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**TEACHING ENVIRONMENTAL AND ECONOMIC CONSCIOUSNESS
IN THE ENGLISH LANGUAGE CLASSROOM: A CONCEPT OF
EDUCATION FOR SUSTAINABLE DEVELOPMENT (ESD)**

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May 2017

FOREWORD

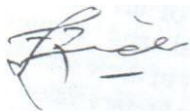
The thrust of the discussion in this *HRRC Occasional Paper* is centred on how the English language is used as a vehicle through which knowledge about environmental issues, sustainable development education and economic consciousness can be gained. Awareness on how we live in a particular environment in order to survive for many years to come is also discussed in this paper. Environmental knowledge includes issues such as deforestation, geothermal sources, carbon footprint and global carbon emissions. These issues have become quite topical and Zimbabwe has shown willingness to be part of the solution by being a signatory to several environmental treaties, declarations, conventions and protocols. However, there has been a rise in climate change denialists. These have been given voice by the 2016 election of Donald Trump as the President of the United States of America. During his election campaign, Donald Trump stated that he did not believe in climate change. When President Obama signed a climate change agreement with almost 200 other nations in Paris in 2015, it was a major triumph for clean energy advocates around the world. Donald Trump, however, has repeatedly stated that climate change is a hoax.

Trump has all sorts of outlandish positions on almost anything but his statements about climate change are incoherent ramblings even by his own standards. For example, he once said in a radio interview in 2016: “Unless somebody can prove something to me, I believe there’s weather. I believe there’s change”. In the same interview, Trump also said that climate change is “very low” on the list of major modern-day problems. Way back in 2012 Trump also tweeted: “The concept of global warming was created by and for the Chinese in order to make US manufacturing non-competitive.” Trump has repeatedly said that he is more worried about another climate threat saying, “When people talk global warming, I say the global warming that we have to be careful of is the nuclear global warming.”

Despite what the denialists and their leaders believe, the truth is that there is need to reduce global carbon emissions. There is no question that climate change is the most pressing and globally significant scientific issue even for the USA, and if Trump continues to deny this outright, education for sustainable development becomes a futile exercise. The need to raise awareness on environmental and economic consciousness through the teaching of English language for sustainable development therefore becomes essential.

The Zimbabwe National Environmental Policy of 2003 is closely linked to the country's overall development policy plans. Although this development model has been considered relatively successful, much of the country's natural resource base has been under threat from human activities. While environmental challenges have been with us from time immemorial, however, of late they have become more and more topical, especially from days before independence up to now.

Environmental reports on Zimbabwe have shown that much of the country, both in the urban and rural areas, is suffering from severe environmental degradation. There has been massive deforestation as a result of power cuts in urban areas and through the need for firewood for cooking purposes in the rural areas. There are several other activities debilitating against environmental concerns. It is through the teaching of ESD through the use of the English language that will assist in bringing about the much needed awareness to school pupils. The research carried out by the two researchers, Rosemary Moyana and Emigilda Chimanikire, is proof that this can be done.

A handwritten signature in blue ink, appearing to read 'Fred Zindi', with a horizontal line underneath.

Fred Zindi, May 2017.

Teaching Environmental and Economic Consciousness in the English Language Classroom: A Concept of Education for Sustainable Development (ESD)

Rosemary Moyana & Emigilda Chimanikire

Abstract

This paper reports on a study that focused on how environmental and economic consciousness can be taught through the English language subject area. Environmental and economic consciousness is a competence that is often associated with geography or science subjects, and is also often incorporated when dealing with the concept of education for sustainable development (ESD). A teacher of English language, therefore, may not automatically think of a project linked with either that competence or the ESD concept. This study sets out to change that. Research work was done through a graduate diploma in education (Grad DE) programme with one of the student teachers on attachment (also called teaching practice) at an urban suburban school in Harare. It was during the teaching practice (TP) session, between May and August 2015, that this research was carried out with the student teacher and 51 students in form one. The methodology used was qualitative research with a project approach design. The results showed that the English language classroom is an ideal space for inculcating environmental and economic consciousness as a competence, and as an ESD concept. The learning process and experience led to a number of positive outcomes which were life-changing for the pupils and the student-teacher. Pupils started improving proficiency in English. Assessment of the student teacher's teaching practice also indicated a transformation in her approach to teaching English language and she developed into a very confident teacher over-night. Teaching English language was no longer routine, but a vehicle through which knowledge on environmental and economic consciousness, as a concept of education for sustainable development (ESD) could be gained. Practical projects could be done with students to make them practise the language more, and contextually. Attitudes towards the environment started changing and skills were gained by both the student teacher and pupils and this would lead to sustained activities that promote the environment. Information was supplied by students who, with the assistance of the student teacher, evaluated the impact of their work on their lives and its influence on their education. A sample of what they said is included in this paper. The transformation was evident in the

student teacher who continued to promote education for sustainable development, and raising awareness on environmental and economic consciousness after completion of the diploma programme.

Introduction

This paper reports on a study that focused on how environmental and economic consciousness can be taught through the English language subject. Studying environmental and economic consciousness is often associated with geography or science subjects. It is also often incorporated when dealing with the concept of education for sustainable development (ESD). This author strongly believes that environmental and economic consciousness is a competence that can be taught and learned through the English language subject. The competence also incorporates the concept of education for sustainable development (ESD) in that once one is environmentally conscious, they may work hard to preserve it by the way they control behaviour that is likely to erode any environmental space. In addition, one would work hard to make that space economically viable through entrepreneurship to empower oneself. It was considered feasible to impart all these ideas through the English language classroom because that language is a vehicle of communication studied by every school learner in Zimbabwe.

Therefore, it was thought logically possible for learners to be able to use this vehicle to study that competence (i.e., environmental and economic consciousness), and the ESD concept which is one of the “cross-curricular themes” listed in the *Handbook on Teacher Professional Standards*, p. 6). In order to prove the veracity and workability of this idea, work was carried out with a pre-service teacher on a Graduate Diploma in Education (Grad DE) programme at the University of Zimbabwe. The author was the supervisor, overseeing the facilitation of learning by a form one class that the student teacher was teaching English language, incorporating the competence and the ESD concept.

Background

The background to this study is derived from a Tuning Africa research where a survey was carried out in 60 African universities to rate and rank a set of 18 generic competences and 31 subject specific competences in teacher education among other disciplines. According to the

Tuning survey results of generic competences in 2012, the generic competence number 13: “environmental and economic consciousness,” was rated among the lowest bottom 5 by academics, students, graduates and employers in the 60 universities that participated in the study. The achievement of that competence was also rated lowest bottom 5 by the same groups of participants who were surveyed. “Rating” was when the participants were asked how important they considered a competence to be and how well achieved they considered it to be. The same 18 generic competences were then “ranked,” meaning they were categorised by naming those they deemed to be most important and most well achieved and those they deemed to be least important and least well achieved. By being rated and ranked low, it meant that a competence was not considered important, and its achievement was equally rated and ranked low.

In the research Zimbabwe was represented by the University of Zimbabwe’s Faculty of Education. A detailed description of the project and the surveyed groups of people in Africa are discussed in the literature review section below.

Interrogating the 13th generic competence: Environmental and economic consciousness

The low ranking of the environmental competence prompted the researcher to work with the student teacher to interrogate this competence. It was decided to interrogate it using the opportunity afforded by the graduate diploma in education (Grad DE) programme. The Grad DE programme was deemed suitable for this study because students with degrees in various teaching subject such as mathematics, the sciences, history, English and other arts subjects, return to university to study in order to acquire a professional diploma in teaching which qualifies them to pursue a teaching career. It is in that programme where student teachers can try various approaches of teaching their subjects. It is also recognised that the role of education and training is vital in building capacity for sustainable development, as we read that, “Long-term sustainable development can be achieved only if individuals and societies change the way they think and act. Education is the key to achieving this transformation” (UNESCO, 2016).

Sustainable development education and economic consciousness

The relationship between sustainable development education and economic consciousness is that through education one gains knowledge which leads to awareness in how to live in a

particular environment in a manner that makes it possible to survive there for many, many years, or to live there in a sustainable way. The idea was to see if competence 13, namely environmental and economic consciousness in the Tuning Africa research, could be taught and practised in an English language class, thereby embracing Education for sustainable development through that subject. The research was done after on-campus Grad DE semester, after which students go on a term's teaching practice (TP) session. It was during this session between May and August 2015 that this study was carried out.

Purpose of the study

The researcher believes that the competences that we require students to learn can be acquired through any, and all the subject areas that teachers focus on in the school system, thus, promoting the whole subject approach leading to the whole school approach to learning. The purpose of this study, therefore, was to find out how one particular competence, environmental and economic consciousness, could be taught through the subject area called English language.

Justification

The justification for the study is anchored on the need to practically address the teaching and learning approaches that would enable teachers, not only to teach issues of the environment and its sustainability, but also to address the issues of economic consciousness: how to tailor-make one's environment into an economic asset and to learn that skill in the English language classroom. This competence on the environment has been addressed through a topical area called education for sustainable development (ESD), but the question arises on whether ESD issues come into the English language lessons *per se*. Literature that is discussed below will indicate whether that has been done.

The other reason why this is a necessary study is that, from the data generated by the Tuning project, environment and economic consciousness as a competence was consistently rated as unimportant and as an area that is not really achieved in its learning, whether in Africa, in Europe or in Latin America. Consultation data shows that to be the case. We do not have enough scope in this paper to pursue these results in more detail, but to the researcher, this remains a puzzle. It is a puzzle because it means that not much attention is given to this competence in universities, and yet there is lot of talk about the environment in the media

under such topics as climate change, sustainable development, eco-schools projects and so on. However, none of the four groups consulted on that competence rated or ranked it as important and as highly achieved. For the competence to be considered significant at university level, attention must be paid to it at school level. That is why the researcher chose to study this issue at form one level to see if learners can practise environmental and economic consciousness. In fact, in the 2016 Tuning Africa Phase II project, different African countries who joined this programme consulted their own sampled populations on the competences. The results indicated exactly the same trend as in the earlier research in which the competence on environmental and economic consciousness was ranked and rated low (Tuning Africa II Second General Meeting Booklet, 2016). What could be the missing link between talk and practice? What is to be done?

As mentioned earlier, the reason for choosing to focus on the English language as a subject area is that all students in Zimbabwe study this subject. Therefore, the English teacher has the greatest opportunity to influence the behaviour and educational fortunes of all students in a school. That subject just lends itself that way.

Statement of the problem

The problem to be focused on is how the English language, as a subject area, can be used to teach the competence that was found to be lowly rated and ranked in a Tuning project research both in its Phase I in 2012 and Phase II in 2016 in Africa, and earlier in Europe and Latin America.

Research question

The major question addressed in this paper is:

How can environmental and economic consciousness be taught through the English language subject area?

The sub-questions that unpack this main question are:

- i) What role does the teacher play in influencing students to study environmental issues and learn best practices?

- ii) What role do students play in learning issues of environmental and economic consciousness?
- iii) What economic activities can be generated through an English language class?
- iv) At what point does the teacher and students feel satisfied that economic consciousness has been generated and how is that practically exhibited?
- v) How can skills learned be sustained and maintained?

Conceptual framework

The conceptual framework that is at the heart of this paper is to interrogate the belief that environmental and economic consciousness can be taught successfully through the English language subject area. This is because, theoretically, it appears feasible to do so, but practically there is no documentation to indicate that it is, indeed, so. Since all school students in Zimbabwe study the English language, they need therefore to practise speaking it and using it in context, this study set out to find out how that can be done. The teacher has the flexibility of choosing any content to enable students to express themselves effectively in English. Anchoring that competence in a subject area common to all students in a school should lift it up from theory to practice. It addresses the questions: How does one practically teach environmental and economic consciousness if one is not a geography teacher, for example? If students are not studying geography, how can they learn that competence and link it with the cross cutting theme of education for sustainable development?

It is this conceptual framework that resulted in this research because there was need to prove that, indeed, environmental and economic consciousness can be taught through the English language subject area. Learning about environmental and economic consciousness leads to sustainability and this research, in a small way, was meant to show how that can be done.

Methodology and design

The methodology used was qualitative research whose design was the project approach. The project approach enabled the student teacher and the learners to get involved in hands-on activities that focused on the environment and sustainability in a manner that both the student teacher and the pupils had the freedom to decide. In a study carried out in Hong Kong by Li Yuen Ling at early childhood education level (2008-2010), he asserts that the project approach “supports students in their quest for understanding when they are encouraged to acquire knowledge and learn beyond the prescribed teaching materials.” In addition, the

project approach to learning allows for specificity in terms of what is to be studied. Furthermore,

[it] brings a number of advantages to any classroom and represents best practices in 21st-century education. It fits securely within both a long history of innovative teaching and learning practices—dating back, at least, to the 16th century—and within the framework of today’s growing body of research on what students need to find success and fulfilment in the current (and future) world (Project Approach, 2016: 1).

Thus, the use of this approach does not seem to have any disadvantages or limitations that have been found unless when one considers that one may not find the required materials to use for the project. However, because the choice of project is entirely up to the participants to decide, naturally they select to work with things that are within their environment and within reach.

Certainly there were no limitations in carrying out this particular research. That is because the project approach enabled the student teacher to move from topics in the Form One and Form Two text book passages, to an application of the knowledge gained within the four walls to the real world. No limitations were experienced. Instead, there was excitement and joy as learners discovered their potential.

The project activities followed the ESD integrated approach where learners strove to acquire knowledge, skills, positive attitudes and values in relation to sustainable development (Frijters, 2016).

Expected outcomes

After eight weeks of interaction and working on the project by the student teacher and form one students, from 5 June 2015 to 31 July 2015, the following outcomes were expected:

- 1) The main and the sub-questions of this research would be answered.
- 2) The role of the teacher in influencing student to study environmental issues and learn best practices would be evident through organising students in learning and practical groups whose achievements would be visible.

- 3) The role of the students in learning issues of environmental and economic consciousness would be evidenced by how they create and design their environment-related activities.
- 4) Both learners and the student teacher would justify the role of the English language as a good vehicle to use when studying environmental and economic consciousness issues.
- 5) Both the student teacher and the learners would be able to evaluate their activities.

Literature review

Most literature that deals with environmental issues is concerned with education for sustainable development and there is a lot of it. The exception is the research done by the Tuning Africa project team and this is discussed in more detail in this literature review section. In this study, the Tuning competence number 13, namely “environmental and economic consciousness,” is placed under education for sustainable development because sustaining development through education involves looking after the environment and being economically conscious through innovation and creativity. We shall cite a few examples of such related ESD literature.

There are UNESCO Policy Dialogue papers that strongly recognise and acknowledge the role of education in sustainable development. Policy Dialogue 1: ESD and development policy focuses on “education and the search for a sustainable future”. Policy Dialogue 2 puts emphasis on “education for sustainable development and the millennium development goals,” while Policy Dialogue 3 (2009) is on “education and national sustainable development strategies.” Furthermore, in Policy Dialogue 3 (1) there is a statement that may explain the Tuning results (discussed in detail below) where the environmental competence seemed not to be practically engaged by stakeholders in all the five subject areas where consultations were done. The statement reads:

Sustainable development competes with many deeply entrenched values and therefore progress has been slow. Tensions between long term and short term thinking, and between economic growth and social and environmental sustainability, are not easy to resolve (UNESCO Policy Dialogue 3, 2009: 1).

This research sought to engage the student teacher and her students in an action plan whose aim was to accentuate ‘the role of education, training and public awareness’ in issues of the

environment and sustainability, thus, bringing the issue down to the classroom level in an English language class.

The Swedish International Centre of Education for Sustainable Development (SWEDESD) produced documents such as the one on education for strong sustainability and agency (ESSA). The document was prepared as “Background Notes for Heads of Teacher Education Institutions Workshop on Mainstreaming Education for Sustainable Development” (Johannesburg, 2013). In Zimbabwe the participating institutions at this workshop were University of Zimbabwe, Belvedere Teachers College, Madziwa Teachers College and Mutare Teachers College (SWEDESD, 2013:20). Another one, Workshop for Leaders in Teacher Education on Mainstreaming Education for Sustainable Development (ESD) in Teacher Education, was held in Gaborone in 2014 and the same institutions were invited and attended the workshop (SWEDESD, 2014: 13). At these workshops, representatives from 9 different SADC countries discussed practical ways of mainstreaming ESD into teacher education. Besides these workshop documents, SWEDESD produced a manual and worksheets entitled, *The Parts and the Whole, a Holistic Approach to Environmental and Sustainability Education* (Brunner & Urenje, 2012) which have very practical and interesting activities that students and adults can do. The activities or tasks are put in the following categories:

- Holistic Examples (pp. 11-21);
- Physics, Cool News for a Hot Planet (pp. 23-34);
- Chemistry, Acid Circumstances (pp. 35-39);
- Biology, the Parts and the Whole (pp. 41-48);
- Geography, the Bee Keeper’s Story (pp. 49-56);
- Social Studies, Myths and Legends (pp. 57-63);
- Business Studies, Chocolate, Slavery and Fair Trade (pp. 65-71).

The holistic approach to issues of the environment acknowledges that “one learning area cannot exclude the other educational disciplines as all are inextricably integrated. While examples selected cannot include all the learning areas, as a starting point, sufficient links between and among other educational disciplines can be identified [and] this recognises that schools and colleges will continue to teach subject areas” (Brunner & Urenje, 2012: 3).

Activities in these worksheets are practical and they call upon the participants to think, be creative and consider the consequences of their responses and suggestions on how not to deplete their environment and planet earth through overuse, pollution and carelessness.

In Zimbabwe, it was found that there is “lack of information dissemination on ESD content, methods and practices, a situation that poses a challenge for ESD implementation...” (Republic of Zimbabwe, UNESCO, SADC REEP, 2013: 12). The question for this paper, therefore, remains: Can such environmental issues be taught in the English language classroom? If so, how could this be done in such a way that students become as practically oriented as in the science or social science subject areas? The researcher found a gap here and was keen to address this through the teaching of the English language as a subject area through which environmental and economic consciousness can be taught.

One of the most informative documents on ESD is a booklet by Frijters (2016) which discusses the integrated approach to ESD. Frijters (2016: 8) describes what happens when teaching and learning for sustainable development in four stages, and these are:

- 1) Acquisition of knowledge;
- 2) Development of skills;
- 3) Development of positive attitudes;
- 4) Development of long term values.

There is also emphasis on the acknowledgement that simple transfer of knowledge from resources such as books, the Internet or from the teacher is not sufficient because knowledge alone does not provide solutions for global problems in the area of environment, society and economy. However, producing new knowledge through a cooperative and critical learning process is a key element. It is especially important to enable citizens to act on the basis of this new knowledge and participate in the decision-making (Frijters, 2016: 8; Sauvé, 1996 quoted in Frijters, 2016: 8).

In Fijters’ booklet (p.8), knowledge is further categorised as follows:

- a) formal learning (that means, learning at school);
- b) non-formal learning (that is, “learning that takes place outside the school but still involves intentional, organised and structured learning; social internships, nature

conservation in the school environment and excursions [which are forms of non-formal learning]; and

- c) informal learning (the type of learning outside the school that arises in a more or less spontaneous way and without being specifically organised).

The booklet emphasises that the words “education for sustainable development” imply that learners do not just absorb knowledge, but they become participants “in the process of sustainable development” (p. 8). Learners are equipped to act “in such a way that they can make informed choices as responsible citizens” (p. 8). The student teacher and her pupils were such participants in this project as well as potential learners with the student teacher playing the additional role of a guide and facilitator in such learning.

The other useful aspect of this booklet is that it synthesises the advantages of the project method in research and ESD activities because it has these qualities (Frijters, 2016: 10-11):

- i) it is student-oriented [or student centred];
- ii) it relates to daily life and the student’s direct living environment;
- iii) it is future-oriented;
- iv) it is action-oriented (together, participation) and works on the development of action competence;
- v) it promotes critical thinking, logical reasoning and the ability to make moral judgments;
- vi) it is value-oriented;
- vii) it views complexity as a challenge. Systems thinking is a starting point;
- viii) it is about participation, both in class and in situations easily relatable to students;
- ix) it benefits from an investigative attitude in students;
- x) it is a regulative idea (a normative ideal).

The Tuning Africa research project

The Tuning Africa research project sponsored by the EU and the AU, which is discussed as forming the background to his study, is a pertinent study whose details are discussed in this section.

Five subject areas were targeted in this research and Africa was divided into those five broad sections by subject area, namely medicine, mechanical engineering, construction or civil engineering, agriculture and teaching education. Figure 1 shows the map of Africa and the subject areas.

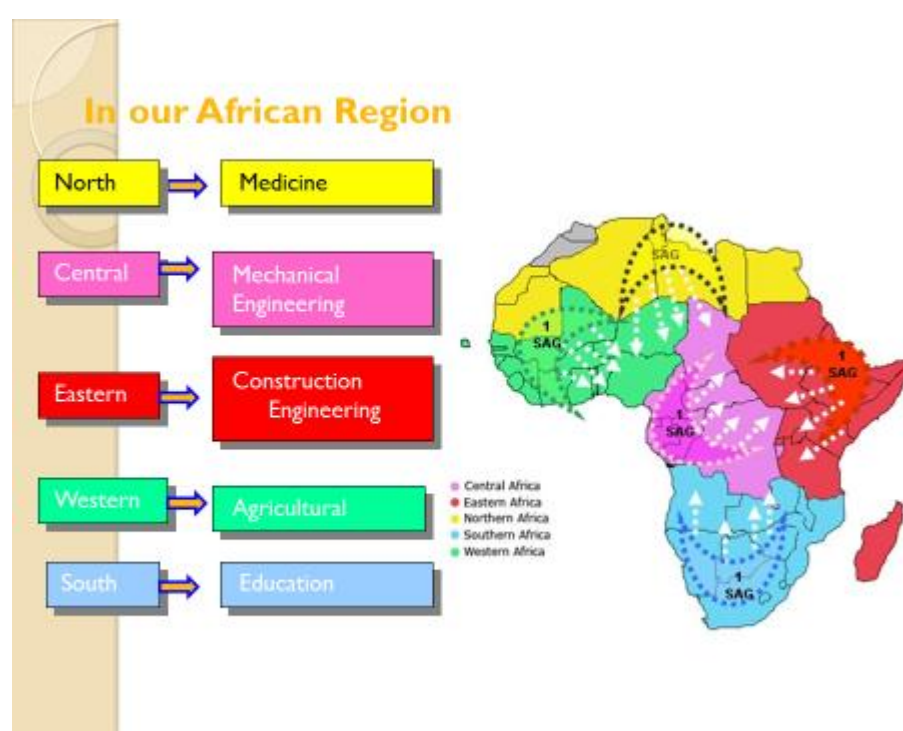


Figure 1: Africa divided into Five Subject Areas (UZ is in the Teacher Education Subject Area Group). Presentation by Julia Gonzalez at the Second Joint Africa-EU Strategy Tuning Seminars, Cape Town, RSA, 15 to 17 May, 2012.

Table 1 below shows the number of sampled people whose responses comprised the data on what was termed generic competences that every university graduate should exit with:

Table 1: Number of Respondents: Generic Competences (Data presented at the Joint Africa-EU Strategy Tuning Seminars Second General Meeting, Cape Town, 15-17 May 2012: 37)

	Academics	Employers	Students	Graduates	TOTAL
Agriculture	312	204	381	306	1203
Teacher Education	335	318	310	307	1270
Medicine	164	88	203	150	605
Mechanical Engineering	152	89	214	124	579
Civil Engineering	167	139	196	164	666
TOTAL	1130	838	1304	1051	4323

Below are the 18 competences that the researchers from the 60 universities who participated in the Tuning Africa project considered to be important for success in any career for a university graduate:

- 1) Ability for conceptual thinking, analysis and synthesis.
- 2) Professionalism, ethical values and commitment to *hunhu/ubuntu* (respect for the wellbeing and dignity of fellow human beings).
- 3) Capacity for critical evaluation and self-awareness.
- 4) Ability to translate knowledge into practice.
- 5) Objective decision making and practical cost effective problem solving.
- 6) Capacity to use innovative and appropriate technologies.
- 7) Ability to communicate effectively in official/national and local languages.
- 8) Ability to learn and capacity for lifelong learning.
- 9) Flexibility, adaptability and ability to anticipate and respond to new situations.
- 10) Ability for creative innovative thinking.
- 11) Leadership, management and team work skills.

12) Communication and interpersonal skills.

13) *Environmental and economic consciousness.

14) Ability to work in an intra and intercultural and/or international context.

15) Ability to work independently.

16) Ability to evaluate, review and enhance quality.

17) Self-confidence, entrepreneurial spirit and skills.

18) Commitment to preserve and to add value to African identity and cultural heritage.

Table 2: *Ratings of Generic Competences by Academics (i.e. the 1130 Lecturers/Professors in the 60 participating universities) in Africa in all Subject Areas*

Description	Importance	Achievement
4 Ability to translate knowledge into practice	3.76	2.80
1 Ability for conceptual thinking, analysis and synthesis	3.74	2.79
2 Professionalism, ethical values and commitment to <i>ubuntu</i>	3.64	2.63
15 Ability to work independently	3.60	2.74
10 Ability for creative and innovative thinking	3.60	2.60
17 Self-confidence, entrepreneurial spirit and skills	3.58	2.55
3 Capacity for critical evaluation and self-awareness	3.58	2.61
16 Ability to evaluate, review and enhance quality	3.57	2.57
6 Capacity to use innovative and appropriate technologies	3.57	2.54
5 Objective decision making and practical cost effective problem solving	3.56	2.59
11 Leadership, management and team work skills	3.56	2.65
12 Communication and interpersonal skills	3.56	2.55
7 Ability to communicate effectively in official/ national and local language	3.54	2.77
8 Ability to learn and capacity for lifelong learning	3.48	2.70
14 Ability to work in an intra and intercultural and/or international context	3.43	2.45
*13 Environmental and economic consciousness	3.37	2.45

18 Commitment to preserve and to add value to the African identity and

cultural heritage	3.25	2.27
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Source: Tuning Second General Meeting, Reporting Results Cape Town 15-17 May 2012: 41

Besides importance and achievement, the same 18 Generic Competences were then “ranked,” meaning that they were categorised by naming the five deemed most important and well achieved, and the five deemed least important and least achieved. Competence 13, highlighted in bold above, was consistently rated as least important and least achieved, and ranked in the bottom five on this list of competences. Table 2 below illustrates the rankings by African academics. Environmental and economic consciousness was second from the bottom (i.e. physically placed second from the top with lowest ranking).

Table 3: *Rankings of Generic Competences by Academics in Africa in all Subject Areas*

#	Description	Ranking
14	Ability to work in an intra and intercultural and/or international context	0.2705
*13	Environmental and economic consciousness	0.2864
18	Commitment to preserve and to add value to the African identity and cultural heritage	0.3343
16	Ability to evaluate, review and enhance quality	0.3677
7	Ability to communicate effectively in official/ national and local language	0.4269
12	Communication and interpersonal skills	0.4753
8	Ability to learn and capacity for lifelong learning	0.5880
15	Ability to work independently	0.5957
3	Capacity for critical evaluation and self-awareness	0.7185
17	Self-confidence, entrepreneurial spirit and skills	0.7379
9	Flexibility, adaptability and ability to anticipate and respond to new situations	0.7673
11	Leadership, management and team work skills	0.7898
6	Capacity to use innovative and appropriate technologies	0.9082
10	Ability for creative and innovative thinking	0.9450
5	Objective decision making and practical cost effective problem solving	0.9582

2 Professionalism, ethical values and commitment to <i>ubuntu</i>	1.3902
1 Ability for conceptual thinking, analysis and synthesis	2.1624
4 Ability to translate knowledge into practice	2.3046

Source: Tuning Second General Meeting, Cape Town 15-17 May 2012: 43

Ratings by selected employers of university graduates in Africa show the same trend where the item on the environment and economic consciousness is low in importance and achievement.

Table 4: *Ratings of Generic Competences by the 838 Employers in Africa in all Subject Areas*

# Description	Importance	Achievement
4 Ability to translate knowledge into practice	3.69	2.73
1 Ability for conceptual thinking, analysis and synthesis	3.67	2.83
2 Professionalism, ethical values and commitment to <i>ubuntu</i>	3.64	2.72
10 Ability for creative and innovative thinking	3.61	2.63
17 Self-confidence, entrepreneurial spirit and skills	3.58	2.64
5 Objective decision making and practical cost effective problem solving	3.58	2.62
16 Ability to evaluate, review and enhance quality	3.58	2.68
9 Flexibility, adaptability and ability to anticipate and respond to new situations	3.58	2.66
11 Leadership, management and team work skills	3.57	2.68
6 Capacity to use innovative and appropriate technologies	3.57	2.60
15 Ability to work independently	3.55	2.77
3 Capacity for critical evaluation and self-awareness	3.53	2.66
12 Communication and interpersonal skills	3.52	2.67
7 Ability to communicate effectively in official/ national and local language	3.50	2.74
8 Ability to learn and capacity for lifelong learning	3.50	2.68
*13 Environmental and economic consciousness	3.39	2.47
14 Ability to work in an intra and intercultural and/or international context	3.39	2.56
18 Commitment to preserve and to add value to the African identity and cultural heritage	3.24	2.43

Source: Tuning Second General Meeting, Cape Town15-17 May 2012: 45

See Employers' rankings of the same Generic Competences with competence number 13 occupying second place from the bottom (physically second from the top in Table 5).

Table 5: *Rankings of Generic Competences by 838 Employers in Africa in all Subject Areas*

# Description	Ranking
14 Ability to work in an intra and intercultural and/or international context	0.3203
*13 Environmental and economic consciousness	0.3209
18 Commitment to preserve and to add value to the African identity and cultural heritage	0.3441
16 Ability to evaluate, review and enhance quality	0.4547
7 Ability to communicate effectively in official/ national and local language	0.4899
12 Communication and interpersonal skills	0.5487
15 Ability to work independently	0.5893
3 Capacity for critical evaluation and self-awareness	0.6589
8 Ability to learn and capacity for lifelong learning	0.7144
17 Self-confidence, entrepreneurial spirit and skills	0.7255
6 Capacity to use innovative and appropriate technologies	0.8529
9 Flexibility, adaptability and ability to anticipate and respond to new situations	0.8807
10 Ability for creative and innovative thinking	0.9330
11 Leadership, management and team work skills	1.0073
5 Objective decision making and practical cost effective problem solving	1.2746
2 Professionalism, ethical values and commitment to <i>ubuntu</i>	1.3235
1 Ability for conceptual thinking, analysis and synthesis	1.7201
4 Ability to translate knowledge into practice	1.8494

Source: Tuning Second General Meeting, Cape Town15-17 May 2012: 48

The 1304 students who were consulted did not rate the competence on the environment highly as shown in Table 6:

Table 6: *Ratings of Generic Competences by 1304 Students in Africa in all Subject Areas*

# Description	Importance	Achievement
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4 Ability to translate knowledge into practice	3.63	2.79
1 Ability for conceptual thinking, analysis and synthesis	3.57	2.83
17 Self-confidence, entrepreneurial spirit and skills	3.56	2.71
11 Leadership, management and team work skills	3.55	2.86
10 Ability for creative and innovative thinking	3.52	2.72
12 Communication and interpersonal skills	3.52	2.84
6 Capacity to use innovative and appropriate technologies	3.50	2.56
2 Professionalism, ethical values and commitment to <i>ubuntu</i>	3.50	2.74
5 Objective decision making and practical cost effective problem solving	3.49	2.78
9 Flexibility, adaptability and ability to anticipate and respond to new situations	3.48	2.76
16 Ability to evaluate, review and enhance quality	3.48	2.79
15 Ability to work independently	3.47	2.87
7 Ability to communicate effectively in official/ national and local language	3.47	2.87
8 Ability to learn and capacity for lifelong learning	3.45	2.84
3 Capacity for critical evaluation and self-awareness	3.44	2.74
*13 Environmental and economic consciousness	3.41	2.68
14 Ability to work in an intra and intercultural and/or international context	3.35	2.53
18 Commitment to preserve and to add value to the African identity and cultural heritage	3,28	2,50

Source: Tuning Second General Meeting, Cape Town 15-17 May 2012: 50

Students' ranking followed the same trend, the competence occupying number three from the bottom (physically third from the top), Table 7:

Table 7: *Rankings of Generic Competences by Students in Africa in all Subject Areas*

# Description	Ranking
14 Ability to work in an intra and intercultural and/or international context	0.3569
16 Ability to evaluate, review and enhance quality	0.3836
*13 Environmental and economic consciousness	0.4171
18 Commitment to preserve and to add value to the African identity and cultural heritage	0.4270

7 Ability to communicate effectively in official/ national and local language	0.5034
12 Communication and interpersonal skills	0.6062
8 Ability to learn and capacity for lifelong learning	0.6092
3 Capacity for critical evaluation and self-awareness	0.6592
15 Ability to work independently	0.6890
9 Flexibility, adaptability and ability to anticipate and respond to new situations	0.7478
6 Capacity to use innovative and appropriate technologies	0.8706
11 Leadership, management and team work skills	0.9296
5 Objective decision making and practical cost effective problem solving	0.9340
17 Self-confidence, entrepreneurial spirit and skills	0.9410
10 Ability for creative and innovative thinking	1.1056
2 Professionalism, ethical values and commitment to <i>ubuntu</i>	1.1722
1 Ability for conceptual thinking, analysis and synthesis	1.5032
4 Ability to translate knowledge into practice	2.1189

Source: Tuning Second General Meeting, Cape Town 15-17 May 2012: 52

For graduates, that competence was rated second lowest in importance and achievement of it, Table 8:

Table 8: *Ratings of Generic Competences by Graduates in Africa in all Subject Areas*

Description	Importance	Achievement
4 Ability to translate knowledge into practice	3.68	2.81
1 Ability for conceptual thinking, analysis and synthesis	3.65	2.89
11 Leadership, management and team work skills	3.58	2.76
17 Self-confidence, entrepreneurial spirit and skills	3.58	2.63
5 Objective decision making and practical cost effective problem solving	3.56	2.72
2 Professionalism, ethical values and commitment to <i>ubuntu</i>	3.56	2.68
10 Ability for creative and innovative thinking	3.56	2.66
15 Ability to work independently	3.55	2.85
16 Ability to evaluate, review and enhance quality	3.55	2.71

6 Capacity to use innovative and appropriate technologies	3.53	2.58
12 Communication and interpersonal skills	3.52	2.78
3 Capacity for critical evaluation and self-awareness	3.51	2.70
9 Flexibility, adaptability and ability to anticipate and respond to new situations	3.50	2.66
7 Ability to communicate effectively in official/ national and local language	3.47	2.80
8 Ability to learn and capacity for lifelong learning	3.47	2.79
14 Ability to work in an intra and intercultural and/or international context	3.38	2.56
*13 Environmental and economic consciousness	3.35	2.54
18 Commitment to preserve and to add value to the African identity and cultural heritage	3.24	2.39

Source: Tuning Second General Meeting, Cape Town 15-17 May 2012: 54

Graduates' rankings were not an improvement, Table 9:

Table 9: *Rankings of Generic Competences by Graduates in Africa in all Subject Areas*

# Description	Ranking
14 Ability to work in an intra and intercultural and/or international context	0.2569
*13 Environmental and economic consciousness	0.3462
16 Ability to evaluate, review and enhance quality	0.3939
18 Commitment to preserve and to add value to the African identity and cultural heritage	0.4028
7 Ability to communicate effectively in official/ national and local language	0.4801
12 Communication and interpersonal skills	0.5453
8 Ability to learn and capacity for lifelong learning	0.5621
15 Ability to work independently	0.6378
3 Capacity for critical evaluation and self-awareness	0.7267
9 Flexibility, adaptability and ability to anticipate and respond to new situations	0.7489
6 Capacity to use innovative and appropriate technologies	0.7611
17 Self-confidence, entrepreneurial spirit and skills	0.8975
10 Ability for creative and innovative thinking	0.9917
11 Leadership, management and team work skills	1.0251

2 Professionalism, ethical values and commitment to <i>ubuntu</i>	1.1356
5 Objective decision making and practical cost effective problem solving	1.1617
1 Ability for conceptual thinking, analysis and synthesis	1.7497
4 Ability to translate knowledge into practice	2.1759

Source: Tuning Second General Meeting, Cape Town 15-17 May 2012: 56

Not only did this kind of rating and ranking happen in Africa, it was also done in two other regions, Europe and Latin America where the Tuning project was conducted in 2008. While comparison of the three regions showed “an overlap in three of the competences considered to be most important...one competence appear[ed] in all three ‘bottom five’ lists,” and this was “environmental and economic consciousness” (Awono Onana, 2014:72-73).

Amazingly this lowest rating and ranking of this competence is happening when discourse on environmental education “already received attention” in the late 1960s. “Awareness, knowledge and environmentally friendly behaviour are the traditional learning outcomes (both real and envisioned) of environmental education” (Stapp, 1969 quoted in Frijters, 2016: 7). UNESCO even declared a decade of Education for sustainable development beginning 2005 and ending 2014. Throughout these years, “an integrated approach to sustainable development in society, and in particularly [sic] in educational settings, has remained a central theme” (Frijters, 2016:7). Yet in the Tuning Africa survey of 2012, no one who was surveyed acknowledged its importance or its achievement in practice. We thought that this was a signal to say, much work needs to be done and so we decided to target the grassroots area of education, not by conferences or workshops, but by working with pupils in junior secondary school.

It is also worthwhile to point out that Zimbabwe developed some booklets that contain a summary of what is called, Teacher Professional Standards. These cover a wide range of competences that teachers need to work with and to instil in their students as they go about their teaching duties. One of these competences, number 2.3.3, relates to the issue of the environment and it reads:

Awareness of climatic change and sustainable development:

In an effort to be sensitive to current world hazards to appreciate and accommodate new developments, teachers need to initiate programmes that schools can sustain using local resources, skills and best practices (Zimbabwe Ministry of Primary and Secondary Education, 2015: 13).

Project inception and procedure: Observed English language lesson, 3 June, 2015

In order to carry out the research, it had to be as practical as possible. In order to target the English language secondary school class, the research was carried out from 5 June to 31 July 2015 with a student teacher at one Harare school. The student was on a twelve week Teaching Practice (TP) session after a semester of on-campus tuition in English pedagogy among other subject areas. After the TP, students return to campus for another semester of course work at the end of which they write their final examinations which mark the end of the one year Graduate Diploma in Education programme. The researcher followed up students teaching English, one of whom was teaching Form One C at a school in one of the suburbs of Harare.

The project activities followed the ESD integrated approach where learners work hard to acquire knowledge, skills, attitudes and values in relation to sustainable development (Frijters, 2016).

How the lesson proceeded: Acquisition of knowledge, formal learning

Formal learning and knowledge acquisition in this English class were achieved through a lesson on the environment. Students were given 5 minutes to read silently the passage entitled, “Let’s go green” (Dawson & Yon, 2011: 98-99). After reading the passage in their text book they responded to the contextual exercises. The rationale for settling on this particular lesson was that it introduced the topic of greening one’s environment and, therefore, facilitated the launching of practical work in that subject outside the classroom. The following steps were followed from the reading of the provided passage in the textbook to practical work in the school yard:

- 1) Upon scrutinising the passage, a reader would agree that, although it is good, it is too esoteric and bookish to produce down-to-earth practical work in the students’ immediate environment. However, the passage has very important information that facilitates formal learning about what it means to “go green.” Another observation is that the last two

sentences of the passage talk about “**man** and **his** industrial processes.... Now **man** must work to correct **his** mistakes” (Dawson & Yon, 2011: 99). This is language that is exclusive of women, a point that is to be discussed in class. Here is the excerpt below (Dawson & Yon, 2011: 99).

Today I’m a conservationist of sorts. I read about our ozone layer which is supposed to screen the atmosphere from the harmful rays of the sun. The ozone layer is being damaged by CFC’s (Chloro-Flouro-Carbons). These are by products of the gases used to operate refrigerators and spray deodorants.

I do my best to see that the natural environment, trees, parks and wildlife are protected so that we do not upset the balance of nature. Trees help to reduce the effects of air pollution from industrial processes and motor vehicles by removing carbon dioxide from the air. Such pollution results in acid rain which forms when the water in the atmosphere combines with these harmful gases. This rain damages forests and agricultural production.

Now I realise that man and his industrial processes have upset the balance of nature. Now man must work to correct his mistakes.

- 2) Following the reading, there was a question and answer session and students worked in groups of five and six. The questions come immediately after the passage. The closest question to action is number 9 which reads, “Using information from the passage as your guide, name two things that you could do in your own life to reduce the problems.”

While it is a good question, it does not extend the student to practical work. It remains at the formal learning level within the four walls of the classroom. The ideal situation is to begin including non-formal learning by extending this knowledge to include an activity or activities that consolidate the information learned from the text book in the classroom.

- 3) This was how the student teacher’s lesson evolved into a project. After the lesson, the discussion with the researcher centred on how students can actually **do** practical activities that would become a **class project** on the topic of the environment. That would enhance

the work in the English text book and help students to speak and express their actions in the target language which they need to practise.

- 4) The student teacher, therefore, was asked to think of ways to involve students in coming up with a **project** that would allow students to make use of all their five senses as much as possible. They were to do the following:
 - a) observe and study their environment, beginning with the condition in their classroom, in their school and in their homes;
 - b) listen to...;
 - c) speak about...;
 - d) read about...;
 - e) do...;
 - f) write about... and
 - g) report on that full activity to the researcher in two days' time on 5 June 2015.

Discussions, descriptions of observations, identification, comparisons and contrasts, analogies, generalisations, analyses, questions, explanations and all communication regarding the chosen activity/activities were to be spoken about in the English language. The emphasis was to be on how to transform the space lived in by the fifty-one students in Form One C and their student teacher into a cleaner environment. Before the project, the classroom was dusty and dirty and no one seemed to notice that including the student teacher. The researcher pointed out the classroom condition to the student teacher, and brainstormed ways of transforming it into a better, cleaner environment. The idea was to begin with sensitivity to one's immediate environment and move out to the school grounds. The activities were to be closely linked to the exercises and readings in the English text book that they were using because this was a concrete reading resource which could be used as a springboard to greater innovation and creativity linguistically.

The project approach to this research was suitable as it “may be carried out with an entire class or with small groups of students...” (Project approach, p. 2). It enabled learners to enhance the study of environmental issues in the English language classroom. It is, as Altrichter and Posch (1989: 29) suggest, ‘what’s good for the practice is good for research.’

The researcher/observer was encouraging the student teacher to work with the view of actions by McNiff (2002: 14) as follows:

- review current practice and conditions;
- identify an aspect that needs to be improved;
- imagine a way forward;
- try it out;
- take stock of what happens;
- modify plans in the light of what has been found, and continue with the 'action';
- monitor what is done;
- evaluate the modified action;
- continue working until both student teacher and students are satisfied with the result of their work.

The student teacher needed to follow a process whereby there was some

- **planning** with her students to see what could be done;
- **acting** on those plans;
- **observing** the plans unfolding;
- **reflecting** on best practices and
- **evaluating** the project.

The ultimate goal of teaching English language through this project approach is to liberate students from confinement to the book pages and the four classroom walls; to use the said book pages and the four walls as a launch pad that releases their physical and intellectual

energies to enable creativity and innovation on the subject matter of the environment and economy.

Follow-up visit to the school

On 5 June 2016 the researcher/lesson observer went back to the school, visiting Form One C English language class. The purpose of the visit was to do the following:

- 1) see what this class was learning differently from what they were doing when they started the lesson on “going green;”
- 2) see if students had been assigned some listening, speaking, reading and writing tasks which translate into their own research on the subject matter of the environment and what it means to go green;
- 3) see if the student teacher had improved on her lesson delivery approach;
- 4) see if a **project** had been identified;
- 5) see what planning and action was being taken to do the identified project;
- 6) examine the condition of the classroom to see if that environment had changed for the better.

Results: Transformation of the student teacher, the learners, the classroom condition and the rockery in the school yard

- On 5 June 2015 it was observed that the English language lesson was different from the previous lesson of 3 June 2015.
- Pupils had searched for more information concerning the topic, “Let’s go green” and its link with the environment.
- They had also re-read the passage in their text books.
- They were **speaking** with confidence because they seemed to have more information.
- From listening to, and observing the learners, doing exercise 15D on “Appropriate register” seemed easier for them. The exercise they were engaged in is as quoted below:

Here are some ideas for expressing one point of view about the environment.

First of all we’ve got to make our environment clean. We can do this by making sure ... (here they had to fill in the blanks).

We've got to make people aware of ... For example, there is a problem with pollution from...

Are you polluting your home?

Pollution is dangerous for everybody. This means that government should...

It's up to all of us to keep the environment clean. We can start in the classroom. We can keep the classroom clean. We can put all waste paper in a bin.

What do you think about this topic?

Nature can take care of herself.

Do you agree or disagree with this idea?

Think about whether you agree or disagree with this statement.

What would you say about it? Tell your partner and the class (Dawson & Yon, 2002: 100-101).

While the above exercise may sound simplistic for 13 year olds studying English, it has to be remembered that the learners are studying English as a second language. The skill of reading, listening to each other talking/speaking, reading and writing their ideas does not happen easily and automatically. The researcher's observation was that the students and the student teacher had done practical work in preparation for this day's lesson. Here is a more detailed description of what changed:

- The classroom was **clean**. On 3 June 2015 when the researcher first walked into that classroom, it was full of litter, dust and looked like it had not been swept for the past week, and there were some potholes at the back.
- This classroom condition was discussed with the student teacher who said neither she nor the pupils had noticed the litter, the dirt and the potholes.
- On 5 June the classroom had not only been swept, its floor had been washed and it was shining as if polished. Furniture had been dusted and the students were exuberant!
- The student teacher asked where they had found the equipment to use and the students said they had looked for it from the Library which was kept clean and well dusted. Hence, the classroom condition was transformed within the two days.

- Learners organised themselves and were talking about cleaning the windows as the next chore. They were also speaking in English, which was not perfect, but they were not shy to speak it.
- They were also working on closing the potholes using cement mixture from a Science Laboratory building site where work was in progress.
- On the issue of searching for information on the environment, learners had read their text book and other books from the library on the environment.
- Learners were able to discuss, read and write their answers, first in groups, then the representative wrote on the chalk board.
- The lesson became learner centred as they had a lot of information.
- They literally took centre stage in discussing the environment guided by the questions quoted above.
- The student teacher too was more confident as the pupils spoke and wrote confidently.
- Their English language flowed easily because they had plenty of information to share.
- There was a general pleasant atmosphere in the classroom and learners did more talking, reading and writing in 35 minutes of this day's lesson than they had done previously on 3 June 2015.

The project: Extending the lesson on the environment to a practical level outside the classroom four walls

- 🌈 On 4 June 2015, the student teacher consulted the Deputy Head of the school to talk about a project that fits in with the topic, “greening the environment” at the school.
- 🌈 She consulted the learners on what they would like to do, and they chose to plant some flowers on a space that was to be indicated by the school for them.
- 🌈 On 5 June 2015, the class and their student teacher took the researcher to a rockery which had no plants on it. That is the space they had been given by the school to plant flowers.
- 🌈 They gathered round the rockery and brainstormed on what to plant in the presence of the researcher, where to find the plants, the manure or fertiliser needed and the happy fact that there was a water tap nearby.
- 🌈 The pupils **solved the problem** of where to find the plants and the required fertiliser or organic manure/compost.

- ✚ Each pupil said they would bring a plant and the fertiliser or organic manure/compost for it.
- ✚ This was the project level of that lesson on the environment.
- ✚ The researcher offered to bring more plants and organic manure for them to add to their effort, which she did on the following day.
- ✚ On 30 June 2015 the researcher returned to the school to check on progress and to evaluate the efforts of the student teacher and her learners in teaching/learning environmental issues through the English language subject area.
- ✚ The rockery plants were thriving. Learners reported that, besides tending the plants at school, they had planted some flowers and shrubs at their homes and their families were happy.
- ✚ By end of July the plants were still being looked after by the class and it seemed to have become a permanent project for this class.
- ✚ The school's gardener was inspired and asked for more plants from the school so that he could team up with this class to beautify the front of the administration buildings.
- ✚ On the issue of economic consciousness, the learners told the student teacher that they could sell plants to other people and raise pocket money that they would share with their families.

Learners' feedback and evaluation of their learning about the environment in the English language lesson

Issues of sustainability were discussed in the classroom and the meaning of ESD was explained in terms of how the learners' individual actions to plant shrubs, flowers or trees at school and at home helped to conserve the environment. It is the small things that count as they add up to a big outcome when everyone's efforts are put together.

The researcher did not follow up on the learners' home projects to see how they were progressing. However, she asked learners to evaluate their learning on issues of the environment in the English language classroom. The evaluation was done during the third school term, after the student teacher had left. Some of the students still addressed the

comments to her as if she were still at that school. Below is a sample of what they said, in their own words (each number represents a different learner's statement):

- 1) Last term I enjoyed the topic of let's go green because it helps us so much to look at our environment and we have planted some flowers and every Monday and Friday we have managed to water the flowers so I liked the topic so much.
- 2) Last term I enjoyed everything you teach me because now I like English very much. I miss you. Only I wish you Good luck Mem.
Your Daughter [sic].
- 3) Our class is always smart and clean thanks to you.
Me.
- 4) The lessons were interesting. Learning outside, change of environment made learning interesting. I have learned to green my home.
Thank you.
[name inserted].
- 5) I miss you mem. Hi Mem I miss you at all the lessons you teach me. I was very interested at Shopping wisely comprehension. You were teaching us very good. I thought you are going to teach us a year but you left us. I think if you were teaching me I would pass English. This term is very boring mem.

I miss you mem.

Yours [name supplied].
- 6) I write this letter to you appreciating for your kindness. You taught things that everyone heard. People who did not know how to read started to read and write because of the presentations. We love you and we wish you to visit us at our school. We love you. We wish you visit us someday.
- 7) I am very glad to write this letter telling you about the subject that I liked when you were teaching us.

When you were teaching us I liked all the subjects especially the project was really awesome. We missed you good teacher.

Yours faithfully,
[Name supplied].

- 8) I write this letter to thank you for teaching me English. I enjoy all your lesson Mum. I really like your teaching and the lesson that I enjoy the most is Greening the school. That lesson I enjoy the most ... You teach me and I pass my middle year exam just because of you. May God bless Miss...

It appears as if the students enjoyed doing the environmentally related project and they also liked the teacher who introduced the whole concept of breaking the four walls of the English classroom.

Fijters' four stages of teaching and learning

To follow Fijters' ideas, the four stages of teaching and learning for sustainable development have been fulfilled (Frijters, 2016: 8) as follows:

- 1) Acquisition of knowledge was done by studying the textbook passage entitled, "Let's Go Green." The learners were introduced to the ideas on the importance of the environment through reading and the exercises that followed that reading.
- 2) Development of skills started with the student teacher's skill of discernment and action and this was done when the TP supervisor and the student teacher analysed the topic, passage and the exercises in the text book and discussed plans to "get out of the text" and move onto the ground, so to speak. The skill development in the pupils started when it was brought to their attention that they needed to improve the condition of their very own classroom to make it cleaner and better looking. The action skills were further developed in pupils when they started asking their peers questions on where they could find equipment to clean their classroom to improve its environment. They showed the skill of organisation and teamwork as well as creativity, so much so that the student teacher asked them where they had found the cleaning equipment. Even the student teacher did not know because she had not given them that information. In addition, they had worked out the time to come and clean the classroom to ensure that they would have finished by the time classes began.
- 3) Development of positive attitudes towards the environment was evident when the student teacher successfully engaged the Deputy Head of the school and discussed her idea of getting the students to carry out a greening project at the school, and when the students enthusiastically volunteered to bring the plants and organic manure to plant at the given site, a rockery. Positive attitudes are also evident when the students said they proceeded to green their own homes.

This one comprehension passage was deliberately used to show how a teacher can move from the textbook topic to practical work outside the classroom. It was not possible to do this with more passages because the teaching practice period was coming to an end when the student teacher went on school vacation and thereafter returned to college (University of Zimbabwe)

to complete the last semester of the diploma studies. Enough work was covered in the eight weeks with students to demonstrate how project work can be an advantage in extending the learning of the English language.

Development of long term values

The above progress is reminiscent of the online passage, “Clean up clutter” (accessed 7 March 2016). The passage reads:

Physical environment has a noticeable effect on behavior [sic]. A tidy, clean look, with lots of pride and open space, sparks an immediate understanding in students—without you saying a word—that excellence is expected. Clutter, on the other hand, whispers to all who enter your classroom, “*Mediocre will do.*”

This applied to the student teacher’s situation and her class of fifty-one learners. For them, mediocre would no longer do.

The 2016 follow-up visit to the Harare suburban school with the project

On Monday 30 May 2016, the researcher visited the Harare school where the student teacher was practice-teaching the previous year. The purpose of the visit was to see if the project still survived and to assess its sustainability.

The plants were still there. The researcher met 25 students (about half the class) who were now in Form Two C and asked them if they still took care of the plants at school and at home. They said they still did that although at school, evidence was that they no longer found enough time to care for the plants. The learners were still very enthusiastic about the project but they said that being in Form Two meant that time was no longer as much as when the previous teacher was there.

The importance of the teacher

The importance of the teacher in project work cannot be overemphasised because he or she makes or breaks any progress made in ESD depending on whether or not there is continuity in that approach to the teaching of English language. For the former student teacher, there was continuity and ingenuity but only at the school where she went to teach after completing the diploma programme. After graduating from the University of Zimbabwe with the post-

graduate diploma in education, the now-qualified-school teacher was deployed to a different school in the southern part of Zimbabwe.

The researcher followed her up to find out if the teacher continued to teach English in an innovative manner or she stopped, treating progress made at the previous school as a programme requirement. Fortunately she continued to be creative and innovative in the way she approached textbook material. For this study we shall report on one outstanding example of such a project.

The teacher and her English language students created a fish pond out of space that had been used for concrete mixing during the construction that went on at her school, a satellite of an established school. She showed ingenuity and creativity and acquisition of knowledge that has happened with her students. She reported on how the idea to create a fish pond and keep fish started with an English language Form 2 textbook comprehension passage on “An adventure on Lake Kariba” (Dawson, 2011, 83ff). In the textbook, the adventure involves catching kapenta fish. The teacher worked with a preferred sample comprising fourteen volunteering Form 1 students and all thirty-six Form 2 students, making a total of fifty students who worked on the fish project. It is appropriate to call this a ‘preferred sample’ because she also taught Forms 3 and 4 but these students were not part of the project (The Teacher’s SMS message, 21 February 2016).

Although the passage on kapenta (small fresh water sardines) fish is in a form 2 textbook, the teacher was able to work with the Form 1 pupils who preferred to play an active part in the project, and the learners in Form 2. The explanation for the Form 1 participation could be that when textbook material gets translated into the real life project work, levels are no longer a barrier. The only thing that matters is learning and fun.

What the teacher and students did to create a fish pond

The teacher reported that students “put small caves around [the pond], and that is where the fish live. We get water from a nearby river to fill up the pond when water is low” (Interview on phone with the teacher, 30 March 2016). Asked if they sell the fish, the response was that they are not selling yet. The students also own some fish ponds in their homes, “and they told [the teacher] about the type of food they give to their fish at home. The learners catch fish

during weekends and some bring them to the school fish pond.” The fish were acquired from that nearby dam. They are fed on left over rice and *sadza*.

The rationale for this seemingly second part of the research was to follow up on teacher creativity, critical thinking and innovativeness in the way she taught the English language after the pressure to acquire a professional qualification was over. Would she fall into the general teacher-centred routine or would she continue to engage learner-centred approaches? Although this researcher did not visit the school to see the project by the teacher and her students, she relied on the enthusiastic reports from the teacher. In answer to a WhatsApp question enquiring on the fish pond status from this researcher on 1 June 2016, the teacher reported that it was doing well and that “The deputy head and the school head are enjoying the project too.”

In terms of the development of long term values in the teacher, these are evident through the continuation of project work after the teaching-practice period. The importance of the teacher is accentuated by the situation at these two schools where this teacher taught under supervision, and where she teaches as a qualified professional. Through her guidance, different students were able to link two of their English language lessons with a practical project that makes use of the local environment.

Linguistic benefits of the project approach to the teaching of English language lessons

The project approach helped students in the Harare school to use English language in authentic contexts and not just in the classroom through language exercises and practice. This researcher attended the fifty-one students’ planning session where they were brainstorming on the plants to bring from their homes to plant on the rockery area that had been allocated to them. The student teacher insisted that they speak in English. It was not perfect English, but they were passionate and did not mind that the grammar was broken in some instances (5 June, 2015).

The researcher was not able to see the fish project and to interact with the teacher and her students face to face. However, it can be deduced that students were able to learn the vocabulary that is contextually consistent with caring for fish, keeping them safe and feeding them. Creativity is evidenced by the local food fed to fish, made up of left over rice and *sadza* instead of bought food.

Economic consciousness

The teacher sought to find out the economic consciousness of learners in both schools, that is, in Harare and where she is currently based. Consciousness was created in the learners' minds. Both the garden and the fish project were found to have great economic potential. To realise this potential, another project would need to be done where the learners would actually market their products. Learners who participated in the said that the project's potential lies in the prospect of keeping a nursery and selling a variety of plants to neighbours and other community members. Learners who did the fish project were reported to be saying that the potential lies in selling the actual fish. The teacher said that the students were not selling the fish yet because they believe the fish would be stolen once there was the public economic consciousness involving the project.

Potential for continuous assessment

This is the kind of project that can develop into both a formative and summative assessment as collaborative or individual effort. However, more thought would need to be put into that possibility considering the caution advised by Biggs and Tang (2007: 164). These authors debate the issue of formative and summative assessment in case a teacher decides to elevate such ESD projects beyond the fun level. Biggs and Tang (2007: 164) write:

While the same assessment task may be used formatively throughout the course and summatively at the end, it must be clear to the students when it is being used for what purpose. To use it for *both* formative and summative purposes, as may happen in continuous assessment, creates a conflicting situation for the students: they are being asked to display and to hide error simultaneously. When assessment is continuously carried out throughout a course, and it is intended to use some of the results summatively, the students must be told *which* assessment events are formative and which summative. They can then decide how they will handle the task to best advantage.

Conclusion

The outcomes anticipated were as follows:

- 1) whether the main and the sub-questions of this research would be answered. This is discussed below.
- 2) whether the role of the teacher in influencing learners to study environmental issues and learn best practices would be evident through organising students in learning and practical groups whose achievements would be visible: the researcher found this to be so at the Harare suburban school where learners were organised in such a way that they took over the project to direct it themselves. Once the project concept was explained to learners on 4 June 2015, from 5 June 2015 learners organised themselves in teams that pushed it forward at school and at their homes.
- 3) whether both learners and the student teacher would justify the role of the English Language as a good vehicle to use when studying environmental and economic consciousness issues: this was justified and the evidence is in the letters of appreciation that learners wrote, addressed to the former student teacher when she had left the Harare school. The researcher also observed that learners gained more confidence in discussing issues in English.
- 4) whether both the student teacher and the learners would be able to evaluate their activities: both learners and the student teacher who became the teacher after graduating, were able to evaluate their activities and they thought that they learned from each other well.

From the researcher's point of view, more work would need to be done on the economic consciousness aspect of project work so that learners can actually benefit from their efforts while continuing to practise using the English language.

The project approach to enhancing knowledge gained on environmental issues facilitated the application of knowledge and made learners do things in their real world. That seems to have been achieved judged by the quoted sample letters that students wrote to their student teacher. In order to sustain a garden or a fish project many skills and competences are necessary and these students under the tutorship of their teacher seemed to have acquired multi-skills. The ultimate outcome of using the project approach in a research with learners is that it leads to the acquisition of several other competences such as the ability to translate knowledge into practice, innovation, creativity, critical thinking, leadership and team work.

Have research questions been answered (anticipated outcome 1)?

The main question for this study was: Can environmental and economic consciousness be taught through the English language subject area? The answer to this question is that yes, this competence can be taught successfully through project work in the English language class. Project work is successful, too, if it emanates from the English language lessons so that the students learn the vocabulary associated with that project from the text book, and then branching out to search for other reading resources.

The sub-questions that unpacked this main question were:

The role played by the teacher in influencing students to study environmental issues and learn best practices:

The teacher plays a crucial role in students' learning. This was demonstrated in this paper by the fact that when the student teacher left her TP school, work in the garden, as seen on 30 May 2016 by the researcher, was not as mint as when the student teacher was still at the school and passionately motivating the students. Where she is teaching, on the other hand, the fish project that also emanated from the English language lesson was said to be flourishing, to the happiness of the school students and administrators.

The role played by students in learning issues of environmental and economic consciousness: Students play a bigger role in learning issues of environmental and economic consciousness because they are the chief client in that effort. The students whose letters are quoted here testify to that fact.

Economic activities that can be generated in an English language class:

Economic empowerment happens through the project that the English language class participate in. When and if taken to a higher level, the garden project can give birth to the ownership of a nursery where buyers would come to purchase various plants. The fish pond can be an immediate success but it is threatened with theft so at the moment the fish were not being sold. Everyone was just admiring the fish.

How the teacher and students feel satisfied that economic consciousness has been generated and how that is practically exhibited:

At the point at which the fish project has reached. The fact that the neighbours are feared because the honours of the fish believe that if the project's economic potential and power are discovered, then they would not have any more fish means that there is a realisation; a consciousness of its empowerment. The project has grown and it has emanated from the English language class.

How sustainability of the skills learned is to be maintained:

There needs to be advocacy among teachers of the value of such projects as have been described in this study. In a free interview with the Deputy Head of the Harare school with the garden project, this researcher discussed the issue of sustainability (30 May 2016). The Deputy Head of this Harare suburban school said that, normally, once the teacher with the passion for the project has left, little is done to continue motivating the students, and so sustainability of the project and its impact on the environment (if any) are threatened.

At the beginning of this discussion it was mentioned that competence number 13 is related to ESD. It is true then, to say that the major purpose of Education for Sustainable Development is to provide students with the knowledge, skills and experiences required for responsible citizenship (resources4rethinking, 2016). Responsible citizenship also implies prudent economic consciousness. In examining key themes related to securing a sustainable future (climate, biodiversity, poverty, social justice, to name a few), ESD emphasises the interdependence which characterises the world in which we live. It requires that students consider the interplay among the environment, economy and health of a society when exploring these issues (resources4rethinking, 2016). This paper has discussed one way in which students can be so empowered through the English Language classroom. They can develop desired language skills that are enduring while simultaneously developing environmental awareness and economic consciousness. The potential is there for that to happen.

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