

TEACHER'S AWARENESS OF THE INTEGRATED ENVIRONMENTAL EDUCATION CURRICULUM IN SOUTH AFRICA

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ABSTRACT

The study focuses on teacher's awareness of the integrated environmental education curriculum as prescribed in the current curriculum and assessment policy statement (CAPS) document in South Africa. The study examines challenges confronting teachers in the process of integrating environmental education into their respective subject areas of speciality. The role of teachers in the implementation of environmental education in developing an environmentally literate citizenry is of great significance. It was recommended among others that; the government should develop curriculum with clear goals and content with specific guideline which shall develop teachers' capacity in the teaching of environmental education. Successful implementation of any educational policy, largely depends on teacher's competencies. The findings suggest that, department of basic education should appoint subject advisors to equip and resource teachers in order to implement EE integration successfully. The study further concluded that, the policy has failed to spell out a clear direction on how teachers should integrate EE into their subjects. EE integration is doable theoretically but practically, it has failed to achieve the anticipated results due to the numerous problems confronting its implementation in the classroom.

Keywords: Awareness, Environmental education, integration, curriculum

INTRODUCTION

Environmental education has taken centre-stage in global intergovernmental conferences from the 1970s, as the world seeks alternative ways of addressing environmental degradation. The first major international environmental conference from the 1960s to 1970s was the 1972, Stockholm Convention, coupled with the first UN Environmental Agency, United Nations Environment Programme (UNEP) established in 1973 (Barrow, 2005). In the United Nations Conference held in Stockholm (1972), where the world's rich and poor nations came together to discuss matters of environmental concern, it was proposed that UNESCO and other environmental agencies take considerable measures in ensuring that EE is adopted and integrated across-curricular, globally (UNESCO, 1972).

One of the key components of the Agenda 21 policy was to urge all governments to integrate EE across the entire school curriculum (UNESCO, 1992). Integration of EE across the entire school curriculum is to develop learners' knowledge, values, attitude, commitment and skills to protect and improve the Environment. It could also encourage learners to examine and interpret environmental issues from different perspectives. Subsequently, this could stimulate learners' awareness and curiosity about the environment and encourage active participation in resolving environmental problems (NCC, 1990:6).

The global international bodies agree unanimously that, EE should be integrated in school curriculum. According to Hua (2004), to ensure effective and results-oriented integrated EE, teachers who are major stakeholders should be well informed and conversant with

Environmental issues. Teaching and learning of environmental education through a formal education curriculum is one of the main responses to the deteriorating state of the global environment. According to McDonald (2004), the advent of constitutional rule in the South African political arena has brought about new direction in dealing with environmental concerns. Agreeing with Damoah & Adu (2019), education plays important role in ensuring sustainable development.

According to the Council for Scientific and Industrial Research (2004), Section 24 of the Constitution of the Republic of South Africa (RSA, 1996) legally mandates the government to ensure that people in South Africa are not harmed by the environment and the environment is protected against abuse. The CSIR (2004) document implies that, government and other stakeholders are to initiate and implement measures to preserve and protect the Environment from further degradation. Based on the backdrop of this Constitutional requirement as enshrined in Section 24 of 1996, South African Constitution, Environmental Education (EE) has been incorporated in all disciplines of the entire school curriculum both GET and FET phase of South African Education system. The National Curriculum Statement seeks to strike a balance of well-integrated curriculum and systematic progression of concepts (Hoadley & Jansen, 2009). The advent of NCS led to a subsequent review, in 2011, that is, a new revised curriculum introduced as National Curriculum and Assessment Policy statement (CAPS), currently the official document. The new policy document has placed much importance on the integration of EE by integrating 50% environmental themes in all school subjects at the GET and FET phase, respectively (DoE, 2011).

In view with this goodwill, the South African education system recognizes EE as an important component of the entire school curriculum and not as a stand-alone subject. The role of every teacher, within the spirit of the CAPS document, is to arouse the interest of learners in environmental issues through the integration of EE themes into their respective subjects. The South African curriculum adopted the fusion approach of integration. Infusing refers to the integration of relevant content knowledge and skill into an existing subject without compromising the focus of the traditional subject itself. In the South African context, teachers are to analyse the content areas of their respective teaching subjects and look for places where environmental themes could be incorporated. The aim is to ensure that both EE and the subject or content are well taught without interfering with the integrity of the main subject (DoE, 2011).

UNESCO-UNEP (1994) affirmed that, if EE themes are well taught and integrated effectively across curricular, the behavioural change of learners towards the environment shall increase significantly. Infusing EE themes could be traced in subjects like Life Sciences, Languages, Agricultural Sciences, Arts, Geography, Mathematics and Mathematical Literacy at the FET phase in South African schools. Teachers awareness of EE integration is critical toward achieving the aims and objectives of curriculum integration. If a teacher do not have adequate information about EE as an integrated component then, the system shall be incapacitated and much ado about nothing .

REVIEW OF LITERATURE

The research study is supported by national literatures based on environmental education and integration of environmental education as a component in the school curriculum, and policy documents.

Environmental Education Integration

According to Palmer (1998), EE in the school curriculum can be defined as total experience, skills, values, attitude and knowledge required to raise learners who are environmentally literate to make decisions, solve problems and initiate measures towards the conservation of the environment. The integrated approach is one of the ways of incorporating EE content areas into all school subjects across curricular. Jackson (2010) and Klein (2011) recognise the integrated approach as a multidisciplinary approach, where EE content takes centre stage of other subjects. Other schools of thought also classified it as a whole school approach to EE. The idea of integration, in this context, denotes the fusion of EE themes into content areas of other subjects in the school curriculum. According to Drake (2014), the common approach to include EE in the school curriculum is the integrated approach. This approach is recommended by many stakeholders because various environmental issues can be addressed across other subjects in the school curriculum. With the integrated approach, EE is not a stand-alone subject, but its contents are embedded into content areas of other subjects; therefore, EE does not add up to the number of subjects in the school curriculum (Damoah and Adu, 2019). It also does not replace the content of other subjects, but rather incorporates holistically throughout the subject areas (Tilbury, 2005).

Effective integration of EE into the school curriculum largely depends on the design, aims and objectives of a national school curriculum of a specific country. It is further stated that, successful integration of EE into existing subjects may help learners to acquire the needed environmental skills, attitude, knowledge and understanding collectively for learners to be environmentally literate. Environmental literacy creates awareness of environmental issues, and these help learners to be more active and responsible toward the conservation and protection of the environment. Bolstad (2005) argued that, the ideal of integration is achievable because schools and curriculum developers can find gaps within existing school subjects to link up with various environmental themes instead of making EE a stand-alone subject. To address environmental issues, there is a need for collective effort and action. It is, therefore, imperative to have EE integrated into all school subjects; hence, the integrated approach, sometimes referred to as whole school approach. It is further argued that, environmental issues should be addressed holistically through an interdisciplinary context in order not to leave any child behind (Kimaryo, 2011).

Rusinko (2010) argued that the integrated approach is an effective approach to incorporate EE into school subjects. However, it requires a lot of time, resources and teachers' experiences. Kimaryo (2011) affirmed that the Tanzanian education system has effectively integrated EE into all primary school subjects. The author added that EE is taught in all subjects to equip learners with the necessary skills and attitude towards the environment. According to Ofwono-Orecho (1998), Adebayo and Olawepo (1997), Hua (2004), Finnish National Board of Education (2004) Flaws and Meredith (2007), Uganda, Nigeria, China, New Zealand and Finland have adopted the integrated approach to EE. The integrative approach calls for the incorporation of environmental themes across-curricular.

All the afore-mentioned countries seek to educate the populace on environmental issues through a formal education system. In raising responsible citizenship, the curriculum intends to create environmental awareness among learners and instil the notion of conservation of the environment from further degradation. In certain countries, EE is fully integrated into learning areas such Geography, Biology, Social Studies, Natural Sciences and Physical Sciences in the school curriculum (Jeronen & Jeronen, 2008).

According to Palmer (1998), growing environmental degradation, desertification, pollution, depletion of ozone layers and global warming require pragmatic steps to mitigate these menaces. There is a need for global action in making citizenry aware of environmental issues. Palmer further argued that the promotion and development of EE should be a global agenda. It is within the spirit of this assertion that the South Africa curriculum is well-integrated to accommodate EE themes in all subjects and phases of education. Abid and Holt (2003) indicated that EE is critical for promoting sustainable development to create environmentally literate citizenry and equally equip people to address environmental issues confronting societies which include, poverty, degradation, water and air pollution. These problems endanger human life (European Commission, 2013). Therefore, the sustainability of the environment and its ecosystems largely depends on effective teaching and learning through a formal education system that gives equal opportunities to all learners to acquire moderate EE knowledge.

Teachers' Awareness of Environmental Education Integration

The inclusion of EE into formal school curriculum is the most effective way of raising environmentally responsible citizens. The implementation of EE into school subjects can be enhanced through an integrative approach. By this, EE should be taught across-curricular in all school subjects by committed teachers in the classroom (Kimaryo, 2011). According to Almers (2013), there are two distinctive paradigms that determine the change of attitude of people towards sustainability and responsible citizenship. These paradigms are *moralistic* and *educational*. The moralistic paradigm, according to Almer (2013), focuses on the development of positive behaviour of learners towards the environment. The education aspect of the paradigm is to inspire learners to prioritise learning to acquire knowledge. The study highlighted the need to show commitment, willingness and the zeal to act and identify problems and their causes.

Almers (2013) indicated the ability to use knowledge in building visions, finding solutions to unending global problems, influence and change conditions and applying knowledge acquired into practice. The influence of EE on learners' behaviour cannot be underestimated. Teachers integrating EE into their respective subjects can make a positive impact in changing the behaviour of learners, which inspires the spirit of 'ubuntu', and responsible citizenship behaviour (Le Grange, 2012).

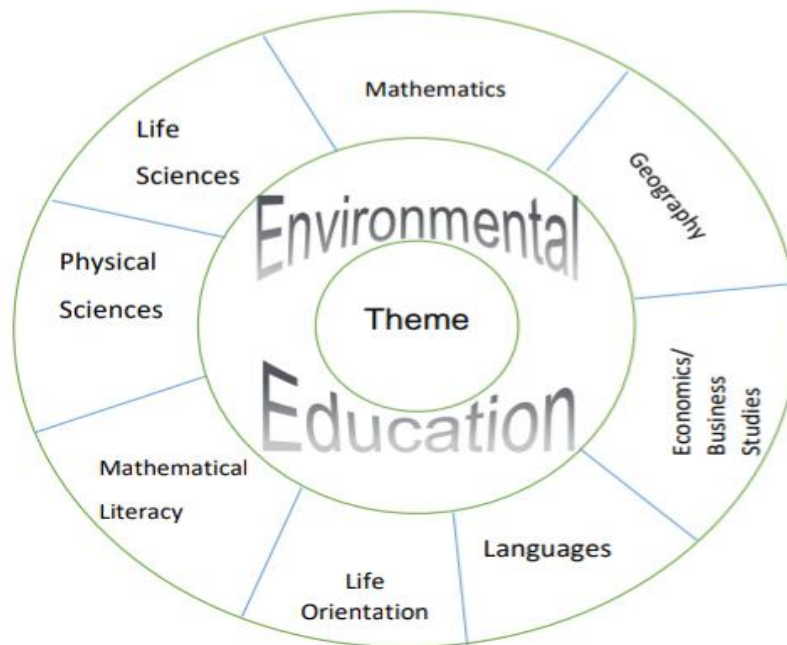
One of the aims of the South African Curriculum (2011) is to produce learners that are able to "use science and technology effectively and show responsibility towards the environment" (DoE, 2011:5). In achieving this goal, the South African education system has integrated EE in the school-based curriculum. This may not only help learners to acquire knowledge but rather produce citizens who are environmentally literate and responsible in preserving the environment.

The main objective of a school curriculum of every nation is to create ideal citizens who are nationalistic and patriotic and an embodiment of the nation's objectives. Therefore, integration of EE into the school curriculum will produce students who are empowered to develop environmental values and attitudes to benefit the society and generations to come (Parker, 2017:1250).

The newly revised CAPS (2011) has Integrated EE themes into subjects in both General Education and Training (GET) and Further Education and Training (FET) phases in the curriculum. However, the researcher examined EE integration specifically in Grade 12 curriculum, which is the final Grade for the FET phase. The diagram below shows how EE is

integrated into subjects like Life Sciences, Physical Sciences, Mathematics, Mathematical Literacy, Life Orientation, Economics and Languages at the FET phase.

Figure 1: integrated Environmental Education curriculum in South African



Source: (Modified from du Toit and Oliver (as cited in Mokhele 2007:19)

According to Mokhele (2007), the recommended approach to teaching and learning of EE in most countries, including the South African curriculum, is the integration of EE themes into other subject areas. However, its implementation is quite challenging due to varied views, understanding, knowledge and perception of subject teachers. The mode and extent of EE integrated content differs from one subject to another (kimaryo, 2011). In the South African curriculum, the only subject that is environmentally biased is Geography, which is an elective subject for learners at the FET phase from Grade 10-12 (DoE, 2011). There are only four chapters in the Grade 12 Geography curriculum, and all the topics are purely environmentally based.

According to a study conducted in Lesotho, the government of Lesotho has strengthened the integration of EE in the education system in collaboration with the Danish government support termed as, Lesotho Environment Education Support Project (LEESP). The goal of this strategic project is to make teachers to be well informed about environmental issues and on how to integrate EE into their subjects (Raselimo, 2014). Few South African teachers have the experience and understanding of the focus of EE. It is argued that, most teachers are not conversant with the implementation of EE. The study further indicated that, schools implement the national policy on EE integration differently without any conformity to curriculum requirement. The researcher, therefore, concluded that due to lack of uniformity and conformity in the implementation EE across curricular, the ideal behind EE integration in the CAPS (2011) remains an “impossible dream” (Mokhele, 2011:85).

RESEARCH METHODOLOGY

Research Design

The research employed phenomenological qualitative methods. The study further adopted interpretivism paradigm. The researcher seeks the understanding of respondents' lived experiences. Interpretivist paradigm help to analyse systematically and objectively the direct experience of teachers teaching various subjects at the high school level. Data was collected through semi- structured interviews. In order to answer the research questions, the study used interview guide approach.

Sample and Sampling Techniques

The study sampled 6 teachers teaching different subjects in one Secondary School in the East London Education District. In this qualitative interpretative research study, respondents were purposively selected.

Data Analysis

The data for this qualitative study was collected through in-depth interviews. Inductive analysis style was adopted to analyse the data. This is a process through which researchers create meaning out of data collected through specific guidelines.

PRESENTATION OF RESULTS

The respondents in this study were six teachers in the FET phase in one high school at Mdantsane Township. Throughout the interview process, field notes were taken by the researcher, and a tape recorder was used to record the responses of respondents. The researcher used a tape recorder to verify, edit and analyse the responses of respondents at the later stage of the study. The tape-recorded data was then transcribed into written text.

Most respondents interviewed in this study indicated that, they teach EE in their respective subjects. They disclosed that, although idea of teaching EE as an integrated component is commendable, they are not integrating EE properly into their subjects, as prescribed by the CAPS document. Several factors impede the effectiveness of their work. These challenges include curriculum, teaching and learning factors and teacher-related issues. This study focused on teachers' awareness of the integrated environmental education in the school curriculum.

Teachers' Awareness of EE Integration in the School Curriculum

The present South African school curriculum (CAPS) has integrated EE into all school subjects from GET phase to FET phase, respectively, instead of teaching EE as a stand-alone subject (DOE, 2011). This has made the teaching of EE a shared or collective responsibility of all school teachers. EE has been incorporated into content arrears of other traditional subjects at the school level. It is believed that through integration, teaching and learning shall adopt a holistic approach to integrate EE to real life situations, thus making learners to be informed about environmental issues. Integration of EE is a laudable concept and the aspirations could

only be a reality, if teachers who are field workers and direct implementers of the curriculum are fully cognisance of its presence in their respective subject areas. In order to establish teachers' awareness of EE integration, the respondents were asked if they were aware of EE integration into their subjects. The responses from respondents were varied from subject to subject. Firstly, respondents were asked: "do you have any idea of the integration of environmental education into other subjects? If yes, what is your understanding of the integration? The purpose of asking this question was to ascertain whether teachers are fully aware of EE integration as imbedded into the school curriculum and to establish a clear picture of their understanding of curriculum integration.

In finding answers to the question, the responses received from six (6) respondents were categorised into two, namely, those who are aware of EE integration into their subjects and those who are uncertain of EE integration. The results of the findings are discussed below.

Integrated into subjects

Four (4) out of the six (6) respondents indicated that they are aware of the existence of EE integration in their respective subject areas. Teachers who are cognisant of EE integration focused on EE as an integrated content component and as a teaching and learning resources. In categorisation of the teacher's awareness of EE integration, teachers who were fully aware of EE as an integrated component into traditional subjects viewed EE as a subject matter integrated into their subject content area and relates to environment. Their opinion about subject matter integration points to an exact topic that needs to be taught in a specific subject. One of the respondents in this category affirm that EE is integrated as a component in the content areas of their respective subjects. The statement made *verbatim* (unedited) below by respondent 5 alluded to the fact that, the teacher is aware of EE integration.

In economics of Grade 12 curriculum some of the topics are environmental related. These topics include, globalisation, environmental deterioration, Environmental sustainability and I always try as much as I could to link up the content areas of such topics to the environment for learners to get a clear picture of the happenings in their immediate environs" (Respondent 5)

When the Life Sciences teacher was asked if he is aware of EE integration in his subject area, he listed the following topics as areas covered by environmental issues (*verbatim*).

"In life science of the FET curriculum, some of the environmentally related topics are: Responding to be environment (humans), Responding to the Environment (plants), Human impact on the environment: current crises, any time I reach this particular chapter according to my pacesetter is always exciting as learners are anxious to know more about the environment. However, these topics are mostly dealt with in the lower Grades. In Grade 10 and 11 respectively, not much is said about the environment in the Grade 12 curriculum which is the exit grade of the FET phase"

The researcher asked the Physical Sciences teacher if he is aware of the existence of EE in his subject area. He respondent by saying:

"Mmmh yes I think so because there are topics like Organic Molecules, Organic molecules as molecules containing carbon atoms, carbon as the basic building block of

organic compounds that recycles through the earth's air, water, So Soil and living organisms, including human beings, Conservation of energy with non-conservative forces present, Electrical machines (generators, motors), Photoelectric effect. Link to the harnessing of solar energy, which are all environmentally related, with my long-standing experience as a teacher, I always try to relate such chapters to the environment”

The Geography teacher who coupled as English FAL teacher. When asked about her awareness of EE in her subject, she said:

“My subject is environmentally biased and gives clear definition on how to handle EE based topics without any hassles”. These topics are listed as chapters which run through the FET phase Geography curriculum. Geographical skills and techniques: topographic maps, GIS, synoptic weather maps: Climate and weather: cyclones, local climate, Geomorphology: drainage systems and fluvial processes, Rural and urban settlement, Economic geography of South Africa. “I see geography as purely EE since the focal point is on the environment, unfortunately only few Grade 12 learners are doing the subject” (Respondent 1).

The opinions shared by teachers under this category of awareness of EE integration show that EE themes and topics are well integrated into the content areas of all science related subjects and mostly, Geography. Teachers teach EE-related topics as part of the content of their respective subject area of speciality. Looking at the responses of the interview above, EE is well integrated in these subjects with specific guidelines.

Environmental education as teaching and learning material

Some respondents' inputs during the interview suggest that they are aware of EE and integrated it as teaching and learning material and not in content area. These include use of pictures, objects etc. to depict the environment. Respondent 1 said:

“Err, hmm, indeed! I am aware of EE integration but I only integrated EE themes into my activities as teaching and learning materials which are environmentally related like pictures, maps, pictures of environmental degradation, because there is no specific topic in English FAL that is geared toward the teaching of EE”.

When the question was rephrased and probed further, the respondent indicated that:

“I also see EE mostly in the teaching of grammar and construction of sentences. I do this by formulating sentences with environmental themes. Some of text and cartoons used in FAL are environmentally related. Sometimes I give reading materials to my learners and these comprehension passages have environmental themes integrated in them. I also take learners out of the classroom sometimes to the school field”

When respondent 2, the Mathematics teacher, was asked about her awareness of EE in the Mathematics curriculum, she said:

“There is no specific topic in Mathematics that directly addresses EE. However, in Mathematics, we have topics like Geometry, statistics and Interpretation of data that have environmental themes. In measurement, calculation of surface area, perimeter, sometimes they have environmental themes in my opinion. I use EE themes in making illustrations in content areas, therefore it serves as teaching and learning material or resources. In data collection in statistics from Grade 10 to 12 curriculum the content is mostly about real life issues which includes EE. It is sometimes hectic linking up environmental content in Mathematics because there is no proper guideline on how to integrate EE into any Mathematics chapter. The onus rests on the teacher to think deeply in order to incorporate EE themes into the content and it is unfortunate I don’t think all teachers would have the skill and ability to do. In Grade 12 curriculum we have 10 chapters that need to be covered in order to prepare learners for matric examinations. Therefore, the pressure of finishing syllabus of Mathematics makes it quite challenging to integrate EE themes”.

Views shared by respondents indicate teachers’ perceptions concerning EE integration into their subject areas. The interview notes revealed that the method of integration adopted by the South African curriculum is not yielding the anticipated results. Teachers find it extremely difficult to incorporate EE content into their subject content areas as most teachers struggle to link EE content to traditional subjects. Those teaching sciences and Geography have less worry about EE integration since EE content already exists in these subjects and such content is examinable as required by the curriculum. Some teachers indicated that they were unaware of EE integration as discussed below.

Unaware of integration into subjects

Some of the respondents interviewed revealed that EE is not part of their syllabus coverage. The response is categorised under this section for analysis. This section highlights teachers who stated emphatically that there is no EE integration in the subject area. The teachers consistently admitted that there is no EE content into their subjects and perhaps they are not aware of the development. The uncertainty on the part of the teachers revealed serious concerns on the implementation of the new CAPS document. The respondent stated that they have not seen any EE topics in their syllabus, hence the question of EE integration is new to them; no department official has told them to do so. There no workshop organised by the Department of education, to mentor teachers on the integration of EE.

When the researcher asked respondent 6 about his knowledge of EE integration into Business studies, he said;

“Hmm! Is this another syllabus after CAPS? I don’t have any clue about this sir”. The researcher then rephrased the question and probed further. The researcher then asked if he is aware that teachers need to teach EE in their respective subjects, *he said “I have taught my subject for nearly 18 years and I have not seen any environmental education topics in my subject area. I am trained to teach Business studies not EE, hmmm. I don’t even know how it is possible to teach two different subjects at same time”*

The researcher then asked if he is aware of topics like Human rights, inclusivity and environmental issues, the extent to which a business venture addresses issues such as human

rights, inclusivity and environmental issues in Business studies at the FET phase. The respondent had this to say:

“Yes I know these topics and I have been teaching them”. The researcher then probed further by asking the respondent if he is aware that, the above listed topics have environmental themes, and he said: *“I see these topics as Business studies topics and not as EE”*

Respondent 2, who is Mathematics teacher, initially stated that there is no EE topic in Mathematics.

“I am yet to see any EE Chapter in Mathematics. I am not aware of EE in my subject, forgive me if I sound naïve”

The responses given by various teachers suggest that most of them are not conversant with EE integration into their traditional subjects. There are many environmentally related chapters in most subjects but since there is no clear definition and guidelines of EE topics, teachers battle to identify them. On the other side, teachers teaching science related subjects and Geography find it extremely easy to integrate EE into their teaching subjects. Most respondents are not comfortable with EE integration into their teaching. According to them, there is no policy guideline on how to integrate EE. This creates a challenge to identify what topic requires integration and vice versa. The level of despondence exhibited by respondents prompted the researcher to probe further. This is discussed below.

Teachers’ understanding of EE integration in the school curriculum

The study further investigated teachers’ understanding of EE and its integration in the school curriculum thereof. It is of great importance to know teachers’ understanding of the environment as this may influence EE integration into the school curriculum. In seeking teachers’ understanding, respondents were asked to explain the meaning of EE before looking at EE integration in the school curriculum. They gave varied views of their understanding of EE. Analysis of data collected shows that teachers who are the frontiers of EE implementation do not have in-depth knowledge about the environment and EE. The results of the interviews are discussed below.

What is your understanding of the environment? (Researcher). Respondents explained the environment as:

“Is the total of all the physical things that surround us?” (Respondent, 1).

“It is all the things that are around human being like animals, insects, plants - the things on the ground.” (Respondent, 2).

The description given by respondents shows how teachers perceive the environment. The various explanations given by various teachers excluded man as part of the environment. They all described the environment as human surroundings while alienating man from the environment. Other studies conducted has revealed that, human beings in an effort to define environment end up separating man from the environment, forgetting that man is part of the

environment (kimaryo, 2011). The researcher then asked the respondents: “are you aware man is part of the environment?” These were the responses given by respondents

“Mmh I think man is part of the environment because human beings are also living things” (Respondent, 6).

“The environment consists of both living and none living things, in my view human beings are living things and therefore form part of the environment” (Respondent, 4).

When the question was posed to the Life Sciences teacher, he gave his view based on his scientific knowledge and said:

“The environment is the surrounding or conditions in which a person, animal, or plant lives or lives. You can see from my explanation that there is an inclusion human element factored in my view. We are part of the environment and it is our sole responsibility to sustain the environment for the next generation. We destroy or improve the nature of the environment through our human activities” (Respondent, 3).

The researcher posed same question to last respondent, and he had this to say”

The environment is a vacuum of space occupied by mankind, living things and non-living things”.

This implies that the environment is a setting for humankind where human lives on a daily basis. This setting includes buildings, rivers, lakes, school and other things that support human life. Others perceived the environment as a setting that is socially motivated. The respondent classified the social setting as political and cultural systems that influence human behaviour and attitude towards the environment. The researcher then asked respondents about their understanding of EE. The explanation given by most classifies EE as knowledge-based. In the context of this interview, knowledge refers to the acquisition of concepts that influence human thinking toward the environment. Respondents based their argument on EE as education about the environment and education about caring for the environment. Four (4) out of the six (6) respondents described EE as education centred on the environment. This explanation was concerned with the cognitive and awareness aspect of the EE and sustainability of human lives. One respondent said:

“EE is an education which influences a person’s life, indirectly teaches the how to live in their environment and sustain the environment for the next generation”.

Interestingly, another respondent also said:

“Environmental education is an education offered to people in order to know the climatic conditions of a given place in order to live comfortably”.

Others also suggested that EE is education that creates environmental awareness and makes people environmentally literate to protect and preserve available natural resources. Other respondents said that EE is a tool to equip learners with the ability to solve environmental

problems in their communities. Respondents believe that, EE is about giving learners environmental knowledge to solve environmental problems. Respondent 4 and 6 said:

“It is a skill given to learners in order to deal with environmental problems both at school and their immediate environs. Some of these problems include degradation, pollution, erosion, drought etc.”

The respondent added:

“There is scarcity of water these days because of human activities. Therefore, with the help of EE, some of these problems could be solved through shaping the attitude of humans toward the available natural resources”.

All the explanations extracted from the interviews allude to problem-solving skills. They all thought that EE is about giving skills to individuals to solve environmental problems. Human survival on this planet largely depends on our ability to sustain the available natural resources. Effective utilisation of available resources means individuals are managers of natural resources, and it is our collective responsibility to ensure that, the resources are well taken care of. An extract from an interview said:

“I think EE centres on the usage of natural resources and the benefit we derive from the environment.”

On the hinge side of political motivation, respondents believe that, the political terrain influences and shapes attitudes towards the environment through the enactment of laws, policies and rules and regulations which safeguard the environment. Some of the views extracted from the interview illustrate the thinking of teachers in this direction. Do you think that political influence helps in the protection of the environment as a teacher?

“I am not a politician but I shall try to answer you according to my understanding. In my opinion I think political systems enact laws, rules and regulations in the country so I think these rules directly or indirectly shapes individuals’ attitude toward the environment. For instance, if the government make laws which prohibit littering on streets and other publics places, offenders shall be punished accordingly. In conclusion, in my view political system could influence the behaviour of others”

Almost all respondents explained EE as education centralised on the environment. With the trend of responses, respondents were focused on the cognitive aspect of EE. One of the respondents was emphatic that mankind lives in the environment; therefore, its sustainability largely depends on man’s ability to preserve the natural resource through acquisition of environmental knowledge. It was also suggested by one of the respondents that education guides a person to make an informed decision on how to live in their environment comfortably, depending on their current situation at a particular place at a given time. Others suggested that, knowledge about the environment is very crucial since there are many dangerous objects in the environment. It is, therefore, imperative to have much knowledge about the environment to guarantee human security. A respondent further added that, it is better to understand what EE is about.

Another teacher talked about knowledge of the environment in terms of security. He argued that some of the objects in the environment are dangerous. Therefore, he says, that if we understand the nature of the environment, we shall know the dangers to human existence. The researcher went further to seek respondents' understanding of EE integration into their respective subjects.

What is your view on EE integration into your subject (Researcher)?

"Mmmh, you mean teaching environment together with my subject? Hahaha there is nothing, you know what, the workload in my subject is way too much and combining two subjects which I have not done before is not workable" (Respondent, 1).

"I think when you talked about EE integration to my subject, it's all about adding EE content into my subject content, and seriously speaking I have no idea on how to do this by teaching two things at the same time" (Respondent, 6).

"Integration I think when one thing is infused into the other one" (Respondent, 3).

Other respondents gave varied views, which suggest that, most do not understand the concept of EE integration. Conflicting views shared by respondents raise serious concerns about how EE is integrated in the current CAPS document at schools.

CONCLUSION

The study concludes that, the idea of teaching EE as an integrated component is laudable. However, with the above stated challenges facing EE implementation, it is an open secret that EE integration is still in limbo. The main actors (teachers) are under-resourced and confused on how to go about the implementation of EE integration into other subjects. Significant number of teachers are not aware of the integrated environmental education in the school curriculum. The policy has failed to spell out a clear direction on how teachers should integrate EE into their subjects. Therefore, EE integration faces serious challenges. It is doable theoretically but practically, it has failed to achieve the anticipated results due to the numerous problems confronting its implementation in the classroom.

RECOMMENDATIONS

The idea of EE as an integrated component is very innovative and brilliant, but curriculum developers need to re-align the whole policy. There should be clear policy guidelines on how teachers should integrate EE into their subject content without any stress. There should be provision of assessment instructions to guide teachers on how to teach EE content in their subjects. Curriculum developers are required to review the objectives of EE, stating explicitly what needs to be taught. The content should be rearranged to meet the goals of EE. Curriculum developers should consider integrating wide coverage of EE content into all subjects. The objectives of such topics should be clearly defined for effective teaching and learning. EE should be given more attention at the FET phase, specifically in Grade 12, which is the final and exit class of the phase. The researcher, therefore, suggests that, the national curriculum developer should:

- i. provide curriculum materials with clear policy guidelines on how to integrate EE effectively into other subjects.
- ii. prepare adequate course materials to cover the various aspects of EE integration, as stated in the CAPS document. Workshops and training should be provided, whenever material is given to teachers to develop their competence in teaching of EE in the classroom.
- iii. There should be regular workshops to help in capacity building. These orientation programmes may help teachers to improve and sharpen their skills in the teaching of EE.
- iv. Universities should re-align their curriculum to have an EE integrated component so that newly trained teachers would be able to integrate EE without any impediment. Appropriate teaching strategies and other relevant techniques should be taught before students graduate as qualified teachers ready to implement EE content into their subjects of speciality.
- v. Qualified specialised subject advisors are to be appointed at the various district offices. These officers could serve as resource persons to facilitate the integration of EE into other content areas.

Though EE is not a stand-alone subject like other subjects, its implementation as prescribed by the CAPS document, is too technical and requires strategic planning to ensure effective implementation in the classroom. Presently, there are no checks and balances on how teachers integrate EE across curricula. There is no policy yet to monitor the implementation of EE as an integrated component into other subjects. Therefore, appointment of qualified subject advisors may drive the implementation of EE integration. Teachers can then be guided whenever there is a need to do so.

Environmental education should remain as an integrated subject. The burden of conserving, caring for and protecting the environment should not be a section of people in the society. It is our collective responsibility to ensure that the environment is well taken care of. It is therefore important for every child to acquire basic environmental knowledge. The significance of EE integration is priceless and endless.

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