

USING ESP TO RAISE STUDENTS' AWARENESS OF ENERGY AND SUSTAINABILITY ISSUES

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Abstract. *The purpose of the study was to explore the idea of ESP teachers imparting basic knowledge and raising students' awareness of energy and sustainability issues in English classes at the university preparatory level. To achieve this goal, it was necessary to find out ESP teachers' thoughts about using ESP to teach sustainable development concurrently with English language teaching: their perceptions, opinions, beliefs, attitudes, knowledge and values.*

A language user must negotiate and debate environmental issues and be tactful to his/her interlocutor. Hence, learning a foreign language is important for the success of ESD. University students are language users in classes where they discuss sustainability and other issues using English as a foreign language.

In general, the earth is in crisis and the oil and gas industry is a major producer of oil (which unknowingly contributes to CO₂ emissions) with education as the key to solving related problems. Very recent studies have confirmed that university preparatory students lack knowledge about energy. There is a need for English language curriculum designers and higher education administrators involved in preparatory level education to consider using ESP to teach sustainability.

Keywords: *sustainable, environmental issues, ESD (Education for Sustainable Development), crisis, preparatory students, preparatory level, education, ESP (English as a Second Language), sustainability, literacy, pedagogy.*

Introduction

A recent study has shown that university students have an urgent need to learn about energy literacy and sustainability pedagogy (Alghamdi & El-Hassan, in press). It would be ideal if students were introduced to sustainability issues in their first year of study, before officially entering university. University preparation programs aim to improve math, language and study skills, and perhaps basic computer skills. Unfortunately, existing sustainability-oriented courses are not designed for pre-university students. The present study assumes that since English as a Second Language (ESP) and English as a Foreign Language (EFL) are part of university preparatory education, there is an opportunity for ESP teachers to teach sustainability. With this in mind, higher education in many HEIs employ qualified foreign teachers to teach English (expats).

These ESP teachers are often from countries where sustainable development is part of the national curriculum, such as the United Kingdom (UK) and the United States (US). These internationally accredited ESP professionals not only have the skills and experience to teach the language, but are also likely to have a basic understanding of sustainability issues. The opportunity to teach ESP lessons on the topic of sustainable development may accelerate the development of energy literacy among university students.

In fact, the authors advocate a content-based approach to language teaching in teaching programs. Brown (2011) explained that the "weak" form of this approach values teaching content and language equally, whereas the "strong" form favors content over language. Most universities actively seek to ensure that university graduates are fluent in English (Al-Sobhi & Preece, 2018) partly in response to globalization and modernization policies adopted in the 1990s (Alshahrani, 2016). Therefore, a weak form of the approach is recommended as students will learn both English and sustainability in the same way.

Focusing on this practice gap, the primary research question guiding this qualitative study is: "What are ESL teachers' thoughts about using ESP to increase students' awareness of energy and sustainability issues?". The purpose of the study was to explore the idea of ESP teachers imparting basic knowledge and raising students' awareness of energy and sustainability issues in English classes at the university preparatory level. To achieve this goal, it was necessary to find out ESP teachers' thoughts about using ESP to teach sustainable development concurrently with English language teaching: their perceptions, opinions, beliefs, attitudes, knowledge and values.

Literature Review

To develop this idea, this part of the paper should focus on the rationale for the need for sustainability education, the role of education in meeting this need, the environment, and the unique role of ESP teachers in teaching about sustainability and energy in English language teaching.

Earth Crisis

Planet Earth is in crisis; university students must become energy literate and embrace sustainability (Alghamdi & El-Hassan, in press). Scientists have long warned about the phenomenon of global warming and predicted the consequences of excessive carbon dioxide (CO₂) emissions that are evident in climate change. However, most people and corporations fail to consider the global consequences of glacier loss, sea level rise, extreme weather, and the extinction of unmistakable species that affect humanity's survival. The scientific community explains that we have very little time to solve the climate crisis before we exceed irreversible points and lose control of global warming (British Broadcasting Corporation, 2019). Social movements such as Extinction Rebellion (x.rebellion.org, 2019) and the declaration of a Climate Emergency (at national and local government levels) are gaining momentum, especially in Europe, including the UK, North America and Australia (Climate Emergency Declaration, 2019).

Evidence confirms that the primary cause of excessive CO₂ emissions into the atmosphere is the burning of fossil fuels (NASA, 2019), especially crude oil. It is important to note that the oil industry worldwide, continues to expand existing crude oil fields, identify new ones and improve production. It intends to double natural gas production in the next ten years (Export.gov, 2018). This deliberate expansion of oil and gas production makes it even more imperative that citizens (including students at preparatory year universities) realize their responsibilities in this crisis and their potential role in mitigating it, especially in their home country.

Education is key

The United Nations (UN) (2015) adopted resolutions to create 17 Sustainable Development Goals (SDGs) to be achieved globally by 2030. They relate to achieving sustainable use of natural resources (e.g. Goals 6 and 14), environmental protection (Goal 15), economic growth and employment (Goal 8), infrastructure and sustainable industrialization (Goal 9), consumption and production patterns (Goal 12), and gender equality (Goal 5).

Three SDGs are particularly relevant to this study about ESP teachers teaching sustainability: (a) Goal 3. Ensure healthy lifestyles and promote well-being for all at all ages, (b) Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, and (c) Goal 13. Take urgent action to combat climate change and its impacts (United Nations, 2015). Briefly, the authors believe that reducing CO₂ emissions to combat climate change can be facilitated by providing responsible, quality education (i.e. ESD, Objective 4.7), especially through teaching a second language with the theme of sustainable development. The latter should help raise awareness of sustainable development issues among university preparatory level students (Objective 13.3). Otherwise, current and future generations will not be able to lead healthy lives (Goal 3.9) on a sustainable planet.

Education for Sustainable Development (ESD)

ESD or Education for Sustainable Development has become a much sought-after discipline of education as a result of the United Nations Program 21 (United Nations, 1992). "Transformative education" as a new pedagogy, therefore, should replace the "transmission model" of learning that is still practiced in educational institutions, according to Bell (2016, p. 52). On the contrary, the teacher facilitates the acquisition of skills and competencies and inspires and guides his/her students when 'transformative' education is applied. Bell (2016) argued that the context of sustainability should be central to twenty-first century education. As the green economy emerges, students must develop skills that lead to innovation and creativity, which ensures a sustainable planet, a sustainable economy, sustainable enterprise, and affordable healthcare, and thus ESD is a central part of twenty-first century education. The skill set includes: "skills for living in the world", citizenship, life and career, and personal and social responsibility. (Bell, 2016, p. 55).

Language education for sustainability

Sigmund saw the importance of the sociocultural aspect of sustainability (as a concept) while most scholars focus on its environmental, economic, and social domains (2016). The sociocultural domain includes language, ways of communicating and thinking. "A fully developed thinking process makes people sensitive to the external world and its needs, which simultaneously become human needs" (Sigmund, 2016, p. 113). Sigmund (2016) also argued that language plays a fundamental role in human life because of its multiple functions related to perception, thinking, memory, and expression (p. 115). A language user must negotiate and debate environmental issues and be tactful to his/her interlocutor. Hence, learning a foreign language is important for the success of ESD (Sigmund, 2016, p. 116). University students are language users in classes where they discuss sustainability and other issues using English as a foreign language.

Refocusing ESP teacher training on sustainable development

ESP lessons enriched with sustainability-related material are "an excellent vehicle for language learning" (Nasha, 2011, p. 40). This approach means that students can learn both English and sustainability (Brown, 2011; Nasha, 2011). Accordingly, in addition to learning how to teach English, ESL teachers will need training and knowledge about sustainable development and energy issues (Nkwetisama, 2011). To this end, UNESCO (2005) issued with a recommendation that educational institutions can follow in reorienting teacher training towards sustainable development; these recommendations are also applicable to ESP teacher certification programs.

Specifically, UNESCO (2005) recommended that teacher certification programs should provide opportunities for students before and during service to (a) practice higher order thinking, (b) learn to incorporate student participation into their lessons, (c) discuss issues of social justice

and equity, (d) critically analyze and supplement national and provincial curricula with concepts related to sustainable development, and (e) engage in value reasoning and clarification.

Method

This qualitative study complemented a previous study that utilized a quantitative survey to support the need for energy literacy education in higher education institutions (Alghamdi and El-Hassan, in press). The present study was considered qualitative in nature, as participants provided detailed typed responses to a set of questions designed to elicit their thoughts on the use of ESP for sustainability education. Their words are qualitative data.

Data collection tool

Based on the six dimensions of teachers' thoughts about using ESP for sustainability education, 6 questionnaires (in a Word document on two sheets) were developed focusing on perceptions, opinions, beliefs, attitudes, knowledge and values. Each page included two questions respectively in numerical order (e.g. perceptions - questions 1, 2 and 3). Participants wrote their thoughts on each question (stated in the results) in the document.

Results

Qualitative data from 14 participants were presented using six dimensions of ESP teachers' thoughts about using English language teaching to teach sustainability to university preparatory students: perceptions, opinions, beliefs, attitudes, attitudes, knowledge, and values. The relevant questions for each dimension are integrated into the report.

Perception

Three questions were designed to explore participants' perceptions about using ESL for sustainability learning. Again, perception is an understanding or insight gained from observing and extracting information from a situation or environment.

Question 1: "Based on what you have observed, what do you think is the value of raising students' awareness of energy or other sustainability issues nationally and globally?"

Several participants agreed that it would be very valuable to raise students' awareness of sustainable development because, they observed that students are "not really aware of these issues". Observing that "very little attention is paid to issues related to sustainable development". Also thought this was valuable as they observed unsustainable student behavior at the university, including "not caring about turning off lights when leaving a room." Such a small thing is significant as it reflects students' awareness and attitudes.

Question 2: "Do you think ESP lecturers can play a role in raising students' awareness of energy or other sustainability issues? What knowledge and skills would you need to conduct a lesson with this goal in mind?"

Based on their observations, the majority (64%, n=9) of the participants perceived the role of ESP instructors in raising student awareness as important or very important. For example, that "ESP teachers can ... play an important role.... Every teacher and/or instructor has the power to mold and shape the minds, perspectives, and even personalities of their students." However, some ESP teachers disagreed. Some instructors perceived sustainability as a stand-alone subject that is "outside the scope of ESP".

The majority (71%, n=10) of participants' responses to the second part of question 2 included references to instructional strategies and materials as well as lesson and class preparation. For example, when ESP teachers are not familiar with the topic of sustainability, it is important

that they plan and read about sustainability topics, which can show them how to conduct an English lesson with sustainability elements and monitor both aspects of student learning.

Question 3: "Why do you think an ESP teacher in a university preparatory program might be asked to help raise students' awareness of these issues through teaching English? What would be your response to such a suggestion?" Nearly three-quarters (71%, n=10) of the participants expressed their positivity and willingness to accept such an offer. Teachers preferred it "as an option" rather than a commitment. ESP instructors in this study shared multiple reasons why they felt they would be asked to raise students' awareness of sustainability issues in ESP classes. Others perceived that students mainly learn English to travel, study, and live abroad. She lamented that "once they are in the West, their carbon footprint will increase significantly," justifying the need to teach them about sustainability while teaching them English. Students in non-English speaking countries, she observed, may not be aware of global sustainability issues, explaining why someone might ask ESP teachers to use ESP to teach sustainability.

Conclusion and Findings. With the purpose of this study in mind, data analysis and interpretation led to an initial profile of ESP teachers' thoughts on teaching sustainability and energy issues while teaching English to university preparatory level students. English language programs in higher education should be based on the significance that the participants in the study saw in making teachers aware of and students learning about sustainability. However, the results of the study showed that ESP teachers' interest in the topic of sustainability itself varied, so initiatives aimed at engaging them in using language lessons to teach sustainability should take this into account. Lack of interest may mean lack of implementation. It is difficult for people to show interest in something they do not have (e.g., knowledge about sustainability) (McDougall, 1923). A minority of participants believed that (a) ESP should only be used to teach English and (b) experienced ESP teachers cannot teach sustainability. This qualitative study does not allow us to assess how widespread these views are in the ESP teacher community, but they are revealed as an outcome of the study. In general, the earth is in crisis and the oil and gas industry is a major producer of oil (which unknowingly contributes to CO₂ emissions) with education as the key to solving related problems (United Nations, 2015). Very recent studies have confirmed that university preparatory students lack knowledge about energy (Alghamdi and El-Hassan, in press). There is a need for English language curriculum designers and higher education administrators involved in preparatory level education to consider using ESP to teach sustainability.

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