Senior Secondary School Teachers’ Understanding of Education for Sustainable Development

(A Case of Chemistry Teachers in the Hhohho Region of Eswatini)

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Abstract: Education for Sustainable Development (ESD) is an interdisciplinary concept. Secondary school subjects, like Chemistry can be used to develop students’ understanding of the ESD concept. School teachers are well positioned for promoting sustainable development at school level. Their position necessitates ascertaining their understanding of ESD for proficient development of ESD among their students. The study surveyed a sample of thirty three purposively selected senior secondary school chemistry teachers, from the Hhohho region in Eswatini. Simple descriptive statistics were used to analyse data obtained through the questionnaire. Findings indicate that the chemistry teachers had a fair understanding of ESD, with a stronger inclination to the environmental domain as compared to the economic and social domains. This inclination was also observed when the participants identified the environmental issues of renewable energy, air and water pollution as being most important to ESD. Although 20 of the 33 teachers believed they had a fair understanding of ESD, 32 of them indicated that they needed training. Some recommendations on the training of chemistry teachers are made.

Keywords: Chemistry, Development, Secondary, Sustainable & Teachers.

1. Introduction

While the production and use of scientific and technological products to enhance socio-economic growth and quality of life has prevailed for a long time the negative effects of the processes and activities associated with such products have been ignored (Ogunniyi, 1996). The finite nature of most natural resources has steered mankind to realise that human actions negatively affect the entire world, irrespective of the location of such actions. Such effects are being felt in the present and are likely to continue into the future unless some action to sustain the world’s resources and minimise the negative effects of human activities is taken urgently (UNESCO, 2016). The role of education in sustaining
natural resources has been acknowledged for almost four decades (Jegstad & Sinnes, 2015; Hopkins & McKeown, 2002). Thus efforts to address sustainability challenges through education have increased drastically worldwide (UNESCO, 2018).

ESD forms part of the 2030 Sustainable Development Agenda Target 4.7 Goal 4 that seeks to ‘ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles…’ (UNESCO, 2018:p3). It has been the heightened global interest in addressing the global sustainability challenges through formal education that has led to the recognition of ESD as a key enabler of sustainable development and quality education (UNESCO, 2018).

The 2030 Sustainable Development Agenda succeeds the Decade of Education for Sustainable Development (DESD), a United Nations (UN) initiative adopted by Governments of UN member states. To comply with this UN initiative, the Government of Swaziland (2011) dedicated a section to ESD in the Swaziland Education Sector (SEDSEC) Policy, including enhancing the quality of education in the country; specifically to “Promote an education system which enhances African culture and contributes to sustainable socio-economic development, and Strengthen the quality of education within the framework of sustainable development; Re-orient the education and training system to address sustainability concerns…” (p25). This commitment is also enshrined in the 2018 National Education and Training Sector Policy (Government of the Kingdom of Eswatini, 2018). From the policy objectives stated herein, it is evident that education provided for Eswatini citizens must reflect SD issues in the different components of the curriculum and the different levels of education from primary school to tertiary level.

The Swaziland General Certificate of Secondary Education (SGCSE) Physical Science curriculum, which is of interest in this study, is silent about sustainability issues. However, these issues can be integrated into some of the chemistry syllabus topics, as alluded to by Burmeister, Rauch and Eilks (2012). Integrating SD aspects in teaching activities demands that each respective teacher assigned the task understands the concept of ESD and its principles (UNESCO, 2012). Of great interest to this study is how ready SGCSE Physical Science chemistry teachers are to respond to the National Education and Training Sector Policy objectives on ESD. The purpose of this study was, therefore, to investigate chemistry teachers’ knowledge and understanding of the concept of ESD.

2. Literature Review
2.1 Conceptual Framework
2.1.1 Sustainable Development

The most commonly cited definition for Sustainable Development (SD) was released by the Brundtland Commission in 1987; namely that sustainable development is one that “meets the needs of the present generation without compromising the ability of future generations to meet their own needs” (WCED, 1987, p.43). From its inception the concept of SD has been based on three domains: economy, environment and society (UNESCO, 2005a).

2.1.2 Education for Sustainable Development

ESD is based on the principles of sustainable development (SD) and includes the three domains of SD noted above. ESD is an educational approach that is concerned with protecting the wellbeing of both present and future generations by empowering citizens with relevant skills and attitudes to be able to make informed decisions and take responsible actions involving issues within the three domains (UNESCO, 2018).

The interdisciplinary nature of ESD means that all subjects, including Chemistry, can take on an active role towards attaining ESD goals. An ESD curriculum enhances awareness of global issues and gaining of knowledge, perspectives, skills and values needed to deal with sustainability problems (Perello-Marín, Ribes-Giner, and Díaz, 2018). With such knowledge and skills improved quality of life within the carrying capacity of the Earth’s ecosystems and preservation of natural resources can be maintained to benefit present and future generations (UICN, UNEP & WWF, 1991; CEE, 2007).
As noted above, the success of conveying these qualities of an ESD curriculum to students is reliant on a teacher who, understands ESD in terms of the three domains, is able to identify ESD related issues and, promotes the acquisition of ESD related skills, though participatory learning.

2.2 Empirical Studies

Teachers’ knowledge of subject matter influences their ability to plan and conduct lessons that help students develop a deep understanding of the concept presented (Magnusson, Krajcik & Borko, 1999). Implementation of ESD, thus, relies on the chemistry teacher’s knowledge of the ESD concept. The relevant studies reviewed were conducted in Australia, Namibia and Swaziland.

Boon and Wilson (2011) explored the preparedness for sustainability education of 155 first year Bachelor of Education pre-service teachers in Australia using a questionnaire. The findings showed that there was a general lack of understanding of the ESD concept among the pre-service teachers. Even though the Australian pre-service teachers were aware of some sustainability issues, they were neither knowledgeable about the consequences of these issues nor how to effectively deal with them during their lesson.

A study conducted by Anyolo (2015) on the implementation of ESD in Namibia showed that most of the teachers generally understood ESD in terms of learning about the environment and the use of its resources. Data were collected from nine senior secondary school teachers through semi-structured interviews and lesson observations. An earlier study on constraints to implementing ESD in three higher education institutions in Namibia, administered a structured questionnaire comprising both close-ended and open-ended items to 52 lecturers. From the survey Kanyimba, Hamunyela, & Kasanda (2014) reported that lecturers did not incorporate ESD while teaching because they did not have an understanding of what ESD was about, while other lecturers noted the lack of ability and skill to be able to infuse ESD in their subjects. Interesting to note is the apparent differences in the findings from the two studies; i.e. senior secondary school teachers having understanding of ESD, though limited while lecturers indicated lack of ability to infuse ESD in their courses. Worth noting also, is that the areas of specialisations for the participants in both studies were diverse.

Dube and Lubben’s (2011) study exploring how Swazi Junior Secondary Science (JSS) teachers viewed the use of cultural knowledge for integrating ESD into Science teaching, provides similar findings to the Namibian study on school teachers. Findings, generated from semi-structured interviews with 16 teachers, indicated that the teachers unknowingly practiced ESD integration in some of their teaching even though they were unfamiliar with the ESD concept. Of interest is that the participating teachers had experience of teaching the whole JSS curriculum, which was context based.

The literature reviewed on teachers understanding of ESD revealed that teachers’ knowledge of the concept of ESD is generally limited. The JSS and pre-service teachers in Australia were not familiar with ESD while the secondary school teachers in Namibia only understood ESD in terms of the environmental domain and lecturers in Namibian HEI indicated they lacked knowledge and skill to infuse ESD in teaching.

3. Methodology
3.1 Sample and Sampling

The study adopted the survey research design that involved chemistry teachers who were currently teaching, or had taught the Chemistry section of SGCSE Physical Science in Form 4 (Grade 11) and Form 5 (Grade 12). SGCSE Physical Science comprises Chemistry and Physics as separate sections in one syllabus. The population for the study comprised at least 65 chemistry teachers, with one teacher from each of 65 school in the Hhohho region of Eswatini. Stoker (1985) suggested that a reasonable sample percentage is anything between 50-60%. Thus, a sample of 33 schools, and therefore, 33 participant chemistry teachers were selected.

Convenience sampling was used to select all the schools that were used for the study. Quota sampling was used to select 9 schools from 18 urban schools and 24 schools from 47 rural schools. The quota sampling procedure enabled a proportional weighting to selected strata, which reflects their weighting in which they can be found in the wider population (Cohen, Manion & Morrison, 2007).
3.2 Instruments
Data collection made use of a questionnaire developed for the research from information elicited from the literature. The questionnaire comprised 10 items targeting teachers’ knowledge of the concept of ESD, one item to ascertain teachers’ views on issues they considered to be of importance to ESD, and three self-assessment items on teachers’ level of understanding of ESD.

3.3 Validity and Reliability
After construction of the questionnaire, feedback was sought from colleagues who were knowledgeable about ESD. Participants were assured of anonymity. This was done to “enhance the validity of the research findings by increasing the participants’ truthfulness in responding” to the questionnaire items (Passer, 2014, p.78). The development of the questionnaire included a pilot study.

3.4 Data collection
The data was collected by directly administering the questionnaire to each of the 33 teachers while they were in their respective schools. The main advantage of self-administering the questionnaire is the high response rate as well as the fact that the researcher is present to provide assistance and answer questions (Babbie, 2007).

3.5 Data analysis
Analysis of data from the questionnaire employed quantitative strategies. Through descriptive statistical analysis, frequencies were used to describe the proportions of teachers responding to the items in a certain way. Means of frequencies of teachers’ responses were calculated and used to make decisions regarding teachers’ knowledge of ESD.

4. Results
4.1 Teachers’ knowledge of the concept of ESD
Teacher’s knowledge of ESD was obtained by giving the participants statements that reflected the nature of ESD. In response they were required to indicate whether they viewed the statements as true or false or not sure. To analyse the responses the frequency of teachers who chose the correct response for the statement were determined. The frequencies of participants who were either not sure or chose an incorrect response for a statement were also established. These frequencies are presented in Table 1 below.

Table 1. Frequency distribution of teacher responses per item on ESD objectives and the mean ratings

<table>
<thead>
<tr>
<th>No</th>
<th>Education for sustainable development</th>
<th>Teachers choosing correct answer (f)</th>
<th>Teachers choosing incorrect answer (f)</th>
<th>Teachers who were unsure of answer (f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>i)</td>
<td>advocates for gender equality</td>
<td>23</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>ii)</td>
<td>involves environmental management</td>
<td>29</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>iii)</td>
<td>is concerned with social justice</td>
<td>14</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>iv)</td>
<td>promotes safeguarding of all species and their habitats</td>
<td>30</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>v)</td>
<td>discourages the use of disposable materials</td>
<td>22</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>vi)</td>
<td>supports cultural diversity</td>
<td>14</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>vii)</td>
<td>emphasises respect for human rights</td>
<td>17</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>viii)</td>
<td>promotes economic development</td>
<td>30</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>ix)</td>
<td>emphasises respect for the earth’s natural resources</td>
<td>30</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>x)</td>
<td>encourages responsible production and consumption patterns</td>
<td>25</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Total mean frequency</td>
<td>23.4 (23)</td>
<td>2.5 (3)</td>
<td>7.1 (7)</td>
<td></td>
</tr>
</tbody>
</table>
From the data presented in Table 1 above it was clear that items (iv) and (ix) obtained the highest frequency of teachers (30 each). This result indicates that the chemistry teachers are aware that education for sustainable development emphasises protection of, and respect for, the earth’s natural resources.

Other items with high frequencies of teachers choosing the correct responses were Items (ii) with 29 and (x) with 25. The high proportion of participating teachers selecting Items (ii) and (xi) implies that the chemistry teachers do understand that ESD involves environmental management and responsible production and consumption patterns.

Items with the lowest number of teachers selecting correct response were Items (iii) and (vi), each selected by 14 teachers and Item (vii) with 17 teachers selecting it. This observation suggests that fewer participating teachers understood ESD in terms of social justice, its support of cultural diversity and its link to respect for human rights.

From the data in the table above, it can also be seen that the three statements that were correctly responded to by the lowest number of teachers also had the highest frequency of teachers being unsure of the statement and its link to ESD. These were Item (iii), which was selected by 16 teachers, Item (vi), selected by 13 teachers, and Item (vii) was selected by 10 teachers. These observations could indicate that teachers were unable to link these aspects to ESD and, therefore, they could not commit to a response. Items (vi) and Item (vii) had the highest frequency of teachers choosing the incorrect answers as shown in Table 1. There appears to be some consistency in the teachers’ responses to these items.

The means of the frequencies for the different responses were also determined to ascertain the general understanding of ESD concept by the chemistry teachers. In this study an mean frequency of teachers selecting the correct response of 0-59% (19 teachers) is considered to indicate a low general understanding of ESD, 60-74% (20-24 teachers) to indicate a moderate understanding of ESD and 75-100% (25-33 teachers) is taken as indicating a high understanding of ESD amongst the teachers. The average number of teachers selecting correct responses was 23.4. Therefore the average percentage of teachers choosing the correct answers was 70.9%. According to the scale above, this frequency suggests that, on average, the chemistry teachers involved in the study have a moderate or fair general understanding of ESD.

The averages of the remaining teachers, that is, those who answered incorrectly or were unsure of the correct answer, were also calculated. From these averages it is evident that there was a higher frequency of teachers who were unsure of the statements on ESD (7.1) as compared to those who chose the incorrect answer (2.5).

Teachers’ responses to the 10 items listed in Table 1 were further classified according to the three domains of sustainable development: Economy, Environment and Society (UNESCO, 2005b). Table 2 below shows how the items are grouped, as well as the frequency of teachers who opted for the correct response. This grouping provides a more detailed indication of the inclination of the chemistry teachers understanding of ESD. The table below also shows the mean for each group of items.
Table 2. Categorisation of items according to the three domains of SD and frequency and mean of teachers selecting the correct responses

<table>
<thead>
<tr>
<th>SD/ESD Domain</th>
<th>Item</th>
<th>Item description</th>
<th>Teachers with the correct answer (f)</th>
<th>Teachers opting for the correct answer (mean f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economy</td>
<td>v</td>
<td>discourages the use of disposable materials</td>
<td>22</td>
<td>25.7 (26)</td>
</tr>
<tr>
<td></td>
<td>vii</td>
<td>promotes economic development</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>x</td>
<td>encourages responsible production and consumption patterns</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Environment</td>
<td>iv</td>
<td>involves environmental management</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td></td>
<td>v</td>
<td>promotes safeguarding of all species and their habitats</td>
<td>30</td>
<td>29.7 (30)</td>
</tr>
<tr>
<td></td>
<td>ix</td>
<td>emphasises respect for the earth’s natural resources</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Society</td>
<td>i</td>
<td>advocates for gender equality</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td></td>
<td>iii</td>
<td>is concerned with social justice</td>
<td>14</td>
<td>17.0 (17)</td>
</tr>
<tr>
<td></td>
<td>vi</td>
<td>supports cultural diversity</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>vii</td>
<td>emphasises respect for human rights</td>
<td>17</td>
<td></td>
</tr>
</tbody>
</table>

From the data in Table 2 it can be seen that the domain with the highest number of teachers choosing the correct response is Environment (30), followed by Economy (26) and the lowest mean is the domain on Society (17). This data implies that the chemistry teachers understanding of ESD was more aligned to environmental aspect, as compared to the economic and societal aspects. The low mean frequency of teachers showing understanding of the ESD in relation to the social domain may be indicating that chemistry teachers are less familiar with the social domain of ESD.

4.2 Teachers’ knowledge of ESD issues

Insight into teachers’ understanding of ESD was enhanced by establishing their knowledge of ESD issues. To gather this information teachers were asked to identify three issues, they considered to be of particular importance to ESD, from a list of issues, namely: poverty, renewable energy, biodiversity loss, clean water and sanitation, infectious diseases (HIV/AIDS, TB), use of natural resources by citizens, deforestation, population growth, air and water pollution and exposure to toxic and hazardous materials.

The bar chart presented in Figure 1 below shows the different issues and the number of times they were selected by the 33 teachers. It is worth noting that the issues listed comprise economic, environmental or social issues.
From the bar chart it can be seen that renewable energy is the issue most of the chemistry teachers considered to be important to ESD, with a frequency of 21. The next issue was air and water pollution, which had a frequency of 13 and the use of natural resources by citizens with a frequency of 12.

Issues with the lowest frequency of selection, possibly indicating that they are viewed by the teachers to be of least importance among the issues, are deforestation, with a frequency of three, and exposure to toxic and hazardous materials and population growth, each with a frequency of seven. It is also worth noting that these issues fall under the environmental and social domains of sustainable development, respectively.

4.3 Teachers’ self-assessment of understanding ESD

For this section on teachers’ perceived understanding of ESD, the participants were required to rate their own personal understanding of ESD as “good”, “fair” or “poor”. The participants were also requested to state whether they thought they needed training in ESD and to give a brief description of their exposure to aspects of ESD. Table 3 illustrates how chemistry teachers participating in the study responded to these items.
Table 3. Frequency of chemistry teachers rating of their understanding of ESD, need of training in ESD and exposure to ESD training

<table>
<thead>
<tr>
<th>Self-assessment item</th>
<th>Response</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would rate my personal understanding of ESD as:</td>
<td>Good</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Fair</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Poor</td>
<td>10</td>
</tr>
<tr>
<td>I think I need training in ESD:</td>
<td>Yes</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>1</td>
</tr>
<tr>
<td>I have been exposed to the concept of ESD during my teacher training program or other subsequent training:</td>
<td>Yes</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>28</td>
</tr>
</tbody>
</table>

Data shown in Table 3 above reflects that of the 33 chemistry teachers, three considered themselves as having a good understanding of ESD, 20 as having a fair understanding and 10 teachers viewed their understanding of ESD as poor. According to this data the majority of the chemistry teachers believed that they have a fair understanding of the concept of ESD, an observation that concurs with the fair rating of teachers understanding of ESD reported above.

The data also shows that 32 of the 33 chemistry teachers were of the view that they need training on ESD. This is despite the fact that when rating their own understanding of the concept, only 23 of the chemistry teachers indicated they had either a fair or good understanding of the concept of ESD. Of interest to note also is that the data in Table 3 indicates that 28 of the 33 participating chemistry teachers had not been exposed to the concept of ESD during their teacher training or other subsequent training.

5. Discussion

The main finding from the study is that on average 70.9% of the chemistry teachers involved in this study responded correctly to statements about ESD. With such an average frequency of the participating teachers correctly identifying statements that describe aspects of ESD they were considered as having a moderate general understanding of ESD. This finding is similar to that of Anyolo (2015) where the Namibian teachers were found to generally understand ESD and were able to relate ESD to its environmental domain. The findings of Boon and Wilson (2011) show that there was a general lack of understanding of the ESD concept among pre-service Australian teachers studied. Their study sought to find out the preparedness, for sustainability education, of first year Bachelor of Education students who were yet to go out into the field of teaching. In line with Boon and Wilson’s study is the finding that 28 of the 33 chemistry teachers reported not to have had any formal exposure to ESD in their pre-service training or subsequent training, possibly implying that they got exposure to the ESD concept while in the field of teaching.

From the data shown in Table 1 it was clear that a large proportion of the chemistry teachers (30) were aware that ESD emphasises respect for the earth’s natural resources, promotes safeguarding of all species and their habitats and promotes economic development. This shows that the teachers were able to link ESD to the environmental and economic domains. Further analysis of their knowledge showed that the chemistry teachers demonstrated a higher understanding of ESD in terms of the environmental aspect, as compared to that of the economic and social aspects. Data presented in Table 1 shows that the domain with the highest average of teachers identifying correct responses was Environment (30) and followed closely by Economy (27). The domain with the lowest average was the Social domain (17). Low frequencies of chemistry teachers providing correct responses were attained for statements on social justice (14), cultural diversity (14) and respect for human rights (17). This observation suggest that few of the participating teachers understood ESD in terms of social justice, its support of cultural diversity and its link to respect for human rights. According to Winter (2009) high awareness of ESD issues aligned with the environment domain could be a result of the focus on the environmental aspects of topics such as climate change and the sustainable use of the earth’s resources, with only brief mention of issues in the social domain when discussing ESD issues. McKeown (2010) also advises that
understanding of ESD inclined to the environment domain may be an understanding of EE rather than ESD.

This study showed that the chemistry teachers portrayed a higher understanding of ESD in terms of the environmental aspect, as compared to the economic and social aspect. This finding somewhat concurs with finding by Dube and Lubben (2011), whose study reported that junior secondary science teachers perceived the environmental aspect of ESD as most suitable for integration into science teaching. Their findings were also that while the teachers indicated not to be familiar with the ESD concept they unknowingly integrated some aspects of ESD while teaching a contextualised secondary school science curriculum. The teachers recognised specific cultural activities that related to the science curriculum as avenues for attending to the social domain of ESD, indicating some understanding of the role of the social domain of ESD. McKeown (2010) is of the view that the social domain is central to the ESD concept and is what distinguishes it from environmental education (EE) where the focus is the environment.

Teachers’ understanding of ESD was also ascertained through the identification of SD issues from a list combining economic, social and environmental issues. Participating chemistry teachers identified the issues of renewable energy (environmental), air and water pollution (environmental) and the use of natural resources (economic), as important to ESD. Natural resources constitute materials, energy and water. According to Stapp (1969), pollution and the poor management of natural resources are amongst the environmental problems that led to the establishment of EE. One of the major objectives of EE was to help individuals understand environmental problems so as to find solutions to those problems.

The issue of deforestation, although an environmental issue, was considered important for ESD by the least number of participants. Worth noting is that the idea of sustainable behaviour came from the forest industry as early as the 18th century, as a result of concerns with the cutting of more trees than they could be replaced in the same amount of time (Burmeister et al., 2012). Over the years the issue of deforestation has contributed tremendously to long-term environmental consequences like global warming, biodiversity loss and soil degradation (Mahapatra & Kant, 2003). The issue of deforestation therefore poses a challenge for the practice of sustainable development and teachers’ recognition of this aspect is important for ESD.

Although the majority of the teachers in the study believed that they have a fair understanding of the concept of ESD, 32 of the 33 participating teachers indicated that they need training in ESD. The glaring lack of formal exposure to ESD during pre-service education, as shown by only five of the 33 participants having had some introduction to the ESD concept is worrisome. According to UNESCO (2012) the success of ESD is reliant on a teacher who understands the concepts of sustainability and ESD, thus necessitating the inclusion of ESD in science teacher education programmes, whether pre-service or in-service, in Eswatini.

6. Conclusion and Recommendations

Chemistry teachers in the Hhohho region were found to have a fair understanding of ESD, though their understanding of ESD in terms of the environmental aspect appeared stronger than that of the economic and social aspects.

The majority of teachers in this study indicated that they had not been exposed to ESD during their teacher training, and most of them also suggested they need training. The apparent lack of formal exposure to ESD during pre-service or in-service education for chemistry teachers is suggestive of a need for Higher Education institutions to include content on ESD in their teacher education courses or programmes. These courses would help pre-service teachers by equipping them with the knowledge of the nature of ESD and possibly how to integrate it to teach for ESD. This move could also support teachers in attaining a balanced perspective of ESD and contribute towards the successful attainment the National Education and Training Sector Policy objectives on ESD goals in the Kingdom of Eswatini.
7. References


