationship between the characters of the module and water, as the natural other, is considered not sustainable where water is used excessively. It is because the module tries to emphasize the activities that may lead to environmental problems, especially related to drought. For example, it can be seen in the first page of the listening to a story activity (Figure 1). In the page, the pages of *Why Should I Save Water?* (Green & Gordon, 2005: p. 4-7) are annotated as text C.1, C.2, C.3, and C.4.

Figure 1. *Page 1 of listening to a story activity*

(Source: "*Why Should We Save Water?*", page 17)

This page introduces the characters' habitual activities regarding the use of water. In terms of verbal texts, the analysis shows that the clause "In my family, we all try to save water", in text C.1, can be considered as a Material process. The verb "try to save" is the process of doing that "we" as the Actors do in which "water" is the Goal. The clause indicates that there is an attempt from the family to save water. The clause, then, is followed by the next clause in text C.2, "We used to waste water", which indicates that the family members did the opposite of saving water before. The examples of it, then, are also depicted in Material processes found in text C.3 and C.4. For example, in the clause "We took baths every day", the words "took baths" indicate a process of doing that was done more than once "every day" (Circumstance) by "we" as the Actors. Sometimes we plan to do something good but we have a lack of willingness to make it happen. This part of the module can be used as a point for discussion with young learners about their own use of water.

Turning to visual elements, text C.2, C.3, and C.4 represent a water house, a shower, and faucets that drain water fast as the Means of Actional processes. Text C.2 depicts the father with a running water hose as the Actor of Unidirectional Transactional Action in which the car is the Goal. It can be described by looking at the vector emanating from the father's gaze and the direction of the water spray towards the car. It signals that the father is washing the car. Meanwhile, text C.3 represents the son and the dog as the Actors of Non-transactional Action process. It can be explained by looking at the use of water from the shower and the faucet. It indicates that the represented participants are taking a bath. Apart from depicting the same Means, text C.2, C.3, and C.4 also represent similar Settings' condition (e.g. in the garden, in the bathroom, and in the kitchen). The ground and the floors of those places are filled with puddles of water coming from the represented Means. It can be signaled that the visual texts depict wastage of water from excessive water use. This might impact negatively when teachers do not talk about it with young learners about how to use water wisely.

In terms of complementarity, most of the visual texts in this page are picked up in the verbal texts through the relation of Repetition (e.g., water; taking a bath; wasting water). In the meantime, the represented Actors (a son, a daughter, a father, and a dog) are completed verbally by the hyponymy "we". In other words, the represented participants are the subclasses of the general class "in my family, we". This finding indicates that although the texts show a non-reciprocal relationship between the characters of the module and water, as the natural other, both verbal and visual texts do not hide the ones who are responsible for the actions of wasting water. It is different with the findings of the previous studies that found several environmental texts in EFL materials hide the ones' responsibility as the doers of environmental destruction (Akcesme, 2013; Mliless & Larouz, 2018). According Mliless and Larouz (2018), hiding the ones who are responsible to environmental problems certainly affect students' cognition since it can also obstruct meaning. Therefore, presenting the ones who are responsible for the actions of wasting water may help young learners understand that using excessive water that

people usually do in their daily activities may lead to the waste of water. And that young learners have agency to take part actively in saving water.

The Roles of Young Learners in the Context of the Environmental Issues Presented in the Texts

In responding to drought-related environmental issues, the module provides several activities that young learners can follow to save water. For example, it can be inferred by looking at the fifth page of the listening to a story activity (Figure 2). In the page, the pages of *Why Should I Save Water?* (Green & Gordon, 2005: p. 20-23) are annotated as C.17, C.18, C.19, and C.20.

Figure 2.
Page 5 of listening to a story activity

(Source: "*Why Should We Save Water?*", page 21)

This page presents ways to save water. In terms of verbal texts, the analysis shows that, in text C.18, the son asks how to save water. Looking at the projected clause "let's never wash" from the speech bubble, the daughter responds to the question by suggesting not to wash. As not washing might not be the proper solution for saving water, Kristy, as the

son's friend, offers the ways to save water in text C.19 and C.20. Those ways are represented in Relational and Material processes. For example, the clause "showers are great" can be considered as an Attribute of Relational process as it connects "showers" as the Carriers to their Attribute "great". The clause is, then, followed by a Material process stating why showers are great "they use less water than a bath". The word "use" can be considered as the process of doing that "they" or showers as the Actors do towards "water" as the Goal. The clause also includes a Manner circumstance "<u>less</u> water <u>than</u> a bath" as a comparison to the use of showers. It indicates that the text promotes the use of showers to save water since it uses less water.

Visually, text C.18 presents the daughter who narrowly thinks the way to save water. The text represents the daughter as the Sayer and the Senser of Verbal and Visual processes in which the speech bubble is the Utterance and the thought bubble is the Phenomenon. The speech bubble projects clauses about her idea not to wash. Meanwhile, the thought bubble projects a visualization of the son with a dirty appearance. Furthermore, the text also presents the son and Kristy with doubtful faces as the Reactor of the Reactional process in which the daughter is the Phenomenon. Their faces indicate their doubts towards what the daughter says. They might think that what the daughter says is not the appropriate solution for saving water. In contrast, text C.19 and C.20 provides activities that can be considered as the ways to save water. For example, text C.20 presents the father as the Actor of the Unidirectional Transactional process in which a brick is the Goal. Looking at the presence of a toilet with a water splash in the text, it can be indicated that the father is putting the brick in the toilet.

In terms of complementarity, the analysis indicates that the represented participants in the visual texts are picked up verbally by the relations of Repetition (e.g., water), Synonymy (e.g., a daughter and "I") and Hyponymy (e.g., a father and "we"). In the meantime, the represented process of imagining in the visual text C.19 is completed in the verbal text by the synonym "know". Meanwhile, the represented process of putting a brick in the toilet is picked up verbally by the relation of Repetition "put a brick in the toilet". The verbal texts also give more explanation for the

visual texts about why putting a brick in the toilet can be considered as one of the ways to save water, as "it will use less water when we flush". Hence, it can be inferred that both verbal and visual texts present attempts in saving water.

Figure 3. *Page 3 of circling words activity*

How do you save water?

Save water

Turn off the faucet

Collect the rainwater
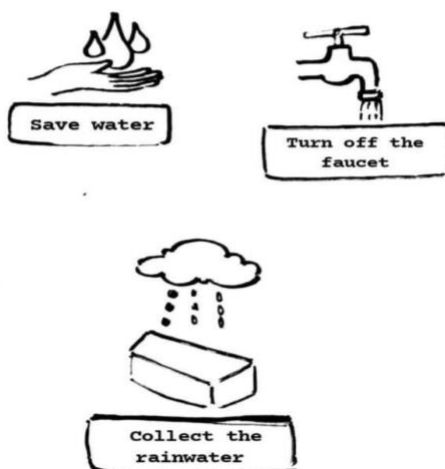
(Source: "*Why Should We Save Water?*", page 33)

The actions that young learners can follow to save water could also be seen in the third page of circling words activity (Figure 3). It can be seen from the first clause of the text that asks how to save water. The clause can be considered as Material process as the word "save" indicates the process of doing towards "water" as the Goal. The next three clauses, that are assumed as the answers, can also be categorized as Material processes. Nevertheless, the clause "save water" only repeats the clause from the question. Moreover, as there is no circumstance when to turn off the faucet, the clause "turn off the faucet" does not necessarily indicate an activity to save water. In contrast, the last clause "collect the rainwater" provides an example as the way to save water.

Visually, the analysis shows that the text represents a Unidirectional Transactional Action process as a vector emanates the

directions of an open hand (Actor) towards three drops of water (Goal). This set of participants can be interpreted as an individual who is saving water. Furthermore, the text also depicts a Symbolical process as it shows the existence of one participant which is a faucet (Carrier). Lastly, the text represents a box as the Actor of Unidirectional Transactional Action process in which the rainwater is the Goal. It can be explained by looking at the vector emanating from the direction of the water falling towards the box. It indicates that there is an attempt to collect rainwater.

Bringing the visual and verbal texts together, most of the represented processes and participants in visual text E.3 are completed verbally by the relations of Repetitions (e.g., collecting water). Nevertheless, in what situations people have to turn off the faucet and why they have to collect water are not mentioned explicitly in both verbal and visual texts. Therefore, there is a need to further discuss the ways of saving water in this activity so that the meanings could be conveyed entirely.

Generally, both visual and verbal texts in the module provide several ways that can be followed by young learners to save water in responding to drought-related environmental issues. Accordingly, the texts also supply rich vocabulary, related to the activities to save water, that can be discussed by young learners to build their glossary. However, the practical activities that can be followed by young learners to save water are mostly only presented in the listening to a story activity.

The Place Given to the Environment in the Texts

The findings indicate that the place given to the environment in the texts is an object to be saved. It is because water, as the natural other, is portrayed as an essential thing for humans. If there is no water, people cannot do their daily activities. For example, it can be explained by looking at the third page of the listening to a story activity (Figure 4). In the page, the pages of *Why Should I Save Water?* (Green & Gordon, 2005: p. 12-15) are annotated as text C.9, C.10, C.11, and C.12.

Figure 4. Page 3 of listening to a story activity
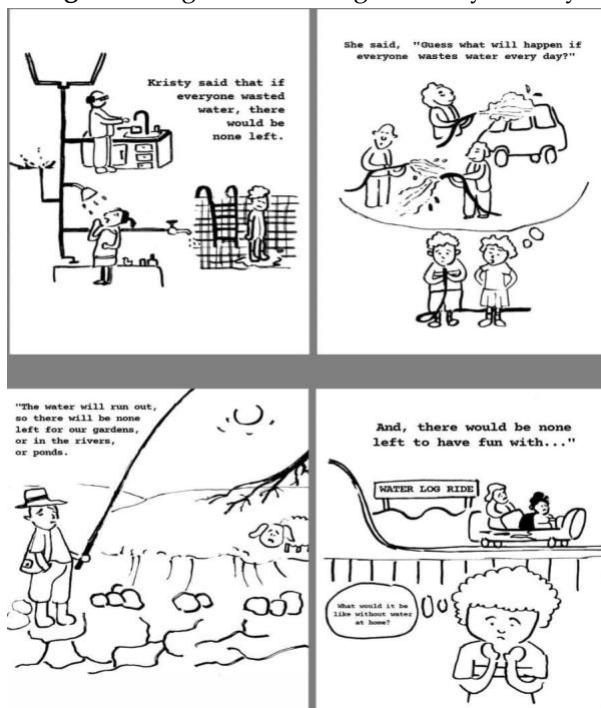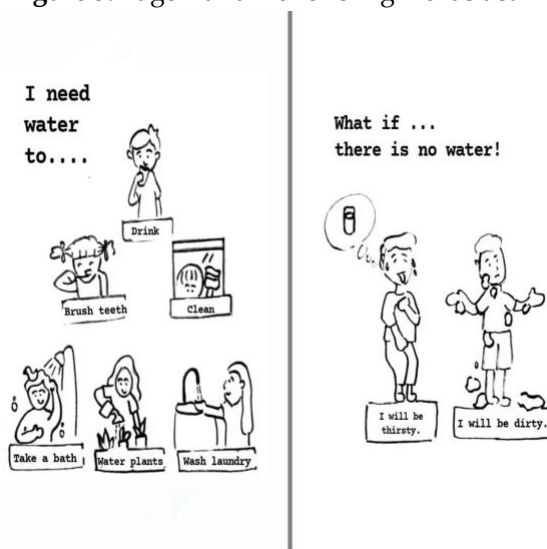

(Source: "*Why Should We Save Water?*", page 19)

This page presents the answers of the son's question, on the previous page, about why he should save water. In terms of verbal texts, the analysis shows that the clauses in text C.9 indicate the possibility, said by Kristy, that might happen if people waste water. The clause "Kristy said" can be considered as a Verbal process since the word "said" is the process of saying that belongs to "Kristy" as the Sayer. This clause, then, projects other clauses as it is followed by the item "that" (Derewianka, 2011). The first projected clause is the condition "if everyone wasted water," of the second projective clause "there would be none left". The second projective clause can be considered as an Existential process as it predicts "would be" the absence of water "none left".

In terms of visual texts, text C.9 represents three people (man holding a pan, a shirtless man, and a woman in towel) as the Reactors of Transactional Reactional processes in which a not working faucet and shower and a dry swimming pool are the Phenomena. It can be explained by paying attention to the vector emanating their eyes' gaze towards the

represented Phenomena. It can be indicated that water that usually comes out from and remains in the represented Phenomena is no longer there. Hence, the represented Reactors cannot do the activities that they usually do. Moreover, text C.11 and Text C.12 also represent dryness situations. It can be seen from the represented Settings in the texts. For example, in text C.11 the Settings are a pond with no water and a yellowish garden with a leafless tree. In this part, teachers can educate young learners to use water wisely so that such situations will not happen.

In terms of complementarity, the analysis shows that the represented participants in visual texts are picked up in the verbal texts through the relations of Synonymy (e.g., Kristy and "she") and Hyponymy (e.g., a man holding a pan, a shirtless man, a woman in towel and "everyone"). Meanwhile, the represented processes and circumstances in the visual texts are completed verbally by the relations of Repetition (e.g., wasting water; a garden and a pond) and Synonymy (e.g., imagining and "guess"; dryness and "none left"). Nevertheless, there are also several represented participants and processes that are not completed verbally. For instance, the presence of a fisherman in the visual text C.11 is not stated explicitly in the verbal text. Here, the message about if there is no water in the pond, the fisherman cannot fish is the gap that young learners need to fill based on the visual text.

**Figure 5.** Page 1 and 2 of circling words activity

(Source: *"Why Should We Save Water?"*, page 31 and 32)

Other examples also come from the first two pages of circling words activity (Figure 5). The pages are annotated as text E.1 and E.2. In terms of verbal texts, the analysis shows that the text E.1 indicates that the module explicitly portrays human need for water to carry out several activities. The first clause of the text, "I need water" can be considered as Mental process. The word "need" indicates the process of wanting "water" as the Phenomenon that belongs to "I" as the Senser. In addition, the clause also includes the Matters of the process of wanting (e.g., "to drink", "to clean", and "to water plants). It suggests that the Matters have the function to indicate the purpose of wanting water which is to do several activities. Meanwhile, text E.2 indicates an individual's conditions if there is no water. The first clause of the text, "what if there is no water", asks a certain Condition where the answers are in next clauses. The next clauses can be considered as Attribute clauses of Relational process. For example, there is a clause that connects the participant "I" to its Attribute "thirsty".

Visually, the analysis shows that text E.1 indicates processes in which water becomes the Goal or the Means. For example, the text represents a boy holding a glass in her mouth as the Actor of the Unidirectional process in which assuming water is the Goal. It signals that the boy is drinking water. Meanwhile, text E.2 represents a boy sticking out his tongue with sweat beads at his red face (the first boy) and a boy with mud dirt on his clothes (the second boy). The first boy is represented as the Senser of the Mental Projective process in which the thought bubble presents an image of a glass of water. It indicates that the boy is thirsty. Furthermore, the presence of the second boy with mud dirt on his clothes indicates dirtiness.

In terms of complementarity, the analysis shows that the represented processes and participants in visual text E.1 are picked up verbally by the relations of Repetition (e.g., drinking, plants) and Synonymy (taking a shower and "take a bath"). In the meantime, all represented participants and their Attributes in visual text E.2 are completed verbally by the relation of Synonymy (e.g. a boy and "I"; thirstiness and "thirsty").

Figure 6. Telling experiences activity
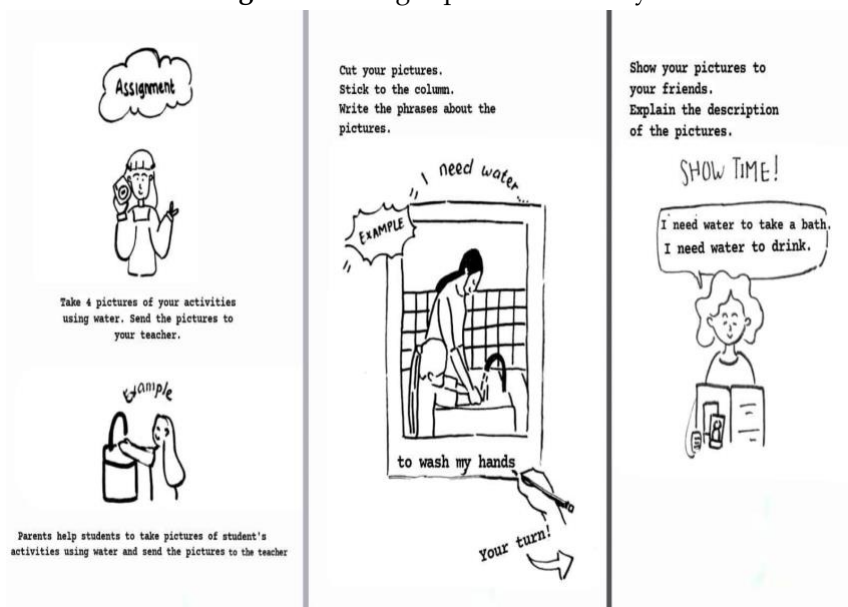
(Source: "*Why Should We Save Water?*", page 29, 35 and 39)

Furthermore, the final activity of the module, telling experiences activity (Figure 6), also emphasizes on human need for water. This activity gives a space for young learners to express their understanding regarding the use of water based on their own experiences. First, they are asked to take four pictures of their activities using water. Then, the young learners have to cut and stick the pictures to the provided column. They are also asked to write several phrases indicating the pictures. Lastly, they are asked to explain the pictures to their friends. Looking at the examples of the activity, the verbal text can be considered as Mental process. The word "need" indicates the process of wanting "water" as the Phenomenon that belongs to "I" as the Senser in which the Matter is "to wash my hands".

Turning to the visual elements, the example picture depicts a girl and a woman as the Actor of Unidirectional Transactional Action process in which her hands are the Goals and water is the Means. It can be explained by looking at the vector emanating from the direction of their landing hands to the flow of water. It suggests that the girl and the women, as a daughter and a mom, are washing her hands by using water. With respect to the complementarity, the analysis shows that the represented

participant and Matters of the process in the visual example are completed in the verbal texts by the relation of Synonymy (a girl and "I") and Repetition (washing hands). It can be indicated that the example provides a space for teachers to discuss the amount of water that people usually use in their daily activities with young learners. For instance, due to the COVID-19 pandemic, nowadays, people tend to wash hands more often than before. Hence, teachers need to educate young learners while we need to be hygienic, we also need to use water with care or a considerable amount.

Overall, the module depicts water as an object to be saved since water is portrayed as an essential thing for humans. The role of water in the module is used for human interests. The module portrays people who cannot do their activities, if there is no water. Actually, according to Qiu (2013, p. 1884), depicting nature only as tools may lead to the "alienation between man and nature". However, in this case, as most of the activities related to water use are considered essential (e.g., drinking and taking a shower), there is no problem depicting human need for water. Furthermore, the representation of human need for water in this module is used to give the context of the importance of saving water to young learners. It is in line with the rhetorical message from the story of *Abigail the Happy Whale* that it seems people will realize to do good to nature when experiencing uncomfortable situations from the disturbed nature (Gaard, 2008).

CONCLUSION

This study has shown that environmental issues are depicted in the relations of verbal and visual texts in the EFL module "Why Should We Save Water?" produced by EYL Course Design course students in an English education department of one university in Bandung. Specifically, the module discusses climate action related to drought.

The space between young learners and the environment is mostly portrayed by depicting the characters of the module as the Actors in which water is the Goal or the Means. The relationship between the characters and water is portrayed not reciprocal as water is used excessively. Meanwhile, the ways that can be followed by young learners to save water

are depicted in verbal texts by using Material and Relational processes. In the meantime, the place given to the environment in the texts is considered as an object to be saved as water becomes an essential thing for human needs. It can be seen from verbal texts that present Mental, Existential, and Relational processes that indicate human need for water.

In terms of complementarity, most of the elements of verbal and visual texts are completed one another by the relations of Repetition, Synonymy, and Hyponymy. Therefore, encouraging young learners' comprehension of the module, especially related to environmental issues, could be expanded by identifying both texts as a single whole. This study is a preliminary investigation into how environmental issues are represented in an EFL module produced by EFL pre-service teachers. It suggests further study to explore its practical use in classrooms.

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