Promoting Environmental Education in Moroccan High School ELT Textbooks

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Abstract
This paper examines the extent to which three Moroccan high school ELT textbooks integrate environmental education contents. The analysis focuses on four environmental education topics namely ecosystems and cycles, pollution, use of resources, and environment preservation as well as their subtopics. The study is informed by the theoretical framework developed by the BIOHEAD-CITIZEN project that aimed at understanding how environmental education can promote citizenship. This study adopted a convergent parallel mixed method design using content analysis to investigate the degree of presence of environmental education elements in Visa to the World, Ticket to English, and Ticket 2 English. The results revealed statistical evidences indicating that environmental education integration in these textbooks appeals to the learners' minimum fundamental environmental knowledge, awareness, attitudes and behaviors. Ultimately, this study suggests ways in which textbooks could contribute to improve students 'environmental knowledge, attitudes, and behavior.

1. INTRODUCTION

The integration and promotion of EE in the educational system are of paramount importance for environmental preservation and sustainability. Present and future generations of students need to be equipped with sufficient awareness, knowledge, and skills to enable them to efficiently participate in improving the quality of the well-being of humanity on the planet Earth. The basic principles of EE should be employed systematically to help the process of protecting and maintaining the environment to prosper and achieve its goals (Sauvé, 1996). However, relying on schools alone to overcome the present and future environmental challenges remains deficient and will not suffice the dissemination of green culture and pro-environmental lifestyles among the components of society. Educators and parents aspire to develop the students' level of engagement in protecting the environment and resolving the threatening environmental problems such as pollution, desertification, global warming, and depletion of resources. All other stakeholders, including civil society, business organizations, and government sectors, should essentially contribute to the accomplishment of this societal project; otherwise, it will not reach its ultimate objectives (Smyth, 2006). The educational system, especially school curricula and programs, constitutes solid grounds upon which the process of EE can thrive and prosper. Hence, education authorities and educators are invited to

double the effort to fully institutionalize the integration of EE in the school's day-to-day activities and practices (Payne, 2006; Ramsey et al., 1992).

Learning a foreign language opens new windows for the learners to know and understand a new culture and society in all its dimensions (Gürsoy, 2010; Hauschild et al., 2012; Yassin et al., 2020). The learners are offered opportunities to discover the different ways other people communicate and behave so that they can draw comparisons and conclusions. In this respect, learners can use English to interact and collaborate in their community and the world especially about issues related to citizenship and civic engagement. Learning the English language represents an important instrument to develop the learners' critical thinking and problem-solving skills and make them effective agents that can participate actively in the protection and improvement of their environment.

Therefore, English textbooks should not only be confined to the promotion of the students' linguistic proficiency but are also required to enhance the learners' higher-order thinking strategies to help them partake in resolving the ecological and environmental predicaments as citizens of the world (Nkwetisama, 2011; Yassin et al., 2019). In this perspective, Moroccan high school's English language textbooks can be functional in disseminating green culture and lifestyle among students. Because of their purposeful organization and structured layout of contents' presentation (O'Keeffe, 2013), textbooks are essential tools to help teachers and students achieve the teaching/learning goals inside and outside the classrooms. Textbooks also represent educational and cultural artifacts that facilitate the implementation of official education policies in schools. Textbooks play two fundamental roles: They help convey knowledge content and skills and play a role of mediation between the curriculum designers and the teachers who are in charge of executing these policies in the classrooms (Lebrun, 2007 & Valverde et al., 2002). Textbook analysis is, thus, very significant to evaluate the state of affairs of EE in the educational system in general and high schools in particular (Carvalho et al., 2011).

This paper seeks to investigate the extent to which EE elements are integrated into three Moroccan high school ELT textbooks (*Visa to the World, Ticket to English,* and *Ticket 2 English*). The degree of presence of EE elements is gauged through the frequencies of reoccurrence of content related to environment throughout the different units and lessons in the three textbooks. To this end, this study is set out to answer the following research questions:

1. What is the status of EE in Moroccan high school ELT textbooks?
2. To what extent do Moroccan high school ELT textbooks provide content that promote environmental topics relating to ecosystems and cycles, pollution, use of resources, and environment preservation?
3. How EE elements are integrated in Moroccan high school ELT textbooks?

2. REVIEW OF LITERATURE

The status of EE in the Moroccan school curricula is inherent in the overall situation of the country's educational system and the objectives of sustainable development. Morocco has participated in most United Nations conferences on EE and sustainable development and hosted many others, including COP 22 in 2016. Theoretically, Morocco has launched many green circulars, projects, and initiatives promoting EE and enhancing its integration in the curriculum (*the National Charter for Education and Training*, 1999; *Morocco's National*

Charter for Environment and Sustainable Development (2010); *Morocco's Strategic Vision for Reform* 2015-2030). The ministry of education encourages the schools to implement these projects in collaboration with different NGOs especially Mohammed VI Foundation for Environmental Protection.

This paper envisages to critically analyzing three ELT textbooks currently used in Moroccan high schools. The analysis is guided by the methodology used in the BIOHEAD-CITIZEN project whose objective was to promote students' citizenship both through the effectiveness of their science education and through their awareness of civic values and social practices based on scientific knowledge and values (Caravita et al., 2008; Carvalho & Clément, 2007; Dantas et al., 2009). The BIOHEAD project focused mainly on biology, health, and the environment but the theoretical framework can be adapted to any school subject. Our analysis of ELT textbooks and the used research instrument targeted precise contents and objectives relating to specific environmental topics and subtopics.

El Moussaouy et al. (2014) studied the position and importance of EE in Moroccan high school education, emphasizing two school subjects: biology and physics. The study used a comparative method through textbook analysis and questionnaires distributed to 90 teachers in Oujda Academy. Armed with statistical data, the researcher convincingly concludes that the presence of EE in the Moroccan curriculum is mediocre. Even when it is present, it is dominated by the cognitive dimension, with heavy stress on information transfer. El Moussaouy et al. (2014) argued that the integration of EE in the school practices could not help the students adopt positive environmental attitudes and behaviors due to the scarcity of EE topics especially in the textbooks of physics (El Moussaouy et al., 2014, p. 33). The significance of this study lies in both the method of content analysis and the resulted statistical data**.** The study concludes that the role of teachers is central to help learners construct essential knowledge of the environment and develop EE competencies and positive behavior towards the environment.

Similarly, Sayad et al. highlight the difficulties and shortcoming of the current situation of EE in Moroccan high schools. After accounting for the content and the quality of EE and analyzing the teachers' intervention in this regard, the researchers conclude that the place of environment in Moroccan education is not satisfactory enough. Sayad et al. (2015) used a questionnaire targeting students, teachers, and educational policymakers to test the quality of EE in high schools. They also statistically concluded that Moroccan students are not aware enough of the value of the environment. They argued that school activities provide few opportunities for students to hone their degree of engagement in pro-environmental behaviors inside the schools and beyond (p. 2604). Although Sayad (2015) and his colleagues' work is academically and empirically significant, it remains heavily descriptive as it relies on questioning the participants about what they know and think. Thus, the study sounds one-dimensional and does not account for other dimensions in EE other than the cognitive one.

Aggoram's et al.' (2009) followed a different approach and conducted a comparative study of the status and importance of EE in North Africa and the European Union, taking Morocco and Italy as a case study. Agorram and his colleagues argued that their study results reveal that teaching ecological issues is not simplified to the learners. In this sense, the perspectives of

ecology communicated by textbooks remain superficial and incomplete. They compare the teaching of pollution to a fragmentary way of "call of attention," where the high school textbooks do not communicate the environmental content articulately, nor do they bring in environmental contexts relevant and meaningful to students' experience in concrete cases. The article concludes that regardless of cultural differences and the diversity in the environmental contexts, the examined topics are treated in similar ways in both Italian and Moroccan textbooks as if a globalized approach to EE prevails on the attention for the construction of students' environmental identity (Agorram et al., 2009). The comparative approach of the study is very significant to track the evolution of EE on a broader scale.

Mliless and Larouz (2018) analyzed ELT Moroccan high school textbooks from what they called "eco-linguistic perspective." This study examined the use of euphemism, agency, and passive voice in environmental texts to make students aware of the educational issues. Mliless and Larouz examined the degree of presence of eco-linguistic elements in ELT textbooks using content analysis techniques. They found that linguistic structures in environmental texts could potentially affect the awareness of students' environmental problems at the level of meaning construction. The results of the study indicated that (1) there is considerable use of euphemisms in environmental texts of Moroccan ELT textbooks, (2) agency is almost nonexistent in the afore-mentioned texts, and (3) there is a large use and adoption of passive voice structures in these texts. The researchers argued that the use of euphemisms hides the alarming reality of environmental issues in the texts. In contrast, the absence of agency from the texts leads to obscuring their meaning. Thus, we confront the problems of overuse of euphemisms and the lack of agency, but the presence of passive voice seems to conceal the individuals' responsibility in the deterioration of the environment nowadays.

3. METHODOLOGY

This study adopted a convergent parallel mixed method design (Creswell, 2012) using content analysis to investigate the degree of presence of environmental education elements in three textbooks used to teach English in Moroccan high schools. The frequencies of appearance of EE topics and subtopics were approached through both descriptive and inferential statistics. The choice of content analysis emanates from the conviction that it is the most appropriate method to evaluate the textbooks to contribute to the improvement of their quality and improve EE in Moroccan high school. Content analysis is suitable as a research method because it can provide valid statistical results whereupon we can rely to build well-grounded judgements about the way EE is integrated in the textbooks. Content analysis is a functional research method used to examine issues or problems within large bodies of written data such as textbooks, novels, essays, newspapers, and magazines. It is a procedure, which serves to assess the degree of existence of certain topics within a given text or document (Krippendorff, 2004). The research sample involved textbooks of English taught in the 10th, 11th, and 12th grades (Common Core, 1st-year baccalaureate and 2nd-year baccalaureate, respectively).

All the textbooks under study are officially approved by the Ministry of National Education and are used in high schools all over Morocco. As a matter of fact, each of the textbooks used to teach English in high schools includes ten units, one of which is devoted to ecology and the environment. These environment-related units are entitled differently in the different textbooks. Therefore, in each textbook, we find, for instance, titles like 'keep our

environment clean,' 'ecology,' 'environment and ecology,' 'sustainable development,' etc. The main objectives of including these units in the textbooks are to improve students' EE knowledge, raise their awareness about environmental issues, and equip them with the necessary skills to resolve present and future environmental problems.

The process of analysis started with a careful reading to recognize the general aim and objectives of the textbook in addition to its level and the targeted learners. Later on, other parts of the textbook were scrutinized to situate the units and pages, which contain the elements of EE and the form in which they are displayed. Many textbooks are being used in Moroccan high schools since the ministry of education has licensed the schools and local educational authorities to choose the suitable textbook from the available proposed titles. In terms of the content and approach, all the textbooks adopt almost the same pattern with slight differences from one title to the other. In other words, all the textbooks seek to teach the same syllabus with the same units and lessons with differences only in the sequencing order and teaching activities. Hence, choosing to analyze a given textbook instead of another does not create any inconvenience for the research sampling. The choice of the textbooks to be analyzed in this study is essentially dictated by the most convenient textbooks, which are used in the same high school in order for us to obtain a lucid view of the status of EE in the textbooks being taught to the same population. Table 1 shows the textbooks under study:

Table one *List of Analyzed Textbooks*

Levels	**Common Core**	**1st Year Baccalaureate**	**2nd Year Baccalaureate**
Textbooks	*Visa to the World*	*Ticket to English*	*Ticket 2 English*
Authors	Bouddouch, A. Messaoudi, S. Ahellal, M. & Blake, W. (2016)	Hamanni, M., Ahssan, S. & Tansaoui, L. (2009)	Hamanni M., Ahssan S. & Tansaoui, L. (2007)

A textbooks analysis grid was used to collect and analyze data from the textbooks under study. The instrument was adopted from a valid grid which was developed by BIOHEAD-Citizen Project (Caravita et al., 2008, p.108). The grid covers four categories of analysis that represent four environmental topics and their sub-topics; these include ecosystems and cycles (EC), pollution (PO), use of resources (UoR), and environment preservation (EP). To test the reliability of the instrument, Holsti's (1969) formula was used. The test results show a high level of consistency of which we can conclude that the grid is sufficiently reliable.

After reading the textbooks carefully, the researcher identified and counted the targeted units of analysis including titles, texts, dialogues, pictures, graphs, and figures, which deal with EE sub-topics in each textbook. After limiting the number of frequencies of appearance of each subtopic in the textbooks, the researcher entered these figures into the textbook analysis grid in the form of Excel spreadsheets. The grid displays both the frequencies and the percentage of EE elements in the textbooks under study. The percentages reflect the proportion of EE related elements from the total number of the textbooks' elements in general. To make our analysis trustworthy, we abided by the following steps:

1. Reading the textbook thoroughly and attentively to identify the total number of all its various components (e.g., titles, paragraphs, texts, dialogues, figures, pictures)

2. Reading each textbook thoroughly and attentively to identify the exact number of research categories related to EE topics or sub-topics.
3. Entering the frequency of occurrence of each topic or sub-topic into the textbook analysis grid in Excel spreadsheets designed specifically for this purpose.
4. Calculating frequencies and percentages for each EE element occurrence in the three textbooks.
5. The frequencies are the total number of the elements related to EE topics and sub-topics throughout the whole textbook.
6. The percentages represent the number of components that include EE elements divided by the total number of components in each textbook.

4. RESULTS

4.1.Ecosystems and Cycles (EC) in high school English Language Textbooks

Table 2 below indicates that in the common core grade the topic of EC is included in *Visa to the World* only 4 times through introducing the learners to the subtopic "humans' relationship with the environment" with a percentage of 1,68% of the whole components of the textbook. In the 1st year bac, the learners encounter EC elements only once with a percentage of 0,28% while in the 2nd year bac the textbook introduces "the definition of environment" in 3 documents (texts and pictures), "humans' relationship with the environment" in 3 documents and "environmental imbalance" only once with a total percentage of 2,28%. The three subtopics all-together in the three textbooks appear in 12 reoccurrences representing a percentage of 4, 24% of the total number of the textbooks' components. The other 8 EC subtopics remain totally absent in the three textbooks.

Table 2 *Ecosystems and Cycles (EC) in High School English Language Textbooks.*

EE elements	CC *Visa to the World*		1st year bac *Ticket to English*		2nd year bac *Ticket 2 English*		Total	
	f	%	f	%	f	%	F	%
Definition of the environment		0,00%		0,00%	3	0,98%	3	0,98%
Environmental risk		0,00%		0,00%		0,00%	0	0,00%
Environmental balance		0,00%		0,00%		0,00%	0	0,00%
Environmental imbalance		0,00%		0,00%	1	0,33%	1	0,33%
Environmental adaptation		0,00%		0,00%		0,00%	0	0,00%
Humans' relationship with the environment	4	1,68%	1	0,28%	3	0,98%	8	2,94%
Food chain		0,00%		0,00%		0,00%	0	0,00%
Water cycle		0,00%		0,00%		0,00%	0	0,00%
Gas cycles		0,00%		0,00%		0,00%	0	0,00%
Components of the ecosystem		0,00%		0,00%		0,00%	0	0,00%
Types of environments		0,00%		0,00%		0,00%	0	0,00%
Total	4	1,68%	1	0,28%	7	2,28%	12	4,24%

4.2. Pollution (PO) in High School English Language Textbooks

Building on Table 3, we can deduce that environmental pollution of all its types is slightly included in *Visa to the World* with a number of 6 frequencies: 1 for air pollution, 4 for water pollution and 1 for acoustic pollution with a total percentage of 2,52%. Similarly, *Ticket to English* introduces the learners to 8 pollution-related documents including 3 documents about air pollution, 1 about water pollution, 3 about soil pollution and 1 about food contamination with a total percentage of 2,27% of the whole components of this textbook. It is also obvious that the subtopics of pharmaceutical contamination, visual pollution and electromagnetic pollution are lacking in these two textbooks. However, *Ticket 2 English* does not contain any of PO subtopics at all. The total number of frequencies of PO is then limited to 14 reoccurrences which make a percentage of only 4,79% in the three textbooks all together.

Table 3 *Pollution (PO) in High School English Language Textbooks.*

| EE elements | CC | | 1st year bac | | 2nd year bac | | Total | |
| | *Visa to the World* | | *Ticket to English* | | *Ticket 2 English* | | | |
	f	%	f	%	f	%	f	%
Air pollution	1	0,42%	3	0,85%		0,00%	4	1,27%
Water pollution	4	1,68%	1	0,28%		0,00%	5	1,96%
Soil pollution		0,00%	3	0,85%		0,00%	3	0,85%
Food contamination		0,00%	1	0,28%		0,00%	1	0,28%
Pharmaceutical contamination		0,00%		0,00%		0,00%	0	0,00%
Acoustic pollution	1	0,42%		0,00%		0,00%	1	0,42%
Visual pollution		0,00%		0,00%		0,00%	0	0,00%
Electromagnetic pollution		0,00%		0,00%		0,00%	0	0,00%
Total	6	2,52%	8	2,27%	0	0,00%	14	4,79%

4.3. Use of Resources (UoR) in High School English Language Textbooks

It is apparent from Table 4 that *Visa to the World* mentions the uses of water only once, wildlife extinction twice and plant depletion three times while it does not include the rest of the subtopics. The percentage of existing UoR subtopics is very limited, as it does not exceed 2, 52%. As for *Ticket to English*, 'solar uses' is the only element found in two occasions in the whole textbook with a percentage of 0,57% only. Conversely, *Ticket 2 English* provides no opportunity for the students to learn about UoR as it does not contain any of the subtopics stated in the grid above. The total percentage of the presence of UoR subtopics in the three textbooks remains very low since it does not exceed 3,09% of the whole textbooks' documents.

Table 4 *Use of Resources (UoR) in High School English Language Textbooks*

EE elements	CC *Visa to the World*		1st year bac *Ticket to English*		2nd year bac *Ticket 2 English*		Total	
	f	%	f	%	f	%	f	%
Permanent resources		0,00%		0,00%		0,00%	0	0,00%
Solar uses		0,00%	2	0,57%		0,00%	2	0,57%
Air uses		0,00%		0,00%		0,00%	0	0,00%
Uses of water	1	0,42%		0,00%		0,00%	1	0,42%
Renewable resources		0,00%		0,00%		0,00%	0	0,00%
Wildlife extinction	2	0,84%		0,00%		0,00%	2	0,84%
Plant depletion	3	1,26%		0,00%		0,00%	3	1,26%
Soil depletion		0,00%		0,00%		0,00%	0	0,00%
Non-renewable resources		0,00%		0,00%		0,00%	0	0,00%
Coal uses		0,00%		0,00%		0,00%	0	0,00%
Uses of natural gas		0,00%		0,00%		0,00%	0	0,00%
Uses of oil		0,00%		0,00%		0,00%	0	0,00%
Uses of metals		0,00%		0,00%		0,00%	0	0,00%
Uses of rocks		0,00%		0,00%		0,00%	0	0,00%
Total	6	2,52%	2	0,57%	0	0,00%	8	3,09%

4.4. Environment Preservation (EP) in High School English Language Textbooks

Table 5 demonstrates that 9/15 of the EP subtopics are relatively present in the three studied textbooks with different degrees of reoccurrence. *Visa to the World* presents 7 occasions of EP as shown in the table with a percentage of 2,94%. Comparatively, *Ticket to English* appears to include more EP subtopics which get to the total frequencies of 14 elements with the percentage of 3,98%. Concerning the third textbook, *Ticket 2 English*, it treats 9 elements related to EP subtopics, 4 are concerned with activating the efforts of ministries, environmental agencies, and non-governmental organizations. The percentage of EP subtopics reoccurrence in the 2nd year bac remains relatively low at the figure of 2,93%. The overall presence of EP elements in the three textbooks reaches 30 frequencies which makes a total percentage of 9,85% of all the textbooks' components.

Table 5 *Environment Preservation (EP) in High School English Language Textbooks.*

EE elements	CC Visa to the World		1st year bac Ticket to English		2nd year bac Ticket 2 English		Total	
	f	%	f	%	f	%	f	%
Combating environmental pollution		0,00%	2	0,57%	1	0,33%	3	0,89%
Preserving the beauty of the environment	1	0,42%	1	0,28%	1	0,33%	3	1,03%
Stimulating participation in environmental activities	2	0,84%	2	0,57%	2	0,65%	6	2,06%
Activating the efforts of ministries, environmental agencies and non-governmental organizations	1	0,42%	1	0,28%	4	1,30%	6	2,01%
Establishment of Natural Reserves		0,00%		0,00%		0,00%	0	0,00%
Enacting and applying environmental laws and legislations	1	0,42%	1	0,28%	1	0,33%	3	1,03%
Waste recycling		0,00%	2	0,57%		0,00%	2	0,57%
Rationalization of the use of pesticides		0,00%		0,00%		0,00%	0	0,00%
Economy in the use of chemical fertilizers		0,00%		0,00%		0,00%	0	0,00%
Combating Desertification	1	0,42%		0,00%		0,00%	1	0,42%
Rationalization of water consumption	1	0,42%		0,00%		0,00%	1	0,42%
Rationalization of electricity consumption		0,00%		0,00%		0,00%	0	0,00%
Rationalization of fuel consumption		0,00%		0,00%		0,00%	0	0,00%
Use of Clean Energy		0,00%	5	1,42%		0,00%	5	1,42%
Demonstrating the efforts of scientists to preserve the environment		0,00%		0,00%		0,00%	0	0,00%
Total	7	2,94%	14	3,98%	9	2,93%	30	9,85%

4.5. A Summary of the Results of the Status of EE in English Language Textbooks in Moroccan High School.

Table 6 sums up the general portrait of the existence of EE in the textbooks used to teach/learn English in Moroccan high schools. It affords statistical details about the degree of presence of the four main EE topics: Ecosystems and Cycles, pollution, use of resources and environment preservation. A quick reading of the table reveals that the most prevalent EE topic in the three textbook is environment preservation which occupies 9,85% of the overall components of the examined textbooks. The second more frequent EE topic is pollution which is rated with the percentage of 4,79%, followed by ecosystems and cycles topic with a

proportion of 4,24%. The least EE topic tackled in these textbooks remain the use of resources which does not exceed 3,09% of the whole documents in the studied textbooks. It is also worth mentioning that *Visa to the World* seems to incorporate more EE topics than the *Ticket to English* and *Ticket 2 English*. The common core students benefit from 9,66% of EE elements in their English textbook while their mates in the 1st and 2nd years bac receive only 7,10% and 5,21% of EE elements respectively.

Table 6 *A Summary of the Results of the Status of EE in English Language Textbooks in Moroccan High School.*

EE Subtopics	CC *Visa to the World*		1st year bac *Ticket to English*		2nd year bac *Ticket 2 English*	
	f	%	f	%	f	%
Ecosystems and Cycles (EC)	4	1,68%	1	0,28%	7	2,28%
Pollution (PO)	6	2,52%	8	2,27%	0	0,00%
Use of Resources (UoR)	6	2,52%	2	0,57%	0	0,00%
Environment Preservation (EP)	7	2,94%	14	3,98%	9	2,93%
Total	23	9,66%	25	7,10%	16	5,21%

5. DISCUSSION

In *Visa to the World,* unit nine is titled 'Environment and Ecology' and is devoted to identifying different ecological issues and their effects on the environment. Students are introduced to vocabulary related to environmental issues such as pollution, desertification, and deforestation in this unit. The total proportion of EE elements in this textbook rests at 9,66% of the total number of all the documents constituting the textbook. Considering the centrality of the English language in Moroccan secondary education and its potential as an international language for business and communication, the level of EE integration in *Visa to the World* remains insufficient to a great extent. The texts and pictures in this unit slightly dealt with EE subtopics such as air, water, and acoustic pollution. They also tackled, to a better extent, the subtopics of wildlife extinction and plant depletion. One way to encourage students to help solve the twenty-first-century world problems, *Visa to the World* could have incorporated more EE content. The latter should promote students' global education in terms of knowledge, skills, attitudes, and democratic participation locally and globally (Cates, 2005). Although it includes a special unit dedicated to the environment and ecology, this textbook seems to miss substantial opportunities to cultivate students' EE deep knowledge and practical skills.

Ticket to English is the second analyzed textbook. It is used to teach the English language to students of the first-year baccalaureate. Like *Visa to the World*, *Ticket to English* includes a unit entitled 'Environment and Ecology.' The unit aims to familiarize students with some EE topics (including pollution, ecosystems and cycles, and environment preservation) and subtopics (including human relationship with the environment, water and soil pollution, waste recycling, combating environmental pollution, and stimulating participation in environmental activities). Throughout the unit, various texts, pictures, illustrations, and activities are used to teach language skills, emphasizing EE-related content and materials. In this regard, 25 EE documents were introduced here, making a total percentage of 7,10% of the overall documents of the textbook. However, this percentage appears to be mediocre if we consider the vitality of

the topic of environment and ecology in the lives of students in particular and humans in general. Moreover, the nature of EE elements introduced here remains superficial as they target only the component of knowledge and overlook the development of students' environmental positive attitudes and participation skills. Similarly, El Moussaouy et al. (2014) found that Moroccan high school textbooks of physics and chemistry and textbooks of life and earth sciences are contented with the presentation of the learning activities by an "informative pedagogical style" without creating a significant positive impact on students' environmental attitudes and behavior.

Ticket 2 English is the third textbook of English that this study attempted to explore. It is used to teach the English language at the second-year baccalaureate level, the final stage of high school education. After the content analysis, the statistical results of this study indicate that the presence of EE elements in *Ticket 2 English* is under-presented compared to *Visa to the World* (CC) and *Ticket to English* (1st-year bac). In this respect, only 16 documents are devoted EE in a unit titled 'sustainable development': 9 documents are related to the topic of environment preservation and 7 to ecosystems and cycles relating to the definition of the environment and activating the efforts of ministries, environmental agencies, and non-governmental organizations. EE elements represent a mere total percentage of 5,21% of the overall documents in *Ticket 2 English.* That is to say, EE is very weakly integrated into this textbook, and so very little impact is anticipated at the level of developing the learners' EE knowledge, awareness, attitudes, and skills. This textbook has a high number of pages devoted to the environment-related unit: 16 pages out of a total of 176 pages (Mliless & Larouz, 2018). Nevertheless, *Ticket 2 English* (2nd-year bac), as a widely used textbook for teaching/learning English in Moroccan high schools nationwide, forsake the supposedly expected level of EE integration by limiting students' opportunities of exposure to environmental elements to only some isolated notions of sustainable development.

Efficient integration of EE elements in the textbooks used to teach/learn English in Moroccan high school may represent a key pathway to the development of the students' environmental green culture and green lifestyle as well as an effective booster to their critical thinking and problem-solving skills (Nkwetisama, 2011). However, the present reality, as the research results have shown, proves to be something different. The analysis of the chosen three textbooks indicates that they do not accomplish the mission of catering fully for the students' needs in terms of all EE topics (EC, PO, UoR, and EP) and their subtopics. All the three textbooks, particularly *Ticket 2 English* (2nd-year bac), present low levels of integration of EE topics and skills, which their limited scope and all-encompassing nature could explain. Most presented content can be categorized within the model of 'education *about* the environment (Palmer, 1998) which targets the development of students' cognitive skills by introducing information about a given environmental issue. The units relating to the environment in English textbooks remain purely informative without any substantial noticeable effort to transcend the cognitive side and delve into education *from* and *for* the environment.

6. CONCLUSION

Eventually, EE integration in the textbooks used to teach English in Moroccan high school sounds to appeal to the learners' minimum fundamental needs to know and be aware of the

most common environmental issues and problems in Morocco and the world. Content is usually presented linearly following the developmental stages of presenting lessons of the English language skills. It is commonly noticed that the units usually open with environment-related pictures to instigate students' oral discussions, followed by a text or a dialogue for reading or listening skills. The units end with activities inciting the learners to produce written texts or projects to tackle a given environmental issue. These textbooks could otherwise have been more integrative of environmental elements if they had adopted multiple dimensions of EE components. A better integration can be achieved by attributing equal attention and emphasis to other dimensions other than environmental knowledge and awareness. In this respect, the learners' background knowledge, personal experiences, and preferences should not be overlooked. They are essential factors and their formal education, which contributes to shaping the learners' pro-environmental attitudes and behavior.

In this respect, the moderate levels of EE presence in the textbooks entail thoughtful planning and meticulous selection of content, activities, and materials to be integrated into future textbooks. Textbooks of English can provide ample opportunities for EE activities to boost the students' language proficiency through introducing timely reading and listening materials that tackle environmental issues. Similarly, raising in-class oral discussions and debates about delicate environmental issues can considerably help students express their opinions and boost their communication skills. Moreover, the integration of abundant EE elements in the textbooks of English could also promote their critical thinking and problem-solving skills (Ernst & Monroe, 2004; Saul, 2000). In the same way, the quality and nature of EE content are decisive in raising the levels of students' environmental knowledge, attitudes and behaviors.

REFERENCES

Agorram, B., Caravita, S., & Valente, A., Luzi, D. & Margnelli, N. (2009). Knowledge and values in science textbooks concerning complexity in ecological systems and environmental problems: A cross-cultural study on secondary school manuals. *US-China Education Review*, 6(2), 25-37.

Bouddouch, A. Messaoudi, S. Ahellal, M. & Blake, W. (2016). *Visa to the world student's book*. Dar Nachr Al Maarifa.

Bouddouch, A. Messaoudi, S. Ahellal, M. & Blake, W. (2016). *Visa to the world student's book*. Dar Nachr Al Maarifa.

Caravita, S., Valente, A., Luzi, D., Pace, P., Valanides, N., Khalil, I., ... & Clement, P. (2008). Construction and Validation of Textbook Analysis Grids for Ecology and Environmental Education. Science Education International, 19(2), 97-116.

Carvalho, G. S. D., & Clément, P. (2007). Construction and validation of the instruments to compare teachers' conceptions and school textbooks of 19 countries: The European Biohead-Citizen project.

Carvalho, G. S., Tracana, R. B., Skujiene, G. & Turcinaviciene, J. (2011). Trends in environmental education images of textbooks from western and eastern European countries and non-European countries. *International Journal of Science Education*, 33:18, 2587-2610. https://doi.org/10.1080/09500693.2011.556831

Cates, K. A. (2005). Teaching for a better world: Global issues and language education in japan. In Osler, A. & Starkey, H. (Eds.), *Citizenship and language learning: International perspectives*.Trentham. 59-73.

Creswell, J. W., & Poth, C. N. (2012). Qualitative inquiry and research design: Choosing among five approaches. Sage publications.

Dantas, C., Gonçalves, A., & Carvalho, G. S. D. (2009). Comparative analysis of tobacco addiction in textbooks from 16 countries involved in the European Project BIOHEAD-CITIZEN.

El Moussaouy, A., Abderbi, J. & Daoudi, M. (2014). Environmental education in the teaching and the learning of scientific disciplines in Moroccan high schools. *International Education Studies*, 7(4), 33-46. https://doi.org/10.5539/ies.v7n4p33

Ernst, J. & Monroe, M. (2004). The effects of environment-based education on students' critical thinking skills and disposition toward critical thinking. *Environmental Education Research*. https://doi.org/10. 507-522. 10.1080/1350462042000291038.

Gürsoy, E. (2010). Implementing environmental education to foreign language teaching to young learners. *Educational Research,* 1(8), 232-238.

Hamanni M., Ahssan S. & Tansaoui, L. (2007). *Ticket 2 English Student's Book*. D.I.O El-Haditha.

Hamanni, M., Ahssan, S. & Tansaoui, L. (2009). *Ticket to English Student's Book*. D.I.O El-Haditha.

Hauschild, S., Poltavtchenko, E., & Stoller, F. L. (2012). Going green: Merging environmental education and language instruction. In *English Teaching Forum* (Vol. 50, No. 2, pp. 2-13). US Department of State. Bureau of Educational and Cultural Affairs, Office of English Language Programs, SA-5, 2200 C Street NW 4th Floor, Washington, DC 20037.

Holsti, O. R. (1969). *Content analysis for the social sciences and humanities.*

Kingdom of Morocco, Higher Council for Education, Training, and Scientific Research. (2015). *Strategic vision of the reform: for a school of equity, quality, and promotion.* https://www.csefrs.ma/wp-content/uploads/2015/05/Re%CC%81sume%CC%81-vision-Anglais.pdf

Kingdom of Morocco, *The National Charter for the Environment and Sustainable Development* (2010) http://www.chartenvironnement.ma/

Krippendorff, K. (2004). *Content analysis: An introduction to its methodology*. Sage publications.

Lebrun, M. (2007). *Le manuel scolaire: d'ici et d'ailleurs, d'hier à demain*. Puq.

Mliless, M., & Larouz, M. (2018). An ecolinguistic analysis of environment texts in Moroccan English language teaching textbooks. *International Journal of Research in Environment Studies*, 5, 103-116.

Nkwetisama, C.M. (2011). EFL/ESL and environmental education: Towards an eco-applied linguistic awareness in Cameroon. *World Journal of Education*, 1, 110-118. https://doi.org/10.5430/wje.v1n1p110

O'Keeffe, Lisa. (2013). A framework for textbook analysis. *International Review of Contemporary Learning Research,* 2. https://doi.org/10.12785/irclr/020101

Palmer, J. (1998). *Environmental Education in the 21st Century: Theory, Practice, Progress and Promise.* Routledge.

Payne, P. G. (2006). Environmental education and curriculum theory. *The Journal of Environmental Education,* 37(2), 25-35.

Ramsey, J. M., Hungerford, H. R., & Volk, T. L. (1992). Environmental education in the K-12 curriculum: Finding a niche. *The Journal of environmental education*, 23(2), 35-45.

Saul, D. (2000). Expanding environmental education: Thinking critically, thinking culturally. *The Journal of Environmental Education*, 31(2), 5–8. https://doi.org/10.1080/00958960009598632

Sauvé, L. (1996). Environmental education and sustainable development: a further appraisal. *Canadian Journal of Environmental Education* (CJEE), 1(1), 7-34.

Smyth, J. C. (2006). Environment and education: a view of a changing scene: Reprinted from Environmental Education on Research (2005) 1 (1), pp. 3–20. *Environmental Education Research,* 12(3-4), 247-264.

The Kingdom of Morocco. (1999). Special Committee for Education and Training, *National Charter for Education and Training*

Valverde, G. A., Bianchi, L. J., Wolfe, R. G., Schmidt, W. H., & Houang, R. T. (2002). *According to the book: Using TIMSS to investigate the translation of policy into practice through the world of textbooks*. Springer Science & Business Media.

Yassin, A. A., Abdul Razak, N., Qasem, Y. A., & Saeed Mohammed, M. A. (2020). Intercultural learning challenges affecting international students' sustainable learning in Malaysian higher education institutions. *Sustainability*, *12*(18), 7490.

Yassin, A. A., Razak, N. A., & Maasum, T. N. R. T. M. (2019). Integrated model for teaching language skills. *International Journal of English Linguistics*, *9*(5).