

The Use of Instructional Materials in the Teaching and Learning of Environmental Studies in Primary Schools: A Case Study of Winneba

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Abstract

The study sought to examine the extent to which instructional material have been used in the teaching and learning of Environmental Studies in the Primary Schools in Winneba. Purposive sampling was used to select 80 respondents comprising 60 Environmental Studies teachers and 20 pupils drawn from six public schools in Winneba. The main instruments used for data collection were questionnaire and an observational guide. Findings were coded and given qualitative interpretation with the support of frequency counts and percentages. Major findings indicate that about 83% of teachers in the primary schools rely heavily on the use of only chalkboard and textbooks for lesson delivery on Environmental Studies as opposed to the use of at lasses, globe, resources persons, objects or artifacts, radio, television and computers. Again, the study revealed that inability of teachers to use instructional materials leads to: pupils becoming passive listeners in class, boredom, poor participation in lesson, lack of interest in the subject, absenteeism and finally poor performance in the subject matter. Some suggestions are made to enhance the effective use of instructional materials.

Keywords: *Instructional materials; Environmental Studies.*

Introduction

Instructional Materials are those materials available to a teacher in the educational setting, which he uses to make his teaching meaningful and effective for his pupils' understanding. Instructional Materials help both the teacher and pupils to attain the learning objectives set for that particular lesson. Instructional materials are basically grouped into three main categories namely visual, audio and multi-sensory objectives.

Visual materials are those that transmit their information that could be coded and decoded by use of the sense of sight. They are materials to be observed, viewed and interpreted. They may be real concrete objects, prints etc. Examples include pictures photographs, charts, textbooks, newspapers and magazines. They also include real object and models. Audio materials are instructional materials whose information can only be decoded by the sense of hearing. Examples are radio, audio, tapes, gramophones, public address system, drums, trumpet etc. Multi-sensory materials combine the two senses of hearing and seeing. These materials when in use assist pupils to learn from seeing as well as hearing. Examples include television, video tapes, computer, sand movie projectors, and drama slides.

Most people believe that education should be valued for its own sake, since education produces knowledgeable persons. In this era of knowledge explosion and technological revolution, it is no longer enough for education to only produce a cultured man. It is necessary for education to also produce competent, reflective, concerned and participatory citizens who are able to apply their knowledge under changing circumstances. Pupils must

therefore be assisted to acquire the competences to engage in life-long self directed learning. For this reason, the practical approach of teaching Environmental Studies in Primary School is very important. This calls for the use of 'Instructional Materials' in the teaching and learning processes so that learners would be able to learn effectively.

The Environmental Studies Draft Syllabus (1998) designed for basic school defines the subject as 'a study which aims at developing skills, attitudes, behaviours and practices in children to enable them lead healthier, satisfying and produce life within their environment'. For the child to accomplish these tasks, the syllabus emphasizes pupils' participation in the activities of learning to enable them understand how the body functions, how to manage their lives as growing beings, and how to care for the body and the opportunity to know more about the environment in the home and the community. Featherstone (1966) points out that teaching must be more concrete and according to him, it is depended on many factors. Experience should be centred on tangible things; pupils experience should be built around or on the basis of things, procedures, and activities that are real and actual in pupils' environment that can be seen, heard, touched, or smelt. Almost every environment that is rich in concrete and tangible things can be used as a generator of meaningful and purposeful learning experience.

Obviously, now that we are living in the age of knowledge explosion, it is impossible to use traditional method of verbal instruction to keep pace with the development of knowledge. Therefore, there is the feeling that the most suitable means of promotion meaningful communication in the classroom should be the sue of instructional materials.

Statement of Problem

The teaching of Environmental Studies in most Primary School in Winneba for sometime now has been observed to employ traditional methods of verbal instruction. Teachers adopt teacher centred method or approach as opposed to learner centred method, which offers the pupils the opportunity to participate effectively during teaching and learning process. As knowledge grows, it becomes very difficult for a pupil to remember all the knowledge and pass on all of it to the next generation. Apart from this, pupils become passive listeners rather than active participants in the classroom. The chalk and talk approach of teaching which is often used creates boredom in class as well as forgetfulness.

The main objectives of the study were to:

- ❖ To draw teachers attention to the use of instructional materials in the teaching and learning of Environmental Studies.
- ❖ To draw Ghana Education Service (GES) attention to the creation of Resource centres in all schools.
- ❖ Examine the extent to which the usage of instructional materials can enhance teaching and learning of Environmental Studies in primary schools.
- ❖ Suggest measures that can be put in place to enhance effective use of instructional materials in the teaching and learning of Environmental Studies.

The main research questions were:

- ❖ What instructional materials are available for teaching of Environmental Studies in the primary schools?
- ❖ To what extent have instructional materials been used to promote effective learning?
- ❖ What are the effects of teachers' inability to use instructional materials in the lesson delivery of Environmental Studies?

Literature Review

The designing of an instructional programme for Environmental Studies needs many varied resources both human and materials. Ryozo (1981) has four categories of these materials which are things or objects used to make a point clear to the learner during a lesson. These are reading materials, audio-visual aids, community resources and materials made by teacher and the learner.

Reading materials, according to Ryozo (1981) are textbooks, reference books, newspaper, magazine and others. Community Resources include resource persons, place of civic cultural, economic, geographical, historical and scientific materials such as teaching aids within the community. He also mentions materials that could be made by the teachers and learners. These include sketch maps, plans, graphs, models, painting, puppets, charts and story-telling etc.

Cable (1968) stressed that every teacher should know his or her own capabilities, know what materials he can justifiably make for himself and know when he should turn to the library service. Writing further he said every teacher should know what type of audio-visual aids or materials that will be useful to him for a particular purpose, what equipment is necessary and available to him, how to operate it, how to maintain it and what to do in case of mechanical failure. He suggests that teachers who use audio-visual aids must be constantly on the alert for new ideas and techniques. The teacher should always be able to find ways to make his teaching more effective.

Thompson (1977) has discussed materials for the teacher and pupils. According to him, teachers should rely to a great extent on local resources namely; newspapers, government report, information sheet, district and religious records, health and community development and advertising materials. He mentioned film projectors, overhead projectors, radio, television, camera and a cassette tape recorder which could be obtained from national audio-visual centres.

Erickson (1972) contends that instructional materials provide the teacher with means for extending his students horizons of experience. Instructional materials help the students or pupils with meaningful sources of information. Additionally, instructional materials provide the teacher with interesting and compelling spring boards which can launch students or pupils into a wide variety of learning activities. Instructional materials help the teacher to overcome physical difficulties of presenting the subject-matter.

J.A Cornelius (1952 – 1670) an advocate of the principles of the use of teaching aids said “He who has seen a rhinoceros even its picture can remember it more easily than, if it had been described to him about 600 times”. This buttresses the ancient Chinese proverbs that:

What I see I remember
What I hear I forget
What I do I understand

The use of instructional materials does not guarantee effective communication or effective teaching. What is important is their careful selection and skilful handling by the teacher that renders them useful in facilitating learning (Kay, 1971).

Methodology

This study was survey which examined the use of instructional materials in Environmental Studies in primary schools in Winneba using qualitative and quantitative paradigms.

Sample and Sampling Techniques

Purposive and stratified sampling techniques were adopted to select a sample size of 80 teachers and pupils for the study. The sample consisted of 60 Environmental Studies teachers and 20 pupils drawn from six public primary schools in Winneba. The public schools were Winneba D/C; Methodist, Anglican, Presbyterian Don Bosco Catholic and University Practice (Unipra).

Instrumentation

The research instruments used for data collection were observational guide and questionnaire. Two separate questionnaires were formulated to collect data from each of the two groups comprising Environmental Studies teachers and pupils. The observational guide was used to study the total teaching and learning environments of the chosen schools.

Data Collection and Analysis

Two hours a day, 4 days in a week were used to observe and interview participants in their schools; while 4 weeks were used to collect data in each school. The questionnaires were used to conduct personal interviews with the teachers and pupils. All interviews for teachers and pupils were held during school break periods. Data were collected between April and June, 2007 and analysed using descriptive statistics with frequency counts and simple percentages.

Results and Discussion

Personal Data of the Respondents

Sixty teachers and twenty pupils participated in the study.

Out of the 60 Environmental Studies teachers' samples, forty constituting 67% were female and thirty (33%) were male. The distribution of the educational qualification of teachers shows that 42 (70%) were certificate 'A' 3 years, 5(8%) were University graduated and 13(22%) were certificate 'A' 4 years. The implication here is that all the teachers were professionally qualified.

Forty-four of the 60 teachers respondents representing 73% have been teaching for more than 6 years; whilst 6(10%) have been in the profession for 4-6 years, 8(13%) for 1-3 years, and 2(4%) for less than a year.

Research question 1: What instructional materials are available for teaching of Environmental Studies in primary schools?

All the 60 teachers sampled mentioned wall-maps, atlases, objects or artefacts, chalkboard, resource persons, globe and textbooks as instructional materials available for delivery lesson on Environmental Studies in the primary schools.

Research question 2: To what extent have instructional materials been used to promote effective learning?

Out of the 60 teachers samples, 42(70%) said they do not use wall maps for lesson delivery on Environmental Studies as against 18(30%) who reported using maps. Regarding the use of atlases for teaching Environmental Studies, 48(80%) said NO as against 12(20%) who said YES.

Forty-four teacher respondent constituting 73% said they do not use globes for teaching Environmental Studies as against 16(27%) who use globes.

Fifty-one respondents representing 85% agreed using textbooks as instructional material for teaching Environmental Studies. The remaining 9 respondents constituting 15% said they depend on their notes from Training Colleges.

Out of the 60 teacher respondents, only 8(13%) indicated using or inviting resource persons to handle some aspects or topics in Environmental Studies.

All the 60 teachers' samples said they use chalkboard as instructional material for lesson delivery on Environmental Studies.

Regarding the use of objects or artifacts, 28 respondents constituting 47% declared using it as against 32%. Asked whether televisions and radio have ever been used in teaching Environmental Studies, all the respondents said NO.

The implications from the results is that the majority of Environment Studies teachers in primary schools rely heavily on the use of only chalkboard and textbooks for lesson delivery on Environmental Studies as opposed to the use of atlases, globe, resource persons, objects or artefacts. It emerged from the study that teachers do not use radio and television in their lesson delivery on Environmental Studies. It is in the light of this that the study wants to agree with the cable (1968).

The entire pupil respondent (20) admitted that their teachers employ chalkboard and textbook as major instructional materials as opposed to the use of atlases, globe, wall maps, objects or artefacts. Nine pupil respondents constituting 45% said they use computer at home. Eleven of them representing 55% said they listen to news through television and radio media and wondered why mention was not made of them in the lesson delivery of Environmental Studies by their teachers. The implication here is that if teachers employ radio, television and computers as instructional materials in their lesson delivery, it would not be much of a problem because some of the work has already been done at home. It appears from the list of instructional material indicated earlier that the teachers were not aware of radio, computer and television as instructional materials that can be used to handle Environmental Studies lessons.

Research question 3: What are the effects of teachers' inability to use instructional material in the lesson delivery of Environmental Studies?

Fifty-eight teacher respondent out of the sixty samples, mentioned effects such as pupils becoming passive listeners in class, boredom, poor participation in lesson, lack of interest in the subject, absenteeism and finally poor performance in the subject matter.

Conclusion

It is concluded from this study that when teachers are unable to use instructional materials in their teaching, its effects are disastrous on both teaching and learning hence the need for measures to enhance effective use of them.

Recommendations

The researcher offers the following suggestions/recommendations:

1. Teachers should improvise some basic aids or resources in teaching with the assistance of learners. Learners' intellectual and creative skills are developed through their involvement in the preparation of basic aids.

2. The government and the various communities should endeavour to make provision for sophisticated teaching aids like television, computer, radio, tape recorders and others. These aids can also be provided by wealthy individual who have the welfare of the pupils at heart as well as the various non-governmental organizations.
3. Furthermore, the Ghana Education Service should endeavour to organize workshops and courses on the use of Instructional Material in the teaching of various disciplines, particularly Environmental Studies.
4. In addition to the above, there should be provision of incentives to enable teaches get easy access to instructional materials whenever they are needed.
5. Teachers should consider the importance and the need to invite qualified resource person to teach topics which are more related to other fields. Some of these resources person can be medical doctors, nurses, soldiers, district assembly members and other knowledgeable persons in the locality that can render services needed in the teaching and learning of Environmental Studies. This goes a long way to break the barrier between what happens in the society and in the school.
6. Teachers in training colleges must be offered Educational Technology Course. This discipline should be included in their school curriculum. This will equip teachers with the knowledge of selecting suitable aids for particulars lessons and also choose the appropriate techniques for successful lesson delivery.

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