# Sensitizing Young English Language Learners towards Environmental Care<sup>1</sup>

Sensibilización Ambiental para Jóvenes Aprendientes del Idioma Inglés

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#### Abstract

This paper reports an action research study aimed at understanding how to sensitize young English language learners towards caring for the environment. The pedagogical intervention in a 5th grade class consisted in the use of creative writing strategies to express learners' ideas. Three stages were followed: recognizing facts, reflecting on them and proposing a solution to a problem. The progress learners made at each stage was analyzed. The findings suggest that learners made significant gains in language development and environmental awareness from the opportunities offered by self-expression and debate.

Keywords: Content Based Instruction (CBI), environmental education, environmental raising awareness, sensitizing, young learners, writing

#### Resumen

Este artículo reporta un estudio de investigación acción cuyo propósito fue entender cómo sensibilizar a los estudiantes de quinto grado sobre el cuidado y la protección del medio ambiente. Se incentivó a los estudiantes a expresar sus ideas usando estrategias de escritura creativa. La intervención pedagógica siguió tres etapas: reconocimiento de los hechos, reflexión para finalmente plantear una solución al problema ambiental identificado. Los avances logrados en cada etapa fueron analizados y los resultados indican que a partir de las oportunidades de auto-expresión y de debate, los estudiantes avanzaron significativamente en el desarrollo del lenguaje y en la conciencia ambiental.

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Palabras clave: Instrucción Basada en Contenidos (CBI), educación ambiental, conciencia ambiental, sensibilización, jóvenes aprendientes, escritura

#### Resumo

Este artigo reporta um estudo de pesquisa, ação cujo propósito foi entender como sensibilizar os estudantes de quinta série sobre o cuidado e a proteção do meio ambiente. Incentivou-se os estudantes a expressar suas ideias usando estratégias de escritura criativa. A intervenção pedagógica seguiu três etapas: reconhecimento dos fatos e reflexão, para finalmente propor uma solução ao problema ambiental identificado. Foram analisados os progressos conseguidos em cada etapa, e os resultados indicam que a partir das oportunidades de auto expressão e de debate, os estudantes avançaram significativamente no desenvolvimento da linguagem e na consciência ambiental.

Palavras chave: Instrução Baseada em Conteúdos (CBI), educação ambiental, consciência ambiental, sensibilização, jovens aprendizes, escritura.

#### Introduction

ducators are concerned with how best to work on issues that affect the ecosystem. This article attempts to provide the reader with an analysis of the instruction, underlying theory, and some practice that can contribute to environmental action. Sensitizing students towards the environment has become essential and urgent. This demands from the educational curriculum the incorporation of current and cross-curricular topics in the classroom (UNESCO-UNEP, 1987).

The authors noticed that the youngsters at the school under study did not seem to have quality information or practices about caring for the environment even if it was a matter of discussion in other school subjects. We wondered how relevant it would be to address this lack of awareness while teaching another language (L2). Thus, one of the aims of the pedagogical innovation, mediated by creative writing, and Content-Based Instruction (CBI), was to promote the understanding and the development of a conscientious attitude to recycling and saving resources.

#### Literature Review

Content-Based Instruction (CBI) and Environmental education (EE) constitute the main constructs of this study. Brinton, Snow and

Wesche (1989) define CBI as "the integration of content with language-teaching aims" (p. 2). Jacobs and Cates (1999) say that "L2 learning has a crucial role in helping people to learn about and participate in the protection of the environment" (p. 4). In addition, Curtain and Pesola (1994) contend that CBI in L2 instruction supports the incorporation of a variety of thinking skills and learning strategies that lead to language development, including information-gathering skills, absorbing, questioning, organizing skills, categorizing, comparing, representing, analyzing, identifying main ideas, identifying attributes and components, identifying relationships, patterns, generating skills, inferring, predicting, and estimating.

Likewise, Stoller (1997) suggest that the pervasiveness of language in the teaching of all subjects and the close ties of written language to thinking make CBI the most influential way of promoting thinking. Similarly, Shih (1986) states that the use of a content-based approach to writing enables students to make judgments about the meaning of texts after thinking carefully about them, to improve language skills through the study of these texts, and to think about specific subject matters critically. In a similar vein, Heid (2005) contends that when learners feel comfortable with a manner in which they can express themselves and convey meaning, they may be persuaded to continue their schoolwork.

This study uses drawing as a pre-writing task, taking into account the connection that Sheridan (1990) establishes, that children think symbolically in variety of ways, making marks intended to have meaning. They are clearly able to reflect upon what they see, hear, say, read, and write. These skills can be used at the same time to create knowledge by transferring information from one mode of representation to another. This has been called *cross modal practice*.

For Pasek (2004), environmental education takes place within the practice of searching for creativity and discovery, and the exploration of realities unnoticed. In this perspective, awareness is understood as the process by which teachers and learners, as individuals constructing their own knowledge, reach a growing awareness of both the sociocultural reality which shapes their lives, and their ability to transform this reality (Freire, as cited in Pasek, 2004). We coincide with Leff (2008), who affirms that environmental awareness is not only learning the concepts concerning the impact of human activities on ecosystems, but also the use of this knowledge to understand the situation we are in, to determine how we arrived to those circumstances, and to create alternatives to change them.

#### Methodology

#### **Research Design**

Framed within the qualitative research method, action research allowed us to study students' learning in relation to teaching and to instructional practices (Florida Department of Education, 2004). The teacher-researchers intervened to understand what happened in the stages carried out with the aim of monitoring learning (See Appendix 1). "The idea of action research is that educational problems and issues are best identified and investigated where the action is: at the classroom and school level. By integrating research into these settings and engaging those who work in research activities, findings can be applied immediately and problems solved more quickly" (Guskey, 2000, p. 46). The inquiry moved around the questions: *How might CBI contribute to fostering the development of environmental awareness in a 5th grade class?* and: *How do fifth graders perceive changes in their attitudes towards environmental issues after engaging in environmental topics?* 

#### **Context and Participants**

Thirteen boys and seven girls, ages 9 and 10, participated. We followed Kahyaoglu and Kiriktaş (2013), who contend that "the sooner starting the environmental education, the better is the outcome. Because the interests and attitudes formed in pre-school and primary school period shape the future behaviors. Especially, the attitudes and value judgment developed in early age as childhood and adolescence are highly important to form the love of nature and the empathy in the relationship with nature" (p. 6). For people to become actively involved in solutions to environmental problems and develop awareness, they need to learn early to love everything that the environment encompasses (Gürsoy, 2010).

#### **Pedagogical Intervention**

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In the pedagogical intervention, learners were encouraged to express concerns, feelings, opinions, arguments, judgments, critiques and means of actions while discussing the ecosystem. Previous knowledge was activated with observations, videos, and readings. The language needed for expression was provided. Learners drew and wrote in English about their drawings. Afterwards, learners showed their work and talked about it in order to promote discussion. Three stages were proposed: recognizing, reflecting, and creating (See Appendix 1).

**Recognizing.** Participants developed tasks that involved labeling pictures, and drawing and writing to describe and reflect on issues. The tasks attempted to display information and to recognize the importance of the environment for living. Learners were required to name the problem that appeared in a picture or in a passage.

**Reflecting.** This stage encouraged participants to reflect on behaviors that cause damage to the environment. Videos, short stories and visuals were used as well. The class provided their insights by drawing and by drafting a short paragraph.

Creating. This stage brought lesson plans in which learners were shown actions that are taken around the world to protect the environment. Worksheets modeled writing while the teacher encouraged reflection on the role of humans. Students represented their ideas in drawings and then they described them.

#### **Data Collection Instruments**

Artifacts, participants' journals, and questionnaires were used in each stage. A questionnaire was administered at the end of each stage to examine the learners' responses to the activities. The questionnaire contained one open-ended question: Do you think that the tasks proposed have contributed to change your thoughts on environmental care? If so, why? The other items on the questionnaire were two modified Likert-scaled statements with faces indicating more or less agreement:

- 1. I think that the activities carried out in English class about environmental problems help me make decisions in favor of the environment, inside and outside school.
- 2. My daily habits have changed these past months so they are more in favor of the environment.

For purposes of validation, the same data was collected using the same methods during the stages, comparing and analyzing common actors to confirm the progress achieved (Burns, 1999). The data was consolidated, reduced, and interpreted in relation to theory and in connection to what was observed in the process (Huberman & Miles, 1984).

#### **Data Analysis and Interpretation**

The data gathered was named, grouped, related to other data, and displayed (Freeman, 1998). The analysis established categories and sub-categories. Table 1 lists the categories and sub-categories in reference to the research questions.

Research Question Category Subcategory Expressing understanding and concern about local How may CBI contribute to environmental issues / fostering the development of Going green from our own Judging one's actions that may environmental awareness in experience. cause environmental impact fifth graders? Proposing personal green solutions How do fifth graders perceive changes in their attitudes From drawing and writing to towards environmental issues real actions after engaging with environmental topics?

Table 1. Resulting categories and subcategories

Going green from our own experiences. Going green means that participants went through a gradual process of awareness, First understanding environmental issues, then recognizing their own negative actions towards the environment, and finally, managing to propose alternative solutions for their contexts.

Expressing understandings and concerns about local environmental issues. In stage one it was found that drawings and writing allowed participants to voice their concerns. They recognized problematic situations in their neighborhood, school and home. According to Fischer (2007), understanding includes being able to reorganize, follow the sequence of facts and make inferences. This was revealed when students connected ideas to their previous knowledge and to their personal experiences. An example that shed light on the appraisal of current problems comes from Student 5's drawing, in which he numbered each statement to organize his ideas and to refer to pollution. At the time, flooding had caused a total collapse in the city of Bogota (See Figure 1).

Student 5 drew and wrote his concerns in several propositions:

People are littering

There is garbage.

This is contamination.

There are floods in Fontibón.3

People can die.

This student went through the chain process to convey the idea. He also depicted the condition of floods happening at the time. He expressed how these affect people when he wrote, "*People can die*."

<sup>&</sup>lt;sup>3</sup> A neighborhood in Bogotá.

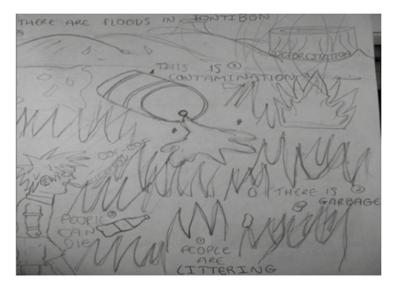


Figure 1. "There are floods in Fontibón."

We found that learners developed descriptive knowledge and understanding as they recognized causes and effects of the phenomenon (Hirose, 1995). They also tried to go through the chain process, which helped them to feel part of the problem, identifying the issues that disturb their own context. Their journals corroborate this aspect. After stage one, students wrote a journal entry in which they discussed and voiced concerns about their context.

S2: We are close to the Bogota's River and it reeks for contamination. Water pollution is serious and causes fish and plants to die<sup>4</sup>.

By connecting readings and experiences, learners rationalized the causes and consequences of those concerns. This suggests an understanding of the issues discussed. As stated by Leff (2008), it is possible to say we have developed environmental awareness when we apprehend the impact of human activities on ecosystems. This, according to UNESCO (1997), becomes an essential part of what environmental education stands for. The learners' understanding of these topics helped them identify their responsibility as citizens for the damage caused by their actions, as in the ensuing sub-category.

<sup>4</sup> Original Spanish: "Nosotros estamos muy cerca del Río Bogotá y huele muy mal porque hay contaminación. La contaminación del agua es muy grave porque genera que los peces se mueran y las plantas se toman esa agua sucia y después nosotros la necesitamos para vivir."

Judging one's own actions that may cause environmental impact. Another aspect that supports the core category Going green from own experiences is judging one's own actions that may cause environmental impact. In Stage 2 of the intervention, learners reflected and organized actions they may have taken and recognized the consequences. The evaluation of the content was found to be expressed with adjectives, such as good / bad / excellent / poor / kind / cruel, able / unable. Adverbs were also used, e.g. honestly / fairly / properly / intelligently. Verbs appeared: (cheating / abuse / cajole / persuade) (Martin & White, 2005).

To develop their reflections, some students depicted their ideas through several images, describing the beginning, the consequences, or the end of the situation in a sort of cartoon-strip, as in the sample from Student 9, who made seven drawings, and under each, he described the actions:

I am eating an ice cream.

I have the paper,

I am littering.

The paper is on the floor.

I am thinking is not good.

I feel sorry.

There is a trash can.

He used language that evaluates his behavior with expressions including, "I am littering," "It is not good," "I feel sorry," and "I am thinking is not good." Drawing and lexical choices conveyed the message and enabled the learner to communicate and share his feelings. The category of judgment is associated with the actions that constitute evaluating behaviors related to environmental care.



Figure 2. Child's drawing to describe his action and to evaluate his behavior.

The learners' journal supported the above. After completing task 7, Students 1 and 2 wrote:

S1. When I brush my teeth the water runs. This is wrong. I am wasting water, and water has become scarce. This does not help the environment.<sup>5</sup>

S2: I was able to reflect on what we do daily, and which damages the environment: wasting water and paper. Reflecting is cool so we can improve.

The Economic Commission for Latin America and the Caribbean (2000) recognizes the importance of taking into consideration the link between one's actions and their impact on environment to change behavior and to increase awareness.

**Proposing green personal solutions.** Proposing green personal solutions refers to the learners' ability to express their contributions to protect their immediate environment. In the *creating stage*, the learners proposed solutions and willingness to action. These were described from their own possibilities and from what they could at home or at school. A learner drew a girl by a faucet with running water and wrote, "I am going to save water, because water is important for the planet." This awareness is mentioned by Grauer (1989), who suggests that it is indispensable to think globally, but to act locally. When learners propose solutions within their own possibilities, they are making a difference. As stated by UNESCO (1987), in order to develop environmental awareness, it is necessary to search for solutions and possible means of action. Additionally, the learners' work shows the development of procedural knowledge (Hirose, 1995), as they created and proposed solutions. This is corroborated by Student 9, who proposes to address the problem by "I am going to use a plastic glass\* and I can save water".



<sup>&</sup>quot;He podido reflexionar sobre las cosas que hacemos a diario que causan daño al ambiente, como desperdiciar papel, y gastar el agua, es chévere porque podemos mejorar."

Similarly, Student 10 said and wrote, "There is a lot of garbage. We can reuse the things and make art with this, and decorate the school and the houses." Learners attempt to propose pro- environmental actions. Being environmentally concerned and having access to adequate information facilitates these initiatives (Economic Commission for Latin America and the Carribbean, 2003). Similarly, learners expressed and reported their solutions and reflections in their journals:

S8. To save the environment we should start by ourselves and do things that make a difference. At school we should display our drawings and show other children what we did in our English class: And also display what can be done to take care of the environment.

S9: To save the world I should save water. I am going to use a cup when I brush my teeth.

As stated by UNESCO (1997), reflections are an essential part of what environmental education should be, that is equipping individuals with knowledge and attitudes that raise concern for the environment.

From drawing and writing to express taking action. This category refers to the students' perceived change in attitude. Questionnaires for capturing their perceptions were administered to all participants after each stage (See Appendix 2). An open-ended questionnaire was also administered after lessons to students randomly selected in each stage in order to validate the responses. To develop a better interpretation of what the data presented, we refer to the widely cited definition by Allport (1935), who argues that attitude refers to thoughts, emotions and behaviors. It is the tendency to act in a particular way due to both an individual's experience and personal attitude which can be inferred through verbal expressions and observed behaviors.

After the intervention, we found that the learners' ideas had evolved. By drawing and writing, they expressed actions to change routines and to favor of the environment. The participants' responses to the questionnaire also brought insights. We found out that 18 out of 20 participants strongly agreed (SA) or agreed (A) that "The English class helped us change our ideas about environmental protection."

This was also supported by the responses in the open-ended questionnaire: "Do you think the class activities contributed to changing your idea about environmental care? Why?"

S11: For me, environmental care means doing things for a prettier world: recycling, reducing waste, no littering, and saving water at school and at home; care also means encouraging others to protect the environment.<sup>6</sup>

S9: Now I know that environmental care also depends on us.<sup>7</sup>

Participants reflected that expressing and sharing their ideas with others help them enrich their knowledge about environmental issues and to build possibilities to change together.

S8: I have been able to think about environmental damage. We need to start by ourselves for preventing it. We need to make a difference.8

S5: I liked some of my classmates' ideas and I plan to follow them; such as the one of using a bottle to reduce the water your toilet wastes.

In sum, language allowed students to think critically and analytically while proposing solutions. The L2 was used for idea generation and as a vehicle for self-expression. For UNESCO (1994), language serves as a means of reflection and understanding: "through language we can explore and express our understanding of cultural values and social customs" (p. 83).

#### Results

The first finding deals with the approach. The young learners benefitted from the combination of content and language study. As Brinton, et al. argue (1989), CBI allowed the integration of a sensitive topic, which made learning significant, and it provided learners with opportunities to communicate. Besides, drawing and writing proved to be a strategy that allowed the youngsters to expand their expression and move towards critical thinking, which would lead them to behaviors that are friendly to the environment.

The second findings reveal strong evidence of language development. When learners expressed themselves by drawing and

<sup>6 &</sup>quot;Para mí cuidar el medio ambiente es hacer cosas por un mundo mejor: reciclar, no desperdiciar, no ensuciar, y ahorrar agua en la escuela y en la casa. Cuidar es también animar a otros para que protejan el ambiente."

<sup>&</sup>lt;sup>7</sup> "Ahora sé que la protección al ambiente depende también de nosotros"

<sup>8 &</sup>quot;He podido pensar sobre el daño ambiental. Para evitarlo debemos empezar por nosotros mismos".

<sup>9 &</sup>quot;Me gustaron las ideas de mis compañeros y voy a usarlas; como la de poner una botella en el tanque del inodoro para reducir el desperdicio de agua."

composing, they could plan their writing and make language choices. Learners managed to connect sentences, organize them, and to find their voice. Besides, their writing brought paragraphs, larger use of conjunctions, and logical connections, suggesting diverse processes to manage a text (Martin and White, 2005).

The third finding relates to *learners becoming sensitive towards environmental care*. They first developed an understanding of the issues and then their self-expression guided them to proposing green solutions. The tasks allowed them to develop descriptive, analytical, and inferential thinking.

The forth finding deals with the change of attitude. The participants' explanation attests to that. In the diagnosis stage, students were asked about their perception of environmental protection. Student 9, for example, stated that it meant not producing smoke in the environment. After the intervention, the same student complemented his idea by affirming, "Environmental protection depends on us." He also mentioned actions, like littering, as having negative impact. Similarly, Student 10 stated that he reflected on his actions, and through the activities carried out in class, he could come to those proenvironmental ideas.

The findings concur with what Freire (as cited in Pasek, 2004) maintains that environmental awareness takes place "when teachers and students as constructive individuals of their own knowledge, reach a growing awareness of both the socio-cultural reality which shapes their lives, and their ability to transform this reality" (p. 38). Learners were found to develop environmental awareness as they searched for solutions and possible means of action. As stated by Hauschild, Poltavtchenko and Stoller (2012), environmentally friendly actions inside and outside the classroom naturally lead students to meaningful language use. Classroom discussions about the importance of green habits lead to authentic communication, and at the same time, the likelihood that students will put their newly acquired knowledge into practice increased.

190 Conclusions

The purpose of this study was to inquire how CBI may contribute to fostering environmental awareness in young learners. CBI helped learners re-shape their perceptions and attitudes towards environmental care. The pedagogical intervention encouraged interdisciplinary teaching as it enabled us to combine work on language, biology and the arts.

In addition, the three stages of the intervention, recognizing facts, reflecting on them, and proposing a solution to a problem, provided evidence of critical thinking development. When learners expressed themselves by combining drawing and composing, they were able to plan their writing and make language choices. With the teacher's assistance, youngsters managed to express themselves. Their work on key vocabulary, grammatical structures, and the elaboration of ideas in paragraphs shows that they made progress in L2.

Beginning learners also showed sensitivity to the issues. They first developed an understanding, and then their self-expression guided them to gain environmental awareness to the point of proposing green solutions themselves. This is in line with Leff (2008), who argues that environmental awareness should move us to action. Furthermore, this intervention enlightened reflective teaching. The teacher-researchers were pleased with the learners' creativity to propose solutions, and with their commitment to carrying them out. We feel we made a tiny contribution to environmental care.

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#### Resources

Video: Energy, let's save it!. <a href="http://videoclips.mrdonn.org/">http://videoclips.mrdonn.org/</a> science.html.

A narrative in Prezzi.  $\underline{http://prezi.com/6csu0f9dxn1c/flower-story/}$ 

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Appendix A.
Stages of the Pedagogical Intervention

Stage	Tasks	Activities	Instructional	Outcomes	Resources
1	Students (Ss)	Going out of the	Objectives		Paper,
1	draw and write	class and	Ss identify and	By the end of	pencils and
R	their	contemplate	describe EI in their	the stage, Ss	colors.
E	understanding	(seeing, hearing,	city.	should be able:	Worksheets.
C	of	smelling) the			Authentic
G	environmental	surroundings.	Ss describe and	-to list EE.	pictures of
N	issues (EI).	Watching the	exemplify pollution and its negative	-to write simple sentences about	pollution.
A Z	Ss list and	Watching the video about	consequences for	their appreciate-	Video:
I	study the key	pollution. Class	the planet.	ion of the	Energy, let's
N	words they	discussion.	<b>F</b>	environment.	save it!
G	would need.				http://videocl
		Writing sentences			ips.mrdonn.o
	Connecting	describing their			rg/science.ht
	concepts: (nouns) and a	drawings.			<u>m1</u> .
	description				
	(adjectives).				
2	Ss depict their	Discussing and	Ss analyze and	By the end of	Paper,
_	relationship	reflecting on	explain the use they	the stage, Ss	pencils and
R E	with pollution	human actions	give to their	should be able	color pencils
F	by the means of a drawing.	that cause environmental	personal belongings in their drawings	to link simple sentences to	Readings
l î	or a drawing.	impact.	and in written texts.	convey meaning	Readings
E	Ss write and	impuct.	and in written texts.	from their own	Worksheets
C	join sentences	Drawing and	Ss inquire and	understanding of	
T	by using some	writing reflections	appraise their daily	on EI.	
I	logical	on the relation of	practices and their	Ss should be	
G	connectors (but, and,	own behavior with	family practices in relation to the	able to develop, analyze and	
"	because)	environmental	environment.	evaluate their	
		issues.	-arra vannenti	own behaviors	
3	Ss recognize	Drawing about	Ss propose and	By the end of	Paper and
c	EI in the	their reflections	create solution to	the stage, Ss	pencil colors
R	reading, and	and writing a	protect the	should be able	
E	think about the role humans	short paragraph.	environment.	to organize their ideas in a short	Readings http://prezi.c
A	have to play in	Reading,	Ss prepare	paragraph.	om/6csu0f9d
T	it.	watching and	paragraphs	paragraph.	xn1c/flower-
N		discussing the	describing their	By the end of	story/
G	Ss draw their	story: "The little	own productions.	the stage, Ss	
	decision	flower"		should be able	
	towards environment			to make decision on EI.	
	protection.			decision on E1.	
	protection.				

## Appendix B.

### Questionnaire in the Creating Stage



#### Open-ended questionnaire

Do you think that the tasks proposed have contributed to change your thoughts on environmental care? If so, why?